Chapter 4
Social Norms of Touch

Abstract This chapter discusses social norms with attention to their significance for researching and designing digital touch communication in a global world, notably gendered and cultural touch norms. It explores how social and cultural norms shape the ways that people (and machines) touch. Touch norms are shaped, regulated and enforced through social, economic, familial and legal mechanisms, they organise our experiences and expectations. Understanding of the touch norms that people, including digital touch researchers and designers, bring to their interactions with others provides a route into understanding the sociality that shapes digital touch. We discuss the significance of these given the expectations of the user, their touch repertoires, and the social cultural role that norms play in the take up and use of mediated digital touch communication devices and systems and environments. The chapter concludes that reflexive engagement with touch norms can provide insights and inspiration for thinking about, researching and designing digital touch communication, and help to address how cultural and gendered norms of touch might be engaged with, to constrain and re-produce or open-up the meaning potentials of digital touch.

Keywords Social norms · Touch · Culture · Gender · Hugging · Handshake · Body · Types of touch · Touching

4.1 Introduction

Social norms are shared patterns, rules and expectations of behaviour, routines or habits, which can also become internalized values. They are shaped, regulated and enforced through social, economic, familial and legal mechanisms (Foucault 2002; Butler 2004). Social norms are "the glue that keeps people together" (Jonsson and Lundmark 2017: 805). This sticky metaphor is often used to describe the power of

touch in developing and maintaining relationships: touch as social "glue" (Linden 2016: 5), emphasising a common feature of touch and social norms.

There are social norms of touch in every group concerning who can legitimately touch who, where, how, and when, even if they are mostly tacit and implicit. Classen (2005: 13) suggests that we learn a 'mother touch', akin to a mother-tongue, through our enculturation: "A tactile code of communication that underpins the ways in which we engage with other people and the world". Touch is a cultural practice: living within a society requires learning its 'tactile regime'. Failure to do so can result in offense, rejection, and in extreme cases, legal action (Cranny-Francis 2011). Van Erp and Toet (2013: 782) argue that this also "holds for touch by social agents: if they don't conform to the rules and expectations of the users they may be considered as offensive and will appear like aliens".

Numerous studies examine how the rate and qualities of touch are inflected through culture, notably studies on touch between couples in cafes (Jourard 1966), train stations (Remland et al. 1995), airport restaurants and bars, and young people in queues at fast-food venues (Field 2003). This has led, originating with Hall (1966), to the conceptualising of high to low-contact cultures. There is general agreement that interpersonal touching is higher in contemporary Western societies than in Asian societies and that '[t]actile contact is generally said to be greater in Latin American and southern European than in America and Northern European Cultures (sometimes labelled 'non-contact' cultures)" (Finnegan 2014: 206). Such 'broad-brush comparisons' need to be treated with caution to avoid cultural over-generalisation and crude stereotyping, as touch is more varied in practice. Despite these caveats, culture is an essential aspect of how we conceive, negotiate and perform 'our sense of self' (Chung 2019: 383), and touch is a part of this process.

The integral relationship between touch, body and interaction positions gender as a significant concept with which to explore touch, and vice versa. Gender, like culture, is a complex concept, a topic of considerable debate and contested theorisation within the social sciences (Butler 2004) and HCI (Rode 2011). We approach gender as a fluid concept, recognising that both femininity and masculinity are socially constructed and undergo continual, albeit subtle, redefinition and re-inscription over time. People's lived experiences of gender, notably Trans, Intersex, Queer, and Gender-Fluid or Non-binary people (Halberstam 2018), "make visible what culture has made invisible the accomplishment of gender" (West and Zimmerman 1987: 131), and problematize a binary biological conceptualisation of gender and the derived associations of masculinity and femininity. Social norms relating to gender and sexuality influence how and who we touch. Touch is continually brought into the work of 'doing' gender, including the display of gender through notions of 'feminine' and 'masculine' touch (Goffman 1979). Classen's exploration of the links between femininity and tactility (2005: 203) leads her to highlight the "tactile intimacies and intricacies…of women's work" and the notion of "a woman's touch", behind which she suggests "lies the concept of woman *as* touch": declaring that, while men are inherently rational, women are "all body, all feeling".

4.2   Technology and Changing Social Norms

While the power of social norms creates a sense of them being monolithic and stable, social norms operate across different levels, at the level of society, at a cultural and generational level – they have long histories and strong roots, and are lived through individual practices. Social norms are in a state of continual flux, tension and negotiation pulled across these sites of life, they are (simultaneously) fluid and fixed. Their need to be constantly reproduced makes them powerful, yet vulnerable. Globalisation, migration, new knowledge and theories, as well as re-articulations of gender, race and sexuality among other social constructions, and developments in technology, are environmental forces for reshaping the social norms of touch. Social norms (can) shift, albeit often glacially-slowly, though sometimes rapidly at tipping points, of which digital touch technologies is one.

The contemporary moment of digital touch innovation means the social norms for their use are un-developed and in flux. This disrupts social touch norms, and offers a moment of social and cultural reflection, "fresh opportunities to think about our technologies, our connections and the relationships amongst them" (Baym 2015: 1). Technologies and people's use of them are mutually constitutive – they shape one another, accounting for the unexpected and emergent ways in which people take up and use the affordances and expectations of the technological, material and social: affordances that are built into the design of touch-based devices, systems, or environments. When these new technologies enter the 'Technoscape' (Appadurai 1990), societies reach a consensus over time and develop a set of norms and etiquette for their use. Central to this is how touch technologies engineer types of sociality whilst alongside this their users are developing norms around their use (van Dijck 2013). These shifting norms carry over into other domains to shape the ways people communicate and what is considered socially acceptable. With each new technology, the process begins again (Licoppe 2004). For example, the "gendering of humanoid robots, whether with intentional design cues or not, will likely perpetuate aspects of certain human-human roles and the ideologies that go with them" (Carpenter et al. 2009: 264). Consideration of the social norms of touch is therefore significant for the use and design of digital touch– whether attempting to work with, against or to reconfigure them.

4.3   Digital Touch and Social Norms

To illustrate the role of social norms in digital touch research and design, this section explores how touch norms are embedded in/actualized through the design and use of digitally mediated touch communication. To focus this discussion, we attend to digital touch for personal relationships, a primary domain for both the performance of gender (intimately tied to sexuality), culture, and the development of digital touch

devices, systems and environments. We discuss this landscape through four inter-connected aspects of touch implicated in the research and design of digital touch which are strongly governed by social norms: touching the body; types of touch; the materiality of touch; and touching practices.

4.3.1 Touching the Body

Social norms regulate where we touch ourselves and others. This is wrapped up into the concept of 'Body accessibility', that is, our willingness to let others touch our body (Jourard 1966). The most 'accessible' regions of the body to touch in Western cultures are the hands, head, and arms, the least accessible region are, unsurprisingly, the genitals. The context and closeness of a relationship correlates with where someone can be touched (Suvilehto et al. 2015). For example, women are more discriminating about where on their body they are touched, while men are more concerned with "the type of touch than the area of the body touched." (Moore et al. 2014: 44). Social norms of touch and body accessibility also pervade research studies on touch, with most studies performed on the hands (45%) and fingers (34%) (Gallace and Spence 2014: 335). Through a combination of social, physiological, technological reasons these body touch norms are echoed in the design of digital touch on the body, which primarily focus on the finger(s), hand, wrist, forearm, arm, with occasional forays to the torso and back (Huisman 2017).

The sense that the body is vulnerable through touch communication resonates across the InTouch case studies. Early student projects collected during the *Designing Digital Touch* case study, for instance, reflected the social norms of touch, with over a half locating touch on the hand or arm. While some engaged with other body parts, only a few engaged touch with the whole-body. The prototypes made during *Imagining Remote Personal Touch* case study, engaged with the body to different extents. While some prototypes echoed the norms of the touching finger or hand associated with the screen, established through commercial products and industry trends, others separated the body into specific socially 'low risk' 'accessible' touch communicative zones, some extended touch beyond the hand and forearm to the face (ear and cheek) and feet, and several brought the whole body into the non-sexual touch experiences that they provided. The 'Haptic Chair' prototype, for example, offered a whole-body sensorial touch experience in which a person was enveloped in an expanding material to create a sense of a hug: "*someone touching you is a 'soft' experience, more about heat than movement, with pressure, but not too much. The idea of 'someone being there', of being gently held 'contained'*" (Fig. 4.1).

Indeed, bringing in the wider body, even if moving beyond the hand, up the arm, across the shoulder, raised participants' concerns about the appropriateness and control of touch. The location of touch on the body, the body in general and issues of controlling touch, were of serious concern for participants. The group who made

Fig. 4.1 The 'Haptic Chair' prototype offers a whole-body sensorial touch experience to create a sense of a remote digital hug, Imagining Remote Personal Touch case study

the 'Touch-cape' prototype, designed to send a 'hugging' digital touch to the upper-torso of the receiver wearing the cape, were concerned about the potential for a wearer to place the cape elsewhere, notably across their genitals. Such concerns led to much debate about the ambiguity and risks of digital touch, and led to the addition of layers of authenticating buttons and processes. The tension between public and private touch was repeatedly articulated through the body and a site for its regulation: much appeared to be at stake in the breaking of social norms of touch and imagining future digital touch brought this to the fore of participants' discussions and designs.

Locating touch on the body raises the question of what kinds of bodies are considered in the design and imagination of digital touch. The majority of the prototypes made in the *Imagining Remote Personal Touch* case study, were developed in relation to imagined gendered and sexual bodies, themes implicitly explored through discussion of age, gender and culture via discussions of size and the social acceptance or appropriateness of touch. This and other case studies inferred relatively 'fit', 'available' 'healthy' bodies, suggesting that some bodies are more readily thought of as 'for touching' in the context of personal relationships (as opposed to the context of health care). This normative body would appear to be the mental mannequin for the design of much touch technology.

4.3.2   Types of Touch

Digital touch for interpersonal relationships is imagined into lives and contexts that reflect gendered social norms of relationships including parenting, embedded in healthy, active successful lifestyles and personas. The potential of digital touch to increase connection, support communication, reduce stress and be time-efficient are foregrounded across the literature, prototypes, and our case studies. Digital touch is strongly co-opted into the risky work of managing personal relationships, particularly at long-distance. A variety of touch routines and repertoires populate the landscape of digital touch for personal relations, spanning from mobile hugging apps to sex robots. In a recent review of digital devices to support long distance relationships, for instance, 13 of 17 had some form of touch capacity. Beyond the sex toys littered across the digital landscape, the field of interpersonal digital touch is dominated by three everyday types of interpersonal touches: handshakes, kisses, and hugs. How have these three types of interpersonal touch have been digitalised?

The ubiquitous, seemingly banal gesture of the handshake in contemporary Western society is more than a physical-technical interaction, it is "simultaneously an embodied ritual, form of intimate touch, and legal gesture" an "important intersubjective and social gesture, communicating considerable amounts of information about and between the participants and their contexts, and both governed by and reproducing a variety of social norms" (Hamilton 2017: 55). This everyday touch of holding or shaking hands has been translated into several devices, including: 'Flex-N-Feel: Emotive Gloves' that support affective touch through vibrotactile sensations (Singhal et al. 2017); 'Frebble', a wireless accessory that lets you hold someone's hand from anywhere in the world (Toet et al. 2013); and 'Your Glove, Hot Hands and Hot Mits' (Gooch and Watts 2012), which realises handholding and hand-shaking behaviours through movement and heat. Interfaces can also simulate the feel of a virtual hand or object, its texture and elasticity, which encourages a sense of presence and supports collaboration (Kim et al. 2004). The immediate intimacy of holding hands or incidental touch, has been transformed into the squeeze of the Hey bracelet, sending the feel of your heartbeat via an Apple Watch, or the real-time feel of your partner's heartbeat via the HB ring. In our case study, *Art of Remote Contact*, the artists developed a digital art installation experience 'I wanna hold your hand', which visitors to the Remote Contact exhibition could interact with (see Chap. 1 for more information). The artefact was made in response to working with a couple, one of whom was living with dementia, and their love of walking and holding hands. The piece consisted of a pair of digitally-enabled gloves, embedded with Galvanic Skin and pressure sensors and GPS, and attempted to capture something of the experience of gradually noticing the shifting balance of their hand touching from romantic to supportive to care-giving as the partner's dementia progressed. Linked to an Arduino plotter that mapped the data collected in what one visitor called a 'map of affection' (Fig. 4.2).

Digital touch qualities and affordances can be altered and exploited in ways not possible in the 'real world'. A touch can be recorded, replayed, and manipulated, for
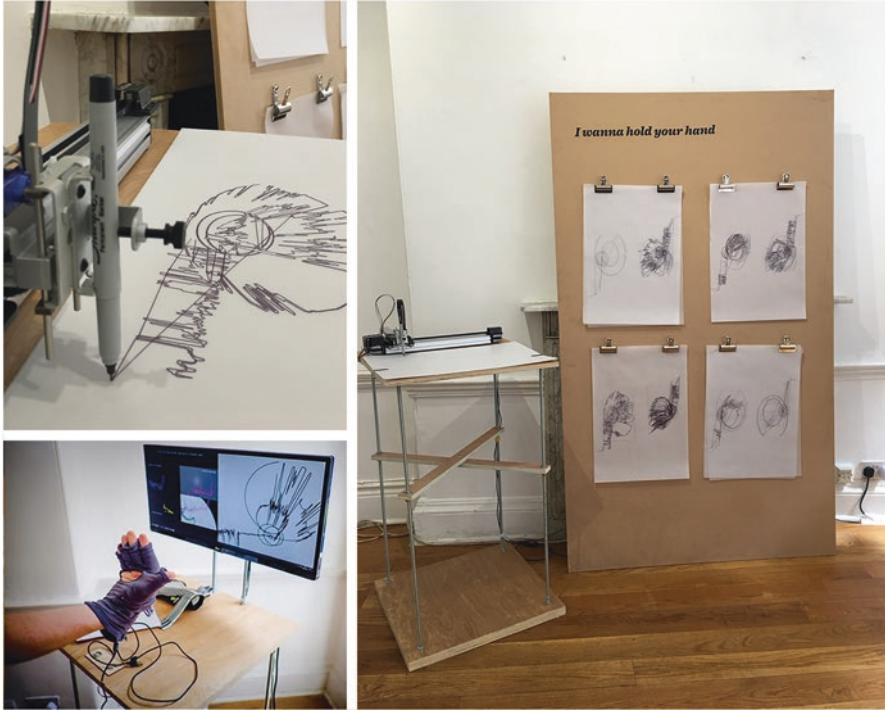
Fig. 4.2 The Remote Contact exhibition 'I wanna hold your hand' artefact, traced the experience of a joint walk, holding hands, via a pair of digitally-enabled gloves. Embedded galvanic skin and pressure sensors and GPS linked to an Arduino plotter that mapped the data collected. (Photo Credit Ed Waring)

example, one's handshake "can be made firmer if another person prefers a firmer handshake" (Bailenson et al. 2007: 348). These examples suggest that while touch, here a handshake, can move into the digital realm and even when severely degraded it can remain meaningful touch, there are significant losses (e.g. of social meaning, authenticity, and sensorial qualities) as well as gains (e.g. providing the possibility to shake hands with a remote other, manipulating touch, recording and replaying touch) in the remediation process. All of which raises new questions for what it actually means to shake hands. A digital handshake is a felt experience that can give a sense of connection but it is less easy to assess what, if any, information it communicates about and between people, and whether it fulfil the demands of the ritual. Similarly, it is difficult to know if the social norms (e.g. of gender) persist in this digital shake.

   Kissing, "with its close body contact and erotic associations… is a prominent focus for both enactment and regulation" (Finnegan 2014: 207). We learn who, when, and where (both in terms of social context and the parts of the body involved – hand, cheek, nose, mouth and beyond) it is appropriate to kiss (Goffman 1963: 167). The norms of gender and power relations shape the meaning of a kiss, from love,

Fig. 4.3 The Kissenger, a prototype device for remote kissing, was used as a technological probe in the Imagining Remote Digital Touch case study

attachment, affection, deference, through to submission. As we age, and move beyond our familial cultural norms, and as cultural norms shift, what kissing is deemed appropriate changes. Like handshakes, kissing is a cultural practice, the number of cheek-kisses varies across cultures (one in Mexico, three in the Netherlands, two in France with some variation related to intensity of the friendship). In some cultures, kissing remains exclusively in the sphere of intimacy, and is not considered legitimate or decent in public. Romantic kissing is most common in the Middle-East and Asia and least common of all among Central American cultures, and around half of cultures have no evidence or knowledge of romantic kissing (Jankowiak et al. 2015).

Kisses can be sent and shared via Kissenger (Kiss Messenger), an interactive device that attaches to a mobile phone to provide a physical interface for transmitting a 'kiss' between two remotely connected people – the force that a user applies to a pair of lips is recreated on the other device using motors – and designed to augment video chat with the aim to promote intimacy in long distance relationships (Samani et al. 2012; Zhang and Cheok 2016). *CheekTouch* (Park et al. 2016) attaches to phones enabling people to send tactile signals – like kissing or stroking the cheek. But is it kissing? We used Kissenger as a technological probe in the *Imagining Remote Digital Touch* case study. Participants commented that '*it's a different experience, a different type of kissing*' and '*not the same as a real kiss*', but they agreed it is '*still like a kiss*'. The 'realness' of the digital kiss was made apparent when discussing whether it would be 'cheating' to digitally kiss another person with the device, which it was felt it would be. However, while digital kissing was not considered real it did mediate contact that was marked as considered to be socially taboo and deviant: two heterosexual men kissing. It seems likely that sustained digital mediation of activities that are considered outside of social norms will serve to remake those norms or rethink the social significance of an activity (Fig. 4.3).

A range of devices support hugging via apps, contracting rings and digitally augmented clothing (Schirmer et al. 2011; Rahman et al. 2010). These devices make a variety of qualities and affordances of touch available including pressure, duration,

speed, temperature, vibration, and movement. How these are calibrated, configured and organised creates different touch patterns – hard, quick, long (intense touch); soft, slow, short (gentle). These draw social norms into view in the ways that they are taken up and interpreted by users, drawing on their relationship, context, gender and cultural norms of touch, alongside their personal histories. Touch can transmit emotion, even with touch "cues that are extremely degraded (Bailenson et al. 2007: 348)". The difficulty of moving beyond standard digital touch forms, swiping, tapping, vibration, and the use of touch as 'activating a feature' dominated the *Designing Digital Touch* case study. Even when digital touch was reduced to vibration, however, touch was talked of as gentle, weak, firm, too strong, holding, caressing, nice, unpleasant, a stroke, or a hug. It was attributed with social meanings – caring touch, comforting, playful, rejecting, loving, supportive touch, or controlling touch. Digital touch was seen as having the potential to fulfil social to intimate touch needs, with 'the right amount of touch' being key – understanding when pressure and duration moved from supportive to 'too much' through to 'aggressive or violent'. For some participants, interpretations of touch involved gendered associations and the creation of masculine and feminine touch, and attributing technology itself with a gender.

Participants in *Imagining Remote Digital Touch*, and *Tactile Emoticon* explored the idea of recording hugs and how that might feel. One group produced the idea of a tactile '*body message*' that records taps, movements, the '*shape of the body and its impression'*, via pressure and heat, that could be re-played and felt. This shifted the temporality of touch from a simultaneous mutual exchange to an individual experience, opening the potential of a touch device without the necessity of a connection to others – positioning digital touch (or self-touch) on the cusp of an idealized mimicry of connection and an isolating experience. It raised ethical issues of using, storing and sharing recorded digital touch, particularly around consent and ownership of a touch, and brought the authenticity and safety of touch into question. As one participant said, "*If all hugs will feel the same – how will people distinguish?*" Participants agreed on the need to build in mechanisms for people to signal consent, rejection and withdraw from touch. The question of whether they should be able to change a touch that they received (e.g. make it stronger or weaker, or receive it on an unintended part of the body) was contentious, highlighting the ambiguity of digital touch, social norms of touch consent and the management of touch misunderstandings (also see Chap. 7).

4.3.3   The Materiality of Touch

The materiality of digital touch is a part of the technological affordances that both constrain and offer possibilities for what people can do (and mean). These are shaped by social and cultural histories and contexts of use in which the relationship between people and technology is cyclical and interconnected (Hutchby 2001). The relationship between materiality, the affordance of a technology and the interface a

user is presented with and acts through is therefore a significant aspect of their communicational experiences. InTouch asks how this relationship plays out in the context of digital touch norms, and the relevance of materiality and affordances for the 'feel' of digital touch communication. On the one hand, materialities, including those of the body, are central to the take-up, subversion, disruption, and re-shaping of both touch and technological affordances. On the other, the ongoing process of digital dematerialization is seen to have disengaged with, and neglected the values of, the physical world (bodies, artefacts and interactions) to reduce or remove touch from the communicational environment (Van Campenhout et al. 2016).

Materiality is a resource used in the gendering of the digital touch landscape, it can be felt in the textual design of devices, and the provenance of materials – their historical uses that over time shape their gendered associations, meanings and values. A woman's touch, Classen argues (2005: 203), continues to evoke "women as media of softness, comfort and refinement, the symbolic and tactile counterpart to rough and tough men". Such forms of socially gendered touch are attached to and produced through material digital resources in the digital touch landscape: soft and smooth textures, vibrations, and sensations to materialise feminine touch (white or pastel in colour), and hard and rough used to materialise masculine touch (and dark in colour). The tactile qualities of materials are themselves gendered and changing. Devices that involve caring touch, are gendered through the contexts of their use, and their materiality – from soft robotics to the soft materiality, fleece fabrics and slowly inflating air pockets, of the T-Jacket designed to give a hug to "to calm, comfort and sooth the nerves of anyone who is stressed or anxious" (https://www.myt-jacket.com/). In contrast, digital touch designed for contexts and markets of appeal to men, are actualised through hard plastic and vibration, as well as the user scenarios related to work and leisure. Emerging interfaces, such as *TanvasTouch* (Shultz et al. 2015), enable users to 'feel what you see' and imagine the development of 'textual emojis' through feeling texture of the digital online. For example, Gillet's 'Baby Face' digital and print campaign used *TanvasTouch* and the feel of sandpaper – a texture and resource associated with the 'masculine' practice of DIY, to convey the 'scratch' of a new father's beard on their baby (https://www.youtube.com/watch?v=RNfgK9b6sU8).

More generally, materiality is tied to the sentiment of 'it feels right'. The notion of 'feeling right' is entangled with the part of the body in contact with a device, the type of touch engaged with, and our non-digital experiences of gender and what it means to be human. Using Kissenger, for instance, requires users to hold the hard-plastic casing and press their lips, with some force, onto a soft plastic surface which sends a 'pattern of movement and pressure' to the other device/user. The multisensory nature of materiality was significant for *Imagining Remote Personal Touch* participants:

> It doesn't feel like a kiss, the texture is plastic, there is no warmth, and the rest of the device doesn't feel like a face, so it's like kissing a piece of plastic …it sounds very robotic.

Materiality is also key to the design of robotic touch, and touching robots: "A softer feel in and of itself may be pleasing or comforting to a person interacting with

a robot, and may elicit a response of trust and openness" (Arnold and Scheutz 2017: 82). In other words, the material quality of a robot, the use of a hard-body or a soft-body, elicit different kinds of bodily presence and physical contact, so whilst sharing exactly the same programming, their performance may be fundamentally altered by their material differences. It is implied that soft interfaces may signal vulnerability (maybe also sensuality) in a way that hard robots do not, raising the question of interaction (see Chap. 3) and how soft robots may be gendered by users and the ethics of interaction (see Chap. 7).

Materiality is brought differently into question in Virtual Reality (VR) environments where typically inferred sensations of 'touch' are derived from visual graphics, or linked to controllers (e.g. gloves) and other haptics devices that can convey different kinds of haptic feedback. Furthermore, in VR environments the features and behaviours of objects related to the impact of touch (e.g. fragility, plasticity, decay, destruction, death, to name a few), are programmable in novel ways. These properties are designed differently across VR spaces, designers are reconfiguring the expressive potentials of touch, while users need to work to negotiate the volatility of its potential meanings in the virtual world. This opens up a space for generating different types of touch (if something fragile no longer breaks you can squeeze it, stretch it, throw it). As a result of this reconfiguration and virtual materiality, the types and norms of touch in the virtual world, can differ from those of the physical world. This poses challenges for users related to the negotiation of the social norms, rules, and types of touch that apply in the space of digitally mediated touch in VR where the boundaries between touch in the virtual and the physical world are blurred and in flux.

4.3.4 Digital Touching

As already discussed, norms evolve and become established over time. How does digital touch challenge or change critical aspects of touch-based communication and what kind of communication practices can emerge around it? There is a continual tension and negotiation between social norms at the level of society and culture, and individual practices at the level of lived lives. This tension can be productive, creating both moments of social stability and fluidity that influence social norms. The changing use of technologies and communicative resources – the resources, tools, processes and contexts that our uses of technologies open up, are central to the remaking of social norms (Jewitt et al. 2016). In this unstable and shifting landscape, social norms are disrupted, broken, changed and re-made through social interactions over time.

Social norms governing body accessibility persist in human-robot touch indicating the social and socialising power of touch "the extent to which people treat the act of touching body regions as a sign of closeness – even if the body belongs to a robot" (Li et al. 2017: 119). This emphasises the importance of designers accounting for socially appropriate design of touch (ibid). Using the Kissenger, as a technological probe provoked embarrassment and unease for participants. Their

Fig. 4.4 The participants use the 'heat dial' of an early prototype Tactile Emoticon device to regulate the temperature of the tactile message

interaction marked kissing as a gendered (hetero-) normative practice – even when mediated by a machine. Devices such as Kissenger, also raise questions of whether, how and why future digital touch could continue or disrupt the work of gendering touch and what the consequences of failing to navigate these digital touch norms, or choosing to subvert or violate their expectations might be.

The *Tactile Emoticon* case study, provided insight into how new digital touch practices and norms might emerge. For example, the symbolic use of temperature to communicate progressive closeness. Participants used the 'heat dial' of the device to regulate the temperature of the tactile messages they were sending gradually from cold to hot:

> M1: when you're trying to communicate you just want to be cold sort of
> M2: Nothing too active. Just being together
> M2: Let's make it like this let's start from a very very cold space at the beginning
> M1: So, you want to give the sensation of getting warmer by the time
> M2: Exactly yes
> M1: Makes sense (she puts her hand into the device) …
> M2: You can touch a bit and then make it a little bit warmer (they turn a button). Shall I turn it back (turns the button to cool) we don't love you that much anymore (they laugh) (Fig. 4.4)

Temperature is used to convey a gradual openness to touch: starting from a state of distance or non-touch ('very very cold') to a closeness, and the prospect of being touched. While warmth is a metaphor for closeness, the control and regulation of temperature afforded by digital touch is not a feature of physical touch.

The need to establishing communicative norms for what touch is wanted or unwanted appeared to be critical to participants across many of our case studies and was a focus of much concern echoing and referencing contemporary movements such as #MeToo, the social media campaign against sexual harassment. The digital touch features (i.e. heat, vibration, pressure) were used to generate and interpret a desire to connect or to be left alone. For example, in the *Tactile Emoticon* case study, the sending of a flat non-vibrating, no pressure and very hot touch was interpreted as an "off-putting tactile message" that is unpleasant to receive:

> M2: Maybe they decided that they do not want to interact with us. Actually, they made it so hot to say – "Just leave me alone"

In the context of physical touch, unwanted touch is usually communicated through gaze, gesture, posture, movement and, sometimes, speech. In the absence of these communicative modes in the Tactile Emoticon the participants generated a new tactile communication practice: i.e. an off-putting message that made others not want to engage through touch. This practice can generate a set of norms involving, for example, conditions under which someone generates such a message. Is it something people do when they are angry or scared? What kind of rules might apply in this new practice that do not apply to physical touch? The underlying aspects involved in the generation of the 'Tactile Emoticon' message, notably the fragmentation of touch (regulating one element), the digitally mediated physicality of touch, and the use of what some participants called "unnatural functionalities" (i.e. turning a button to regulate temperature, vibration) reconfiguring the characteristics of touch communication.

4.4 Conclusion

Attending to the social norms that underpin people's touch interaction and communication, and how these are negotiated in social encounters provides a starting point from which to leverage understanding of the sociality of the tactile regime in which they are embedded. Social norms of touch developed in relation to 'direct' touch, and its associated etiquettes and practices, have been (and will be) brought into the use and design of digital touch devices, systems and environments, albeit in uneven ways. Like digitally mediated visual communication, some norms and practices will be disrupted in 'translation', and it is likely that some new touch capacities and interactions will be elicited. In this fluid mix, unintended and unexpected consequences for how we communicate with others via touch will emerge.

This highlights new opportunities for researching and designing digital touch communication that move beyond an emphasis on design explorations and point solutions towards a "deeper theoretical understanding of the presumed effects of mediated social touch on the social interaction process… to provide structure to the design space of social touch systems…guide the empirical experimentation process, as well as the interpretation of observed effects (or the lack thereof)" (Haans and Ijsselsteijn 2006: 155). Touch norms are significant in that they provide insights into the shared usage of touch for making culturally shared meaning of touch, and expectations of touch, which supports the imagination and design of digital touch communication.

Understanding and reflecting on our own touch norms, as well as those of the people we research or design for, is one route to recognising and benefiting from the potentials for difference and cultural flexibility towards new possibilities for designing digital touch communication. While on the one hand, understanding touch within the cultural complexities of the contemporary communicational landscape, characterised as it is by super-diversity, challenges the concept of social norms as stable and universal; on the other, gendered and cultural norms persist, perhaps

more than ever given the hegemonic effect of the global circulation of technology. Social norms of touch are designed into and realised through the affordances of digital technologies. An awareness of the social norms of touch and how these regulate touch practices can help us to question, and/or engage newly with touch, from the mundane vibration of a phone in our pocket, to robotic-touch, and the innovation of contactless touch: the who, what, where, how and when of digital touch.

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