SAGE Research Methods: Doing Research Online

What are *SAGE Research Methods* Case Studies?

SAGE Research Methods Cases are used for teaching and learning social science research methods in more than 350 institutions worldwide. Cases are peer-reviewed and are . . .

- **Short** and **accessible** accounts of **research methods** in the context of **real research projects**

- **Pedagogically focused** to help students understand the practicalities of doing research

- **Introductory in tone**: explanatory and jargon-free

- **Engaging**: using examples and writing devices that reach out to the student reader and make research feel relevant, meaningful and useful

What is the focus of Doing Research Online Cases?

Main types of cases in the Doing Research Online collection include:

- Cases **highlighting challenges of specific steps of research** e.g. data collection from Twitter; recruiting participants online; getting ethics committee approval for an innovative methodology; creating, managing and storing digital data effectively;

- Cases about using **innovative digital methods** e.g. the use of gaming techniques for social research, virtual ethnography

- Cases highlighting **challenges of redesigning research studies/adapting research plans** for online and what methodological implications this presents

- Cases **highlighting challenges of online data analysis**, including qual, quant and big data

Please discuss the focus of your case study with your editorial contact before you start writing. If your case study deviates from the above topics this must be made clear to your editorial contact, who will be able to advice as to whether the focus is within the scope of this resource.

Each case study should include a brief overview of the entire project, but focus in-depth on just one or two stages or aspects of the research, for example data collection or data analysis.

Whilst each case study will be drawn from a specific research project, authors should seek to draw out lessons that are widely applicable. The aim of these case studies is to introduce the reader to the topic at hand and to provide **methodological guidance** and **practical insights** which can be **employed in their own research.**

Case Study Title		*Moving Sensory Ethnography Online*
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Author bio. *Please include a separate biography for each author. Maximum of 200 words per author.*		*Ned Barker is a Senior Research Fellow at the University College London and currently works on European Research Council funded project, InTouch. Ned is a sensory ethnographer. His research interests are based upon exploring the complex relationships between the body, technology, and society. Ned has led research that investigates the ways in which industrial robots shape the social and sensory conditions of manual labour and has recently been awarded a Leverhulme Trust Fellowship titled 'Biohybrid bodies: a sociological for living with Living Machines' (October 2021-2024). Ned recently published a chapter titled 'An Ethnographer Lured into Darkness' exploring methodological reflections on sensory research (Barker, 2020), and has published in the areas of: Sports Coaching; Performance Art; Industrial Robotics; and Education* *[Maximum of 200 words]*
Discipline *Alert your editorial contact if your field is not included prior to writing your entry.*		*Anthropology [D5]*
Academic Level of intended readership		**Postgraduate**
Published articles		Barker, N., Jewitt, C., & Price, S. (2020). Becoming in touch with industrial robots through ethnography. *ACM/IEEE International Conference on Human-Robot Interaction*, 128–130. https://doi.org/10.1145/3371382.3378246 Barker, N., & Jewitt, C. (2021). Filtering Touch: an ethnography of dirt, danger and industrial robots. *Journal of Contemporary Ethnography*, 1-28. https://doi.org/10.1177/08912416211026724 Barker, N., & Jewitt, C. (in review). Collaborative Robots and Tangled Passages of Tactile-Affects. ACM *Transactions on Human-Robot Interaction.* Barker, N., Jewitt, C. (in review). Future touch in industry: exploring sociotechnical imaginaries of robots that feel. *Futures.* Jewitt, C., Barker, N., & Golmohammadi, L. (2021). *Adaptation in sensory and material methods in Covid-19 times.* In: Methods

Abstract

The abstract should be a concise summary of your case study. What aspect of the research process, or specific methodological and practical challenges, will your case study address? It should be succinct and enticing, and should incorporate key words and concepts discussed in the body of the text. Please do not *cite references within the abstract.*

This chapter reflects on the process of migrating Sensory Ethnography online in response to the social distancing measures that came into effect in the UK to contain the spread of Covid-19. The research case study in focus set out to examine whether new industrial robots' impact how touch works in industry, affecting the social and sensory character of manual labour. Fieldwork was initially designed with five selected sites. At the time of the first lockdown three stints of fieldwork were complete, however, with physical access to the other sites no longer possible the anticipated trajectory of the project was derailed. Consequently, the research focus was reorientated and was moved online through sensory interviews. This posed a set of challenges that were navigated and are reflected upon in this chapter. Two reflexive strategies and a set of techniques are illustrated in retelling how the research pivoted online. Reflecting on these research experiences raises questions around the prospects for, and nature of, doing sensory ethnography online. Therefore, whilst this case is situated within the specific peculiarities of researching touch during the pandemic the lessons that can be drawn from these experiences will resonate more broadly with a contemporary context where sensory researchers are operating in increasingly digital worlds.

Learning Outcomes

Please refer back to these learning outcomes when writing your case study. Your case study must satisfy each proposed outcome. It is vital that you provide achievable and measurable learning outcomes. Please see the links below for guidance on writing effective learning outcomes:

- *Writing learning outcomes*

- [*Bloom's Taxonomy Action Verbs*](#)

[Insert 3–5 learning outcomes under the following statement: "By the end of this case, students should be able to . . .".].

By the end of this guide, students should be able to . . .

- Identify reflexive strategies to help move and conduct Sensory Ethnography online

- Better understand the process of, and techniques for, conducting Sensory Interviews online

- Reflect upon the broader questions that not 'Being There' raise for doing Sensory Ethnography

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Case Study

[Insert your case study here. The main body of the text should be between 2,000 and 5,000 words.]

Headings and sub-headings add structure to the body of your case, enhance online discoverability and make your case easier to read on screen. This template includes suggested headings, you should also add your own according to the focus of your case study.

Each main section with a heading must be followed by a Section Summary. *Each Section Summary should consist of 2-3 bullet points, written out as full sentences, succinctly encapsulating the preceding section.*

Project Overview and Context
Includes information about the substantive focus of your research project. Why were you interested in studying this topic, particularly using the methods you chose? Are the methods you chose typical for researching your topic? If not, explain your choice of methods. This section should not read as a literature review, but should be a reflective exploration of your research interests.

This case reflects on a sensory ethnography that set out to examine how novel industrial robots (with advanced capabilities to sense, move, collaborate, and 'learn') impact the character of manual labour. It is a part of the larger InTouch project which explores the social and sensorial implications of technologies for how touch is shaped and used. An analytical and substantive focus directed this case to explore the role of touch across industrial settings

because touch matters. The industrious touch of humans, the metallic touch of machines and the automated touch of robotic systems are the means through which production occurs. Manual touch practices are, and have historically been, important to laborers' sensory experiences of work. Moreover, who touches what, and how, can hold significant cultural meanings across both society and industrial sectors. These can, for example, be traced through hierarchical skills discourses or within the contexts of dirty, dangerous, and dull work (see Barker & Jewitt, 2021).

Industrial technologies are constantly being developed, trailed, and adopted at scale. Uptake of new technologies may alter the processes, practices and places that characterize workers day-to-day experiences of labour. The literature in this area identifies both the positive effects of novel technologies and industrial disputes that arise from these shifting contexts. The current moment is one of peaking expectations, hopes, and fears around a robotic industrial revolution on the horizon (Zamalloa et al., 2017). Against this backdrop this research aimed to:

1. Explore the social and sensory implications of new forms of robots in industrial settings
2. Generate detailed descriptions of how touch is being reshaped as robots are tasked with new jobs and take part in new collaborations

A series of five sites in which new robotic technologies are being developed or had recently entered were selected for fieldwork. However, due to the rapid spread of the coronavirus and the social distancing measures deployed to contain the pandemic I was only able to directly access the first three sites. These were: (1) a Waste Management centre where an Artificially Intelligent sorting robot was recently introduced; (2) a Glass Factory where collaborative robots worked alongside laborers rather than the usual arrangement where humans and robots are separated by cages; and (3) a Robotics Company that have developed a 'Tactile Telerobot' that allows people to touch at a distance through a robotic system and where future industrial applications are being imagined and targeted.

Section summary
- *The tactile and sensory character of manual labour matters historically, in the current moment and for the future of work.*

Outline of Chapter

Ethnographic practices are developed and adapted in context as appropriate to the interests of the specific project. I entered the three initial sites as a sensory ethnographer with a particular interest in how touch works and is potentially reworked through the introduction of new technologies. This methodology, that is expanded on in the next section, lent itself to the stated research aims and aligned with my expertise. In the sections that follow I plot and reflect on how the nature of this empirical work was developed in response to the changing research context *and* to the themes that were emerging through the project. I elaborate on the key decisions and challenges that informed how the sensory ethnography moved online. I highlight two reflexive strategies that led to a productive reorientation of the research and introduce a set of techniques for ethnographically engaging with the senses through online sensory interviews.

My account does not seek to minimize the inevitable compromises of doing sensory ethnography online nor to present online sensory interviews as the only method available to do so. Rather, the aim of reflecting on this case study is to highlight some of the potentials and challenges of adding digital and remote methods into ethnographic design and practice. I conclude this chapter posing an important and unresolved question that was raised through these research experiences – namely: *to what extent, and how, might digitally mediated methods substitute for not being there?* Reflecting upon such broader questions will be of interest to sensory ethnographers that may be forced by circumstance or choose, to conduct all or parts of their research online.

Section summary

- *Ethnographic practices should be developed and adapted in context as appropriate to the needs of the specific project.*
- *Ethnographers may be forced, or indeed chose, to move all, or part, of their sensory ethnography online, however doing so is not unproblematic and requires deeper reflections.*

Research Design

*Includes an investigation into how you designed your study, taking into account any fundamental decisions you had to make. **This section should emphasize the aspects of the research project – specific methods or challenges - that you will focus on in this case study**. You should ensure that you define and explain any key terms for student readers.*

There is a rich tapestry of intellectual traditions that influence ethnographic design, practice, and form. I find it necessary to examine and articulate what type of ethnography suits the aims of my current project, and why. There were two established strands of ethnography that shaped this case design.

With a broad aim to better understand how new robots impact the character of manual labour I thought it important to move beyond traditional single-site ethnographic design and to encounter iterations on the theme across various localized vantage points. Consequently, this research was influenced by George Marcus's (and others) writings on multi-sited ethnography and five sites were initially selected – see Boccagni (2019) for an introduction. Immersion was pursued by tracing themes across sites, mapping differences and commonalities, rather than through embedding oneself in relatively static locations. Multi-sited ethnography emphasizes the need to draw and redraw the sites of interest throughout the research process – it therefore accentuates the emergent character of ethnographic design.

A second starting point for this research was sensory ethnography. My approach was informed by two connected methodological guiding principles outlined by Sarah Pink (2015), 'Being There' and 'Sensory Apprenticeship'. Being there is a term that Pink uses to recontextualize 'classic participant-observation' to sensory ethnography. The term elevates the role of participating in shared activities and considers that ethnographers gain a sense of the field through "'being there' in a shared physical environment" (p.101). The term reasserts

the primacy of emplaced and active participation for sensory ethnography. Through being

there researchers seek to gain bodily experiences as a route to empathetically engage with and

understand sensory worlds and lives of others. The notion of sensory apprenticeship also

resonated with this project because it was to take place in industrial settings; apprenticeships

have a long tradition in industrial ethnography. Pink explains that the aim of a sensory

apprentice is to learn "how to sense one's environment in culturally meaningful ways" (2015,

p.105). In the design phase this concept was refined to touch where I would "collect data

from the viewpoint of a tactile apprentice, learning how to touch with others and machines"

(Barker et al., 2020, p.10). In the following section I unpack how these guiding principles

were realized before direct access to the site was no longer viable.

Section summary
- *There is a rich history of ethnography. It is important to understand and articulate what type of ethnography you seek to do in the design phase.*
- *Multi-sited ethnography emphasizes the need to draw and redraw the sites of interest throughout the research process.*
- *The notion of Being There and of Sensory Apprenticeship can provide useful routes to developing sensory knowledge of the field.*

Research Practicalities of 'Being There'
*This should include a discussion of the **primary aspects of focus** for this case study.*

Which aspects of the process you had to navigate when conducting your research will hold the most value for the student reader? For example, how did you recruit participants of your study, or access secondary data? What method was employed for data collection or data analysis? How did you work within a wider research team? What ethical considerations were essential? You might choose to rename this section, or to include a subsequent section (or sections) with a sub-heading that directly relates to the primary focus of the case study.

Three methods shaped my practical engagement with touch and the wider sensory dynamics

of the fieldsites. These are introduced in this section and consisted of: (1) participating in

touch; (2) closely observing touch; and (3) sensory/tactile interviews. These methods relied

on 'being there', being proximal, and were underpinned by my desire to become a 'tactile apprentice'.

Participating in touch

I negotiated access to fieldsites explicitly using the term 'apprenticeship' with gatekeepers because the term is familiar to those in industry but also because it signaled my intention to participate where possible and safe to do so. Attending training and laboring alongside workers and robots was a central method for pursuing the aims of the research. I sought to participate in a wide range of touch activities in both planned and opportunistic moments.

For example, I would spend portions of shifts in the Waste Management site working on various sections of the picking line (Figure 1). Laboring alongside workers enabled me to gain experiences that deepened my understanding of the sensory and

Figure 1: Me picking alongside workers at the Waste Management site

social character of the work as well as attuning me to if/how the introduction of robots impacted on these. Participation provided me with an empathetic route into touching dirty materials that characterized labour in that context.

A corpus of fieldnotes were produced through participatory moments that exposed important experiential aspects of the field. These included the intensities and mundanities of tactile experiences and processes of desensitization (see fieldnote exerts in Barker & Jewitt, 2021). Capturing and describing these data required me to understand how workers sensory experiences interacted with sociopolitical themes that were pertinent within and across the industrial sites. For example, in the Glass Factory a process of desensitization, or 'handling the heat', intersected with masculine identity formation and performances. Participating in

touch also had the added benefit of helping me build rapport with workers, allowing me to get closer to the action and leading to insightful conversations.

Unfortunately, full participation in touch was not always possible. For example, Health and Safety considerations had to be negotiated as did potential impacts on the companies' productivity and time. As such other methods complemented the participatory approach of tactile apprenticeship.

Closely Observing Touch

Ethnographers are interested in what people *do*. I was interested in how/what people touched. As such, fieldnotes sought to generate thick descriptive accounts based on observations of touch. I found it important to get close to touch encounters to record fine details. It was through close observation that I was able to notice subtle but significant differences.

In the Glass Factory, for example, workers would routinely check bottles off the line for defects. Making detailed notes became useful in better understanding the social and sensory dynamics at play. There were a range of techniques employed. More experienced workers would often run their fingers over the cooling bottles and feel for defects in practiced and precise ways (Figure 2). Less experienced workers would rely more on the metal

Figure 2: Observing experienced workers inspect bottles and feeling for defects

gauges and kept their protective gloves on. Close to the action I could see (and empathetically feel) what was going on illustrating the value of zooming in on touch encounters.

Sensory/Tactile Interviews

To accelerate my learning, to test my interpretations and to gather multiple perspectives I did not just participate and watch. As a tactile apprentice I asked questions about phenomena I did not fully understand. I initiated and directed conversations to aspects of touch and the sensory environment that I was drawn to with the intent of gaining insight from the workers wealth of experiences. I used questions to probe what the touches I had observed and felt meant to participants.

Initially my preference was to interview workers during an activity. Through this I would encourage them to elaborate on their sensory experiences as they unfolded. The intention behind my questioning was to learn more about what they were doing and why, what it felt like and what this meant to them. These types of interviews occurred at serendipitous and opportune moments (see Pink, 2012 for a discussion on the value of unplanned conversations). However, due to the busy and noisy nature of the industrial sites such encounters in practice tended to be staged or impractical.

I therefore accompanied these informal and unplanned conversations with interviews planned for workers breaks, in quiet and private spaces. Whilst these did not benefit from participants articulating experiences in-action there were advantages. They were easier to record and transcribe and I had time to prepare rough semi-structured interview protocols. A loose structure would focus topics of conversation and encourage workers to reflect on their sensory/tactile experiences. The InTouch project has found it can be difficult for participants to talk about touch. Consequently, I embedded a technique to stretch participants to think and talk about touch in new ways, that is to *disrupt* touch. For example, I articulated scenarios when activities might go wrong, and asked: what might happen? what might it feel like? what would it mean? This technique originates from the wider project and we have collectively experimented with it elsewhere (see Jewitt et al., 2020).

This brief account outlines the practical methods that were central to conducting this ethnography whilst 'being there'. They represent how I strived, in practice, to become a tactile apprentice. The next section discusses the decisions made when physically being there was no longer possible.

Section summary
- *Tactile apprenticeship was realized through three practical methods: participating in touch; a close observation of touch; and sensory/tactile interviews.*
- *In practice, and depending on the research context, each of the above methods has strengths and limitations.*
- *The composition of methods I relied on shifted over the duration of fieldwork (e.g. from chance conversations to planned semi-structured sensory interviews).*

Reorientating to 'Not Being There'

From March 2020 entering industrial settings for fieldwork was not permitted by my University. Access to the two remaining sites was restricted, construction sites where exoskeleton technologies or in-situ fabrication robots had been recently introduced, and I was unable to go and work (or be a tactile apprentice).

Sarah Pink (2015) has written about the methodological possibilities and implications of 'Mediated Sensory Ethnography' – that is "doing and recording sensory ethnography in a digital world" (2015, p.117). Indeed, the usage of digital technologies is commonplace in sensory ethnography to record visual and audio data. Amongst other things, through this phrase Pink seeks stimulate broader questions around how we might engage with the senses *through* digital technologies in ethnography – there are really important questions here that we will return to in closing this chapter. More practically she examples a range of methods that leverage videographic (and other digital) methods to capture or elicit sensory data. Many of these methods still involve the ethnographer 'being there'. Others do not. Participants, given instruction and equipment, can document relevant aspects of the field themselves. One

illustrative research example comes in the form of asking participants to wear GoPros (Pink et al., 2017).

A range of methodological options were considered to continue my research along its anticipated trajectory, for example, asking workers to video record parts of their day. Ultimately however, I decided that these options would not suit the remaining sites. Notable barriers included, logistics, health and safety, damage to equipment, and disruptions to workflows. Furthermore, such methods, in practice, did not align with the underlying participatory approach that was deemed central to understanding 'how touch worked'. My participation in touch would have been significantly different if I instructed workers to document aspects of their daily routines and experiences and waited for their responses compared to what was available through 'being there'. Above all there were ethical considerations that shut down these possibilities: it would have inappropriate to burden labourers during a time where the strains across industrial workplaces were already heightened.

Derailed, several decisions had to be made about whether and how to proceed with the project. These decisions were based on what was feasible given the changing research context and were directed by the evolving interests of the case study. The decision was taken to *reorientate* the sensory ethnography and to move it online, rather than attempt to reappropriate mediated methods to 'complete' the final anticipated fieldsites.

Section summary
- *Research contexts are always changing but the implications of the coronavirus pandemic posed significant challenges for conducting an ethnography of touch and sensory research.*
- *The usage of digital technologies is commonplace in sensory ethnography to record visual and audio data. This includes methods that do not necessarily require the ethnographer to be physically present.*
- *Mediated Sensory Ethnography is the term Pink uses to stimulate broader questions around how we might engage with the senses through digital technologies in ethnography.*

Forming a (new) Fourth Site

The momentum of the project was disrupted, creating a pause and an opportunity to step back from the data. I used this period of uncertainty and interruption to look back (or reflected on) the initial aims of the project and the essence of its methods as the analysis continued.

Through this process a significant theme that had emerged through the fieldwork in the first three sites and the data collection and analysis became the axis around which the sensory ethnography reorientated. This theme, the 'future of touch in industry', related to the various ways in which the workers I had encountered imagined their (tactile) labour to be different in the future with the prospect of even more advanced robotics entering their workplaces. At same time Covid-19 had refreshed wider debates around future technological solutions for industry. For example, a European Parliamentary Research Service report anticipating a range of technologies (including robots) to fight the spread of coronavirus (Kritikos, 2020). Robots are presented as being able to minimize human contact and exposure to the virus by further automating production (taking it out of the hands of workers, also known as low-touch industry) or removing workers from dirty and/or dangerous environments through teleoperated systems. Both the localized and global discourses that were circulating around the future of robotics, industry and touch warranted further investigation within the scope of the research's initial aims.

In response the sensory ethnography explicitly changed tack to trace the 'future of touch in industry' more deliberately and to form a new fourth site which remained in conversation with completed fieldwork. This reorientation did not constitute a 'new' piece of research. There were continuous threads running through the analysis and a coherence to the methodological approach that was forced to respond to a context of restricted access. The development of a new site therefore represents an agile maneuver that was born from the changing research context *and* the evolving interest of the project. The fourth 'site' was formed of leading experts in future-facing robotic technologies where extended contacts, that

were developed through site three (a Robotics Company) and my broader engagement with robotics networks, were purposively sampled.

Engagement with these participants is framed as a site in the context of a multi-sited ethnography because it became a bounded area of investigation. There was no physical site, indeed these participants were also now working from home and had no/limited access to their labs. I engaged with these participants though online interviews with an overarching aim to discuss how they imagine, and designed for, the future of touch in industry specifically in relation to the advanced teleoperated and automated systems they work on. Still guided by the notion of becoming a tactile apprentice the interviews were sensory and tactual in character; they were designed and conducted to ensure that I continued to learn both about and through touch.

Section summary
- *To plot ways forward one reflexive strategy is to look back at the aims of the research, emerging themes of interest, and to what the essence of your methods are.*
- *An Ethnographer can be agile to the changing research context and emerging themes to reorientate their research focus and methods.*
- *Fieldsites do not have to be defined as physical locations rather as bounded areas of investigation.*

Online Sensory Methods in Action

This should be a "warts and all" description and evaluation of how your chosen research method/approach actually worked in practice. What went well? What did not go to plan? What challenges did you face? How did you respond? What would you do differently?

There were two key differences that framed the online sensory ethnography phase of the research that posed challenges for becoming a tactile apprentice. The first and most immediate was the physical distance between my body, that I view as *the* instrument of ethnographic data collection and knowledge generation (see Barker, 2020), and the sensory environments where the participants are located. This distance meant that I could no longer directly touch and be touched. This created clear methodological challenges. Conducting interviews online also contained opportunities as it allowed me to engage with participants

from all around the world with practical/financial constraints of visiting sites no longer applying. The second key difference was related and may be described as a temporal distance. In the first three stints of fieldwork, I was mostly orientated towards understanding how touch worked (and was experienced) in the here and now. But to follow the theme of a future touch in industry the material tangibility of the phenomenon in focus was not immediately available to me or the participants.

Aware that these distances, or gaps, posed significant challenges with respect to researching touch and doing sensory ethnography I asked: *what techniques may help to bridge these gaps?* In the following sections I example the three techniques (feeling with, demonstrating, disrupting) that were deployed to this end and consider what went well as well as aspects that require continued refinement. These reflections, like Pink's writings on 'Mediated Sensory Ethnography', open up broader questions around the future directions for this methodology as researchers operate in increasingly digital worlds.

Feeling with

This technique was an attempt to try and maintain empathetic routes into the sensory experiences of the participants. The physical gap between my body and the participants sensory environments blocks routes to sensing and knowing through 'being there'. Being remote stops the process of gaining sensory empathy through proximity (a process that I think of as a form of 'empathetic osmosis'). However, in preparing the interview protocols I was acutely aware that just because I can no longer directly access (and soak in) the participants physical environments does not mean that these sensory dynamics are no longer important.

The term *feeling* was deliberately chosen because it brings the whole body and sensory experience to touch, it does not isolate it. The *with* part of this technique was developed as a vehicle to continue to participate in touch as much as possible whilst not being there. *Feeling with* was pursued in the online sensory interviews through both questioning

and exploring my material surroundings based on what the participant was saying or doing.

An example of how it featured through questioning is given in the interview excerpt below:

- Interviewer: "What does it *feel* like to touch through a robot?
- Interviewee: "It gives you more connection to the robot. In some ways you're a little more embodied by it, so you kind of feel a little bit more like those are your hands interacting with the object."

This exchange illustrates the power of directing, in this case technologically orientated participants to think of touch beyond describing textures, shapes, temperatures and so on. Other typical cases would be to probe their abstract discussion about touch with my sensory imagination. For example, responding to them by relaying 'I would imagine that would feel similar to […]'. In both examples, a sense of what it might feel like to be touched by, or touch through, a robot was explored and generated *together*.

The material exploration aspect of this technique was trickier to operationalize. In the thick of interview exchanges it was hard to judge when and how to engage with my material surroundings in relevant and non-distracting ways. A degree of preparation and anticipation is required so that you have relevant materials to hand. There were aspects that are fundamentally more challenging to navigate. Moving and touching does not easily translate to an online context where it is the norm for you and your participant to sit relatively static looking into a fixed screen/camera. It can feel unnatural to force a different type of interaction. Moreover, these video conferencing platforms (that offer technologically mediated communication) tend to disembody exchanges through their architecture. As such there are various hurdles to overcome to arrive at a joint sense of feeling that brings the ethnographer closer to the participants sensory world. This does not mean that this technique is not useful but, like all aspects of ethnography, it requires continual practice and reflection.

Demonstrating

This technique was designed to extend a close observation of touch to the online sensory interviews. Pink (2015) reminds us that sensory interview does not just involve verbal exchanges that generate descriptive accounts of sensory phenomena. Done well they involve movement and materials to elicit memories, imaginaries and feelings associated with the senses. In the context of this research and with the previously noted limitations of language for expressing sensory and tactile experiences, demonstrations were thought to provide a powerful way of communicating and clarifying nuanced sensory experiences as well as complex ideas and concepts.

I aimed to stimulate demonstrations by inviting participants to "show me" at moments where physically reacting what they were talking about would *flesh out* their example. However, I found it difficult to consistently bring this technique into the fast-paced nature of the interviews. On occasions explicit requests to demonstrate were ignored or interpreted by the interviewee as a request to for further verbal elaboration. A few times an interviewee would say something like, 'I would show you, but I don't have it with me', or perhaps they felt uncomfortable to physically demonstrate something in a relatively unnatural or forced manner.

Fortunately, in practice, participants would demonstrate without cues to communicate their point. At these moments my role as a tactile apprentice became to examine these tangible examples further. An example of this was when a participants began to imagine how telerobotics could be used to 'scale up' touch. In explaining this point, the interviewee picked up a pencil to demonstrate how a future construction worker could move a heavy I-beam into position on a building site through a tactile telerobot. Often, but not always, participants would frame their demonstrations through the camera in ways that ensured that I had a close look (recording the interviews also enabled me to later rewind, pause, and zoom in on demonstrations).

This technique was sharpened through practice. To effectively operationalize this technique requires being able to nudge participants towards, or to explicitly request, demonstrations as appropriate in given situations. Reflecting on experiences and through continued practice I have learned two pieces of practical advice: (1) email participants beforehand to prepare for the interview by bringing materials with them that they may draw on to physically demonstrate their work; and (2) clearly remind participants in introducing the interview that demonstrations will be encouraged throughout because they enables us to observe and enact touch and not only to talk about it. Demonstrations can form useful reference points that both the ethnographer and participant can explore in more detail together, or against which touch can be disrupted. With greater preparation needed the chance for serendipitously observing touch becomes diminished.

Disrupting

A purpose of this technique was to bridge the temporal gap created through the reorientated thematic focus. Disrupting touch aimed to bring our senses closer to abstracted imaginations, or technical articulations, of the 'future of touch in industry'. One reasoning for emphasizing this technique was that the roboticists, when imagining and articulating the future of touch in industry, might gravitate to explaining technical functions or industrial value. Whilst interesting, these accounts may strip the social and sensory contexts from touch. Therefore, to

connect with the overarching aims of the ethnography I deliberately probed and stretched participants to consider the potential implications for workers experiences.

To this end I employed an InTouch tried and tested technique of disruption to elicit sensory reflections around imagined touch futures. In the initial phase of the sensory ethnography (the first 3 sites) I sought to disrupt touch by asking participants questions around activities that went, or might go, wrong. I continued to this line of questioning in the fourth site. I embedded video clips into the interview protocol to assist this. Figure 3 shows a still taken from a clip

Figure 3: video still from fieldsite 3 where a telerobot operator accidently drops an item

shown in one interview where an operator unexpectedly drops an object, to her surprise. Clips such as this provided specific and tangible moments through which we could discuss how current technologies can led to unexpected experiences for those operating it.

Watching moments when things go wrong coupled with the operators' expressive reactions acted as entry points into conversations around implications for workers sensory experiences. This technique had better purchase when the interviewee had direct experiences of operating the robot. In these cases, watching the disruptive scenario encouraged participants to reflect on *their* experiences and bring these closer to their imaginary for a future touch in industry. Alternatively, when the interviewees had no direct experiences of operating, or being touch by, the robot their reflections remained more speculative and abstract. As such the gap between sensory experiences and the future of touch in industry remained prevalent.

The three techniques explicitly targeted, or *amplified*, sensory and tactile exchanges and sought to 'bridge the gaps' created by not being there. They were built around the underlying principles of becoming a tactile apprentice that had guided the practical methods central to the ethnography when physical access to the sites was permitted (e.g. participating in touch and closely observing touch). The techniques sought to accentuate the essence of these methods and coherently translate them to the online context.

These techniques were actively 'done' in this online context. As verbs or actions initiated by the ethnographer/interviewer, these techniques facilitated a participatory approach to becoming a tactile apprentice. Because these techniques relied on real-time exchanges, they held different potential for participation than some of the other mediated methods that were considered (e.g. asking participants to make video diaries).

Importantly, these techniques require practice to deploy them with effect at beneficial moments. Practicing and refining these techniques is an ongoing process which myself and colleagues have continued in subsequent research projects that are also conducted at a distance. Although these techniques can yield insightful sensory data when employed effectively, fundamental differences remain between being there, and not. Two key differences were the potential to gain sensory empathy through proximity and to serendipitously encounter and observe touch. Identifying these differences raise critical reflections around the central question: *To what extent, and how, might digitally mediated methods substitute for not being there*?

Section summary
- *Feeling with, demonstrating, and disrupting were techniques built around the notion of tactile apprenticeship and sought to coherently translate core practical methods to the context of online interviews*

- *These techniques required practice and reflection to deploy them with effect at beneficial moments*
- *Whilst these techniques can yield insightful sensory data fundamental differences remain between being there, and not. These differences stimulate critical reflections for mediated sensory ethnography.*

Practical Lessons Learned
This is perhaps the most important section of your research methods case study. This should be an in-depth reflection on the specific methods/approaches used in the research project, detailing the important lessons you learned from this experience. Student readers must be able to learn from these lessons in order to inform their own research projects.

A key lesson to draw from these experiences are the reflexive strategies that enabled the research to adapt to the changing research context. The decision to reorientate the fieldwork was based on both the changing research context *and* the themes that were emerging through the project. When direct access to the remaining sites was restricted two complimentary strategies framed how the challenge of distance was navigated: embracing the agility of ethnography and looking back to look forward.

In the context of this research agile maneuvers led to a new site that was formed to further investigations of an emerging theme, the 'future of touch in industry'. Online sensory interviews were selected as the appropriate method to continue this ethnography, with its reorientated focus. The site was no longer based around a physical location and participant observation was largely replaced with interviews. Ethnography affords such flexibility. For example, the site can be conceptualized as an area of investigation in the context of multi-sited ethnography. Furthermore, the interview can be understood as ethnographic in itself and not just an 'add on' to participant observation (see Hockey & Forsey, 2020). Indeed as the world has become more global, mobile, and digital, Forsey (2015) and colleagues reasserted that 'fieldwork is not what it used to be' and that many ways to do ethnography at a distance have been developed.

To balance this flexibility and ensure methodological coherency, I simultaneously looked back to guide how to move forward. I reflected on both the essence of my methods

and followed themes that were emerging from the fieldwork. Taking time to engage with this reflexive process was vital to reorientating the ethnography, and in moving it online. Consequently, the three techniques (feeling with, demonstrating, and disrupting) were developed and deployed as an attempt to keep participatory approach of the tactile apprentice alive.

Another important lesson is that continued practice and reflection is required to employ these interview techniques to greater effect. For example, from my experiences I learned the importance of preparation. There is a greater need, than when you are physically there, to anticipate what appropriate materials you and your participants might need and ensure that you have them to hand. It also helped to be clear that both touch and movement will be encouraged during the interviews and explain why. The take home message here is that refining ethnographic techniques is an ongoing process of practice and reflection.

Section summary
- *Embracing the agility of ethnography affords the researcher to change directions and reorientate the study to the changing research context.*
- *Looking back to look forward helps to maintain coherence across the project, in its methodological approach and thematic elaborations.*
- *It is not adequate to deploy ethnographic techniques without reflecting upon them. The techniques that infused the online sensory interviews were refined through the project.*

Conclusion

Includes a round-up of the issues discussed in your case study. This should not *be a discussion of conclusions drawn from the research findings, but should focus reflectively on the research methodology. Include just enough detail of your findings to enable the reader to understand how the method/approach you used could be utilized by others. Would you recommend using this method/approach or, on reflection, would you make difference choices in the future?* ***What can readers learn from your experience and apply to their own research?***

Final Thoughts and Questions

To what extent, and how, might digitally mediated methods substitute for not being there? I close the chapter by posing this unresolved question because it is significant in a contemporary context where sensory researchers are operating in increasingly digital worlds.

This question raises a complex range of methodological (and theoretical) challenges – many of which are explored in Sarah Pink's (2015) seminal text. As shown through the research experiences shared in this chapter, and as I have discussed elsewhere (see Barker, 2020), the appropriateness and value of exploring the senses *through* technology are relative to the specific contexts, aims, and emerging themes of the ethnography. There are few, if any, generalizable truths in response to this vexing question.

In this case study, online sensory interviews became entry points through which I continued to learn about how novel technologies may impact on the tactile/sensory experiences of manual labour, now and in the future. Through the formation of a new fourth site the research was successful in following an important emerging theme the 'future of touch in industry'. Not being constrained by practical and financial constraints associated with fieldwork online interviews enabled informants to be internationally sampled.

Despite positives, my reflections also highlight that not 'being there' creates distance between the researcher and sensory environments/phenomena. This physical distance can disrupt the process of gaining sensory knowledge through proximity, or 'empathetic osmosis'. Furthermore, having to structure interactions through online platforms also limits opportunities to serendipitously encounter and observe touch.

I developed and employed tailored/practiced techniques (such as feeling with, demonstrating, and disrupting) and sought to 'close the gap' whilst keeping the essence of my methods alive. I also benefited from refining these through practice and reflection. However, as illustrated through the research reflections it would be overly simplistic, and incorrect, to think of technologically mediated methods as a substitute for directly participating in and

observing sensory phenomena. Whilst not a substitute technologically mediated methods afforded *different* routes into the generation, interpretation, and analysis of sensory data. As such, I conclude by suggesting that sensory ethnographers may move parts, or all, of their research online. But they must develop their approach strategically. They must be alert to the specific contexts, aims, and emerging themes of their research whist considering how they might ethnographically engage with the senses *through* technologies.

Discussion Questions

[Insert three to five discussion questions on the methods described in your case study]

Discussion questions should be suitable for eliciting debate and critical thinking. Avoid questions which require only a single-word answer such as "yes" or "no."

You are encouraged to reflect on your current/recently completed projects in discussing these questions. However, if you have no relevant experiences you may want to spend a few minutes generating some rough ideas for a sensory ethnography [e.g. some questions, focus and fieldsite(s)] before working through the question.

1. What might be gained from doing all, or part, of *your* sensory ethnography online?
2. What might be lost from doing all, or part, of *your* sensory ethnography online?
3. How would you seek to complete your research project if you were midway through fieldwork and access to fieldsite became restricted?
4. How might you attempt to ethnographically engage with the senses through technologically mediated methods?
5. What do you consider to be the possibilities and challenges of incorporating mediated forms of sensory ethnography to research people's lives in increasingly digital worlds?

Multiple Choice Quiz Questions

[Insert three to five multiple choice quiz questions here. Each question should have only three possible answers (A, B, or C). Please indicate the correct answer by writing CORRECT after the relevant answer.]

Multiple Choice Quiz Questions should test readers' understanding of your case study, and should not require any previous knowledge. They should relate to the research methodology, rather that the research findings.

1. What two reflexive strategies helped me reorientate my research focus and move it online?

    A. Looking back to look forward and embracing agility – Correct.

    B. Positioning the research and positioning the researcher

    C. Writing the self into text and understanding the self in the analysis

2. What three techniques were used in the online sensory interviews to 'close the gap'?

    A. Touching, moving, and paraphrasing

    B. Feeling with, demonstrating, and disrupting – Correct

    C. listening, watching, and waiting

3. What emerging theme did the research focus reorientate to?

    A. The 'future of touch in industry' - Correct

    B. 'Dirty and dangerous' touches

    C. Artificial Intelligence and telerobotics

4. What were the two types of distance that the three techniques sought to bridge?

    A. Physical and Social

    B. Social and Professional

    C. Physical and Temporal – Correct

Further Reading

Please ensure content is inclusive and represents diverse voices. In your references, further readings and web resources you should aim to represent a diversity of people. We have a global readership and we want students of a wide range of perspectives to see themselves reflected in our pedagogical materials.

[Insert list of up to six further readings here]

- Falzon, M. (2016). *Multi-sited Ethnography: Theory, Praxis and Locality in Contemporary Research*. Ashgate Publishing Company.
- Davies, C. (2008). Reflexive ethnography: A guide to researching selves and others. New York: Routledge.
- Pink, S. (2015). *Doing Sensory Ethnography* (2nd ed.). SAGE Publications Ltd.
- Pink, S., Horst, H., Postill, J., Hjorth, L., Lewis, T., & Tacchi, J. (2016). *Digital Ethnography: Principles & Practice.* SAGE Publications Ltd.
- Hammersley, M. (2018). What is ethnography? Can it survive? Should it? *Ethnography and Education*, *13*(1), 1–17. https://doi.org/10.1080/17457823.2017.1298458

Web Resources

[Insert links to up to six relevant web resources here]

- InTouch webpage: https://in-touch-digital.com
- Doing Fieldwork in a Pandemic (a crowdsourced document initiated and edited by Deborah Lupton): https://docs.google.com/document/d/1clGjGABB2h2qbduTgfqribHmog9B6P0NvMgVuiHZCl8/edit
- National Centre for Research Methods project on 'Changing Research Practice' in the context of Covid-19: https://www.ncrm.ac.uk/research/socscicovid19/
- Massive and Microscopic Sensemaking During COVID-19 Times webpage: https://futuremaking.space/project/massive-micro/

References

[Insert bibliography of references cited in text here]

References should conform to American Psychological Association (APA) style, 7th edition, and should contain the digital object identifier (DOI) where available. SAGE will not accept cases that are incorrectly referenced. Please ensure accuracy before submission. For help on reference styling see https://apastyle.apa.org/style-grammar-guidelines.

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Boccagni, P. (2019). Multi-Sited Ethnography. In P. Atkinson, S. Delamont, A. Cernat, J. . Sakshaug, & R. . Williams (Eds.), *SAGE Research Methods Foundations*. https://doi.org/https://www.doi.org/10.4135/9781526421036842870

Forsey, M., Breidenstein, G., Krüger, O., & Roch, A. (2015). Ethnography at a distance: globally mobile parents choosing international schools. *International Journal of Qualitative Studies in Education*, *28*(9), 1112–1128. https://doi.org/10.1080/09518398.2015.1074754

Hockey, J., & Forsey, M. (2020). Ethnography Is Not Participant Observation: Reflections on the Interview as Participatory Qualitative Research. *The Interview*, *June*, 69–87. https://doi.org/10.4324/9781003087014-4

Jewitt, C., Price, S., Mackley, K., Giannoutsou, N., & Atkinson, D. (2020). *Interdisciplinary Insights for Digital Touch Communication*. Springer International Publishing. https://doi.org/10.1007/978-3-030-24564-1

Kritikos, M. (2020). *Ten technologies to fight coronavirus* (Issue April).

https://doi.org/10.2861/58070

Pink, S. (2012). Re-Sensing Participant Observation: Sensory Emplaced Learning. In *Doing Sensory Ethnography* (pp. 63–80). https://doi.org/10.4135/9781446249383.n5

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Pink, S., Sumartojo, S., Lupton, D., & Heyes LaBond, C. (2017). Empathetic technologies: digital materiality and video ethnography. *Visual Studies*, *32*(4), 371–381. https://doi.org/10.1080/1472586X.2017.1396192

Zamalloa, I., Kojcev, R., Hernández, A., Muguruza, I., Usategui, L., Bilbao, A., & Mayoral, V. (2017). Dissecting Robotics - historical overview and future perspectives. *Acutronic Robotics*, 1–9. http://arxiv.org/abs/1704.08617