Journal of Contemporary Ethnography

Human Values and Digital Work: An Ethnographic Study of Device Paradigm

Journal:	*Journal of Contemporary Ethnography*
Manuscript ID	JCE-18-059.R2
Manuscript Type:	Original Manuscript
Keywords:	critical theory, device paradigm, information systems, human values, focal practices

Abstract: I examine Albert Borgmann's concept of device paradigm as a way to underscore the significance of human values in one's engagement with digital work in an organizational setting. Device paradigm explains the pervasive patterns of everyday engagement with information technologies as devices that facilitate prosperity without burden and efforts and, in so doing, can downplay the human values in practices. Although prior research has highlighted the significance of focal things and practices, much remains to be learned about the role of human values in contemporary everyday engagement with digital technologies. Drawing on a critical ethnography of everyday practices at an information technology firm (approximately 300 employees), I apply the critical social theory of Borgmann to analyze how digital work is firmly anchored in human values, and how device paradigm can be used as a critical lens to examine the contemporary everyday engagement with information technology. The study reveals that digital devices can have focal aspects and everyday places can be seen as focal places. Focal things are firmly grounded in focal places, which facilitate the emergence of focal practices. Ethnographers are encouraged to explore values in the field (held by people) as well as values of the field (attached to the places).

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INTRODUCTION

Consider an ordinary observation on the ubiquity of information technology (IT): this research paper is developed on a digital device. It is also possible that it is being read and shared using some form of digital technology. The reader might wonder why this otherwise mundane observation is critical. For example, it can be argued that a digital device is often used as a means to an end (Borgmann 1984, 1999). While many digital devices are central to work practices, a digital device is also a thing to conduct one's everyday affairs, at least in the western democratic world (Verbeek 2005). Further reflections on the observation begin to problematize one's everyday engagements with IT. For example, Borgmann (1984, 2011) asks: are digital devices only artifacts of convenience? Borgmann says that it must be the case insofar as, in the modern world, one's experiences are mediated by various forms of digital devices that tend to be designed to provide the service or product in a disengaged way, which relieves people of any effort. This dominant pattern of practice is referred to as "device paradigm," which explains how devices disburden people by providing services without exertion but are distant from one's values (Borgmann 1984, p. 40). Although the device paradigm is considered relevant to the study of digital technologies and IT in general (Fällman 2010; Higgs, Light and Strong 2000; Verbeek 2011), the available empirical discussion concerning human values in the ethnographic literature remains limited.

The notion of device paradigm centers on the pursuit of *the good life* based on one's *values* (i.e., one's judgment of what is ethically good in life) and how significant things and ethical actions in one's life facilitate it.[1] "The good life," for Borgmann (1984, p. 214), "is one of engagement." Here, engagement centers on focal things, which give meaning to one's life and focal practices promoted by them (Borgmann 1984, pp. 196ff). He argues that technological devices, on the other hand, do not add value and, therefore, cannot be seen as a way to facilitate a good life. Relevant recent works have shown that the increased ubiquity of digital devices in everyday life calls for revisiting what constitutes as good in a digital society (Fällman 2011, p. 1051) and how we can reinterpret one's engagement with IT as something that relates to one's values (Coyne 2014). However, these calls remain open. Although

previous studies have invoked ethical design and use of digital technologies for human benefit (e.g., Systems for Human Benefits or S4HB), they do not fully address one's personal values perspective and how digital technology contributes values to one's life (e.g., Myers and Venable 2014). Borgmann (2012, p. 341) also contends that much work needs to be done and researchers need to address device paradigm and explore "new conception of what matters in the good life."

The device paradigm is also particularly relevant to contemporary organizations. Google, along with other leading organizations such as McKinsey & Company, has acknowledged the difficulty in approaching people's value in the context of IT work. Lazlo Bock, Google's former senior VP of operations, observes the following (emphasized):

> "One of the challenges of management at Google, indeed of managing in any values-driven organization, is coming to a shared understanding of "where the other man's nose begins." And it's in the organizations with the *strongest values* that these distinctions become most important" (Bock 2015, p. 318).

Human values relate not just to social or cultural beliefs but also include what one considers worthy in life. Bock continues to stress the importance of finding *values* and integrating *differences* in people's practices to manage organizations better:

> "We talk about values. A lot. And we're daily confronted with new situations that test those values. We are held accountable by employees, our users, our partners, and the world… The test of the company, and of the management style I'm advocating in this book, is not whether it delivers perfection. It's whether we stay true to our values and continue to do the right thing even when tested" (Bock 2015, p. 319).

His point is that insofar as different people have a different idea of good, organizations need to learn from them. There exist numerous value systems in any organization. Some of them might be competing with each other as well as with the management's perspective. In the same spirit, McKinsey & Company

(2013) has made the "obligation to dissent" one of their core values. Both Google and McKinsey's focus on a variety of human values suggests that each person's values have something insightful to offer, which is equal to any other argument and contributes to both digital solutions and engagement within the organization.

A person's worldview is intimately related to their values and, therefore, different people understand IT in different ways. One person's way of thinking about technology might conflict with the existing conceptual and practical approaches to management; this might be problematic because, in the literature, there exist different conceptualizations of IT but little insights concerning what people make of it. How can ethical interpretations of IT such as device paradigm help refine our current understanding of the values in human practices and how they relate to the IT phenomena? How can we better discuss people's values concerning everyday engagement with digital devices when our existing theories see ethics in the context of ownership and access to the artifacts? To begin exploring these questions, I follow Borgmann (1984, 1999) to illustrate how one's understanding of digital technology is changing from a device to an everyday thing in an organizational setting and what are some of the implications of this change. In this paper, I exclusively focus on everyday practices in an organizational setting. In what follows, drawing on an in-depth ethnography of IT professionals[2], I examine the claims of device paradigm and illustrate that the pervasive availability of digital devices has transformed everyday engagements in a way that the digital devices are not merely seen as a means to an end but rather meaning- and sense-making devices.

DEVICE PARADIGM

A device is an apparatus that instantaneously provides a product or service as a commodity, without requiring any effort from the user (Borgmann 1984).[3] In this perspective, there is a separation of means and effort, which is not necessarily negative but simply suggests a teleology of the desired outcome or a goal (cf. Davison 2004, p. 90). Some of the classic examples of devices are the central heating system (i.e., provides heat and warmth on demand) and fast food (i.e., provides meals without effort).[4] Although these devices provide comfort, a device is distinct from a focal thing (i.e., things that are significant in

one's life and add value) and focal practice (i.e., actions that are associated with focal things) (see Table 1 for basic definitions). Borgmann's concern is that devices free means from ends and, in so doing, undermine focal things and practices. In this perspective, it is argued that insofar as devices are readily made available in a decontextualizing manner, they encourage disengaged use and, therefore, contribute little value to one's life (Fällman 2010, 2011; Verbeek 2002, 2011).

Concept	Characteristics	Example
Thing	Assemblage made out of a mixt array of material and immaterial resources; Entwined with the context and one's engagement with them; Requires one to be involved with it (*focal thing*); Affords a center or focus for practice (*focal practices*).	A hearth; A wood stove, and the various cooking practices in the family that are centered on it.
Device	Can be material or immaterial; Lacks a context; Separates means from ends; Does not require involvement; Deliver a thing as a commodity on demand in order to relieve a burden.	A microwave, and the surrounding culture of ready-made meals.

Table 1 Basic Definitions

Device paradigm furnishes a radical reinterpretation of Martin Heidegger's concept of *Ge-stell*, which explains the essence of technology as a prevalent worldview where everything is seen as a resource to be used. Ge-stell – sometimes translated as *enframing* – is what Heidegger refers to as "the essence of technology" (Heidegger 1977, pp. 15, 19ff, 127). In this perspective, the world is seen as raw material – or *standing reserve* – to be enframed vis-a-vis ordered, optimized, and used to satisfy human needs[5]; this includes everyday things, places, people as well as the natural resources: "that nature reports itself in some way or other that...it remains orderable as a system of information" (Heidegger 1977, p. 23). That is to say, enframing is not a structure but a way of unfolding the order and disclosing the world. In the contemporary epoch, the essence of modern technology (or techné) is disclosed as the dominant way to make sense of the world.[6] Digital technologies are seen as examples of enframing insofar as they are often

used in ways to set order and transform everyday things into a system of information to be used for various needs (for an excellent discussion of Gestell in the IT literature, see Ciborra and Hanseth 1998).

Information technology, says Borgmann (1984, p. 3), adds "a characteristic and constraining pattern to the entire fabric of our lives," and that paradigmatic pattern "inheres in the dominant way in which we in the modern era have been taking up with the world." This is somewhat true as most everyday tasks are facilitated by some technological device (Turkle 2006, 2011; cf. Winner 1983). However, Borgmann pushes the concept of device paradigm beyond Heideggerian technological worldview and highlights the ethical issues concerning how devices facilitate separation of the means from the ends (Borgmann 1984, pp. 43-5). A device (mean) is used to perform a task (end) in a way that one's comportment is stripped of value and effort. The *information* in the information technology device is more than a representation of reality, it is a replacement without value: "Information gets more and more detached from reality and in the end is offered as something that rivals and replaces reality" (Borgmann 1999, p. 182). One uses a device without being invested in the thing as a matter of care and without the burden of thinking about their associated values (Dreyfus and Spinosa 1997). Turkle (2011, p. 172) also says that the ubiquity of digital devices has transformed everyday engagement by stripping practices of values. She argues that insofar as a device readily delivers a service (e.g., instant messaging, a tweet), one tends to overlook the value by which one lives and focuses on the instant availability of products or services. Similarly, for Borgmann, this means-ends separation promotes further reliance on devices and, in so doing, inhibits good life that is closer to valuable things and practices.

Although criticized by some as a bleak view of enthralled to valueless consumption of IT (e.g., Tijmes 1999), the idea of device paradigm has been positively accepted as a critical contribution to the philosophy of technology (Feenberg 1999; Feenberg and Callon 2010; Higgs et al. 2000; Verbeek 2005) and study of computing and digital design (e.g., Bødker 2017b; Coyne 2014; Dotson 2012; Fällman 2010, 2011; Sicart 2014; Tatum 1994). In a contemporary interpretation of device paradigm, Coeckelbergh (2015, p. 187) says that electronic and digital devices are still *devices* (in a classical sense) and they can

be disengaging, but they also compel us to "use them in such a way that we engage *more*, not less, with others and with the natural, social, material, and artificial (indeed often natural/artificial) environment" (original emphasis). Device paradigm has also been integrated into the contemporary studies of digital interaction, online identities, and digital consumer culture (Borgmann 2000b, 2011, 2013, 2015).

As devices have gradually moved from physical and analog to virtual and digital, and become pervasive in everyday life (e.g., smartphone, wearables, activity trackers), "information technology," writes Borgmann (2000a, p. 352), "is currently the prominent and most influential version of the device paradigm" (also Borgmann 2010, p. 32). For Mullis (2014, p. 111), the digital "devices are currently paradigmatic in the sense that they characterize much of contemporary life." It is also suggested that insofar as a digital device such as smartphone does not require any significant effort from the user to provide the communication service (or any other form of digital service), it does not necessarily add any value to one's life (Fällman 2011). Borgmann (1999, p. 10) worries that the culture of digital practices can promote the even more excessive reliance on devices (including social and digital ones), which are often primarily developed to facilitate consumption of physical and digital products and services (e.g., food, social interaction, data, information) and less about human values (also Turkle 2006). For example, Toomey (2017) says that social media, such as the dating app Tinder, can also be seen as devices that deliver the human body as a virtual commodity. Nevertheless, Borgmann (2010, 2011) remains open to the possibility of certain devices adding value when used in the right context (e.g., engaging with the microwave to prepare a meal for a family event; parents might use smart trackers to know the whereabouts of their children).

FOCAL THINGS AND PRACTICES

A focal thing is that which brings people together in an involved manner. Although a focal thing can be used for a purpose, its primary characteristic is not to perform one or more functions but rather invite engagement.[7] For Borgmann (1984, p. 169), focal things are often related to our "matters of ultimate concern that are other and greater than ourselves" and have complex practices associated with them (for

contemporary examples, see Table 2). Borgmann (1984, p. 220) says that focal things "are concrete, tangible, and deep, admitting of no functional equivalents; they have a tradition, structure, and rhythm of their own. They are unprocurable and finally beyond our control." He discusses the domestic hearth as an exemplar of a focal thing (see Figure 1).[8] The etymology of the word *focus* is grounded in the Latin word for domestic hearth. The etymological deconstruction is also supported by the historical evidence that the notion of the hearth was to bring the whole family together; it was the focal thing in a household.

The focal things serve two important purposes. First, they provide a center to one's practices, which is grounded in one's family and home (which might be symbolic) and, therefore, a source of one's values (e.g., familial). Second, they encourage engagement from within the center and practices are argued to be revolved around such center (e.g., comfort, goodness, stories). For Borgmann (1984, p. 168), the appropriation of technology is essentially "related to a center" and, therefore, cannot be "enclosed in boundaries." This is what focal things do: they provide a center to draw human involvement.

== Insert Figure 1 about here ==

Borgmann is uncertain if such centers still exist when the devices are everywhere (and therefore there is no center). As we often find ourselves immersed in many information systems and technologies in our everyday practices, Coyne (2014, p. 29) says that "such [focal] things are still with us in the technological age but take on a different significance." A digital focal thing can add value to one's life.[9] A device, at least in the digital context, may also have positive effects on engagement (cf. Michelfelder 2010). In this way, digital work can be interpreted as engagement with focal things that are pervasive in both our personal and organizational spheres (Table 2 provides some examples). That is, in our everyday dealings, one does not see a phone as an artifact or device on its own but rather something that brings their diverse practices together, e.g., to send a text message to a friend or attend to one's work-related activities.

The hearth is an exemplar of a focal thing that can bring, or at least used to bring, people (in a family) together. In contrast, microwave can be seen as a case of a device replacing a focal thing, i.e., providing

ready-made meals, with minimum effort and does not necessarily require involvement with it (see Figure 1). However, the microwave is not just a device to prepare ready-made meals for the sake of consumption; in most cases, it is integrated into the broader food practices of a family (no matter how small or big) as well as individuals living by themselves. More than disburdening, it can allow one to work more and to be more involved in practices. For example, unlike a hearth style cooking where one meal was made for everyone, a cooking device makes it is possible to engage with the more sophisticated style of cooking, add more variety, and to be more deeply involved. It is also portable and precise (in terms of what it provides). A similar case can be made for the focal aspects of digital devices (Coeckelbergh 2015; Verbeek 2002). These examples show that, although devices often replace focal things, new and complex devices can be used in ways similar to focal things in contemporary society.

Focal things promote focal practices or ways of becoming engaged with the world (Borgmann 1984, pp. 168-9). Borgmann develops the notion of focal practice to identify activities that add value to one life, which are attached to a focal thing invested with meaning by those who engage in them. In a sense, focal practices define and determine one's way of life. According to Borgmann (2000b, p. 421)

> "Focal things and practices disclose the world about us—our time, our place, our heritage, our hopes—and centre our lives. They lead us to say: 'there is no place I would rather be. There is nothing I would rather do. There is no one I would rather be with'"

Archetypal examples of focal practices are cooking and gardening, but also running and playing games. Focal practices can be done at the individual level (running, gardening) and also at a group level (games, expedition) and a macro level (cultural ceremonies). For example, watching a football game is considered an exemplary focal practice. It creates a sense of being there to support one's favorite team and part of the game, along with family and friends, in an immersive experience. Another classic example of focal practice is "culture of the table," which is indicative of complex symbolic and practical engagement with various focal things (e.g., food, table) and involves people and places in a meaningful whole (Borgmann 2000b, p. 420; for a contemporary discussion, see Campisi 2013). Dinner with loved ones is focal insofar

as it requires one to invest time and effort to prepare the meal and, in so doing, draws human involvement in "a broader social field" (Mullis 2009). Focal things such as dinner tables are embedded in this field. These things facilitate conversation, storytelling, and sharing of experiences. The efforts made are toward enrichment and amelioration of one's relationships. These otherwise mundane meal practices are focal as they promote and encourage the good life.

Example	Focal Things	Focal Practices
Coyne (2014)	Smartphones	Everyday digital photography, on a smartphone, is considered as a focal practice, which allows one to engage with the social world and natural world in a probing manner (p. 26).
Sicart (2014)	Digital Games	Playing is a focal practice. In the context of digital games, playing with information technology is considered a focal practice (p. 236).
Keymolen (2016)	3D Printing	The practice of 3D printing a material artifact can be focal practice. It invites a person to be involved by not just creating but also placing the finished thing in their life in a meaningful way (p. 100).
Bødker (2017b)	Phone Charger	The smartphone charging is seen as a focal practice as it brings people and places together (p. 4).
Edwards, Coulton, Darby et al. (2017)	Digital-Nature Garden	The practice of walking in familiar areas while engaging with digital things is seen as a focal practice (pp. 68-9).

Table 2 Examples of focal things and practices in a digital context

Digital focal things and practices have been discussed in recent studies of technology (Table 2). For example, Bødker (2017b) says that phone charging stations could appear as focal things, sponsor focal practices, and bring people together when involved in a certain social setting. In his example of hiking, a portable charger became a focal thing which facilitated a conversation with fellow travelers. He considers phone charging as focal practices insofar as it invites others to reflect on their situations and become closer (contra cf. Aliasgari and Clark 2017). Design and experiential aspects of a digital device such as aesthetics also relate to one's values. In the context of digital practices, people's aesthetic experience is shown to be "a way to measure their understanding of their life in relation to the good life" (Stolterman

and Fors 2004, p. 690). Other examples of digital focal things include 3D printers that promote complex material engagement (Keymolen 2016) and digital games that force one to reflect on their situation (Sicart 2014). There are also documented cases of using digital technologies to reflect on everyday practices to add value. For example, in their study of digital-natural hybrid technologies to do good garden work, Edwards et al. (2017) develop a physical artwork to meditate and reflect on their design principles through it, which allowed them to improve their design (on the use of meditation in digital engagement, see Bødker 2017a). That is to say, a non-digital focal thing was developed to improve the digital design.

Furthermore, in a critical study of digital work, computer programming is considered as a focal practice (Sicart 2014), which draws many associated practices (such as exploring and learning about programming as a discipline) toward a digital focal thing (i.e., information technology). Sicart (2014) explains that popular websites such as Code Academy are examples of the device paradigm as they do not invite one to reflect on the conceptual foundations of programming and how programming can be empowering. For Sicart (2014, p. 234), websites like "Code Academy teaches programming, but only as an activity, not as a focal practice," which facilitates one to be a good and ethical programmer.

Although the device paradigm view suggests that digital systems and technologies are examples of complex devices, Borgmann is hopeful that one's engagement with digital devices might be developed ethically and be interpreted as everyday things in a sense that they can also promote focal practices. To that end, I discuss the device paradigm using evidence from an in-depth ethnography of everyday practices.

METHODS

I conducted an ethnography between 2013 and 2014 at a large technology services organization that I shall call Initech.[10] I was immersed in the field for 18 months. I was invited to work as a part-time software engineer as part of the access to the field. The smooth access was more than a matter of luck. Before becoming an ethnographer, I already had substantial experience working in the corporate IT

sector, in various technical roles, and the management thought that my prior experience might be of some value to their organizational work. At Initech, I worked in a software development team that I shall call Initeam. Most members of my team were young fresh graduates. The participants' age ranged from 20 to 26; the senior managers' age ranged from 40 to 50. Given the multicultural and postcolonial aspect of the larger field (as the study was done in New Zealand), the study's participants were from a variety of ethnic and racial backgrounds, which included Caucasian, South Asian, East Asian and others. At a broader organizational level, at Initech, there were people from many other backgrounds such as Maori and Pacific Islanders. During the fieldwork, I regularly interacted with all sorts of people from diverse backgrounds (e.g., in social events, work meetings, and so on); this allowed me to understand both the field and fieldwork better.

Following the guidelines of ethnographic research (Van Maanen 2011), my primary source of data collection was immersive participant observation. I followed Clifford (1988, pp. 55-91) to invoke the narrative as a pervasive dialogical notion entrenched in the fieldwork. I paid attention to how people engaged with various devices in diverse situations. I was able to capture critical narratives in the everyday encounters and integrated into my study that paved the way for further probing. For example, during chit-chat in an ordinary day in the field, a participant reflected that what matters to them is the small things in life such as "just walk[ing] back and forth on the beach" and preparing meals together. This benign view later materialized in the field as participants invited me to their social events, which were otherwise invisible to me.

I was onsite eight hours each day (approx.) for at least three days a week. I took daily field notes as suggested by Clifford (1990). The observation notes were either taken during a conversation (on a mobile device) or soon afterward (on the personal computer). An important point is that most of the participants were aware of my role as an external researcher but they did not pay attention to my role as an outsider.[11] Given a large amount of data collected over eighteen months, I draw on just a few relevant slices of data for this paper. I also documented the details of daily and weekly meetings. My observations also included

details of informal chats including some candid audio and video recordings. I also took photographs of important events. Finally, I had a digital log of all the communications with the participants during my fieldwork. The latter included instant messaging service and emails. I was lucky to have this information only because I was an active part of the team. I carefully revised the field notes and updated with contextual information as documented by other data sources such as photographs and audio notes; in this way, I invoked "reflexive triangulation," which relates to the integration and linking of ethnographic evidence (Flick 1992, p. 177).

I also conducted ten ethnographic interviews (seven IT professionals and three senior managers). The interviews ranged from an hour to two hours. I followed Myers and Newman (2007) to make sense of qualitative interviews. Given that I was also their (temporary) colleague, the interviewees were rather candid and comfortable in the interviews. For example, some of the interviews started as long after hours chats, which can be seen as the examples of "deep hanging out" in the field (Clifford 1997, p. 90; Geertz 2000, p. 107). I digitally recorded all of the interviews except one (on the interviewee's request). For the latter, I reconstructed the interview using the handwritten notes immediately after the interview. I also added annotations to all final transcriptions of interviews using personal observations during the interviews.

In order to develop the four ethnographic cases, I used critical hermeneutic analysis and adhered to the principles of interpretive research proposed by Klein and Myers (1999). In my interpretations, I take the position that to get closer to focal things and practices one must remain open to the text and defer any truth claims until all the anomalies in the understanding are addressed (Gadamer 1989). The interpretation of field evidence was an ongoing process. I carefully read and re-read evidence from the relevant phases of field observations to identify focal aspects. I also paid hermeneutic attention to the instances of how ordinary places and things can be seen as a source of adding values to one's practices. For example, in some cases, trivial things such as a certain table became a focal thing (as I shall show); in other cases, the otherwise essential practices such as group discussions were found to be not focal and disclosed as mere

routine work. During my initial analysis, I kept my participants in the loop of the hermeneutic circle of interpretation. This is also important as to make sense of the device paradigm and, in so doing, become closer to focal things and practices in the field were only possible after being accepted in the field.

FOUR ETHNOGRAPHIC CASES

Jack and the Device Paradigm

Jack was a senior IT analyst and responsible for design and engagement issues. When a new version of enterprise software was rolled out, and some users started to show dissatisfaction and demanded to revert to an older design, Jack called for a meeting to clarify the situation. He explained that new software solutions are like new devices that provide services in contemporary and innovative ways. He argued that people need to focus on how to get the service rather than focusing on the IT itself. For Jack, people want new devices, but they do not always change their viewpoint, which might still be based on the old devices (see Dourish 2017, p. 46 for a similar argument). A critical reading of his insights would also suggest that blaming IT for everyday frustration is indicative of one's interests and values. For example, modern design might be built on values, which are radically different from actual practices.

Jack worked on multiple organizational systems. During conversations, he often described the ubiquity of IT in his everyday practices like being in a game where he used various devices to achieve different ends (for similar ethnographic observations, see Kozinets, Sherry, Storm et al. 2004). He said that, in a sense, his engagement with digital devices could be seen as play that is fun but adds little value. Here, play should not be confused with gamification. I also want to stress that fun is an added value of engagement with focal things.[12] However, there is a subtle difference between fun associated with a focal thing and fun as an outcome of using a device. For the former, Borgmann (1984) gives the example of trekking, cooking, and running and associates pleasure with focal practices. This is what Verbeek (2005, p. 184) refers to as "a special kind of involvement." For the latter, an example would be using a music player to enjoy the music (as discussed by Verbeek 2005, p. 184). This is somewhat closer to what Jack said, and

perhaps that is why he did not see fun associated with practice (but an outcome of using a device). As I shall reveal, this view is expressed by others as well. When asked about how he and his team view the organizational IT, Jack meditated deeper on the means-ends relationship (here E: denotes ethnographer's questions):

> "If you try to maximize [Microsoft] SharePoint to 100%, you'd be crazy, you'd be spending the rest of your life doing things in it and you wouldn't get that return out of it. But, for certain basic users, their return might just be co-authoring and uploading documents and say, sharing that, having sharing turned on. But for other [more expert] people, well, you know, if you can build it to automate your processes, it will save a whole lot of time, well, then why don't you do that? That is a really good use of that technology. And so, yeah, [I would] encourage them to do that.
>
> And, yeah, I mean, I could give an example of an advanced power user who creates a lot of things (referring to digital solutions), but it really comes down to what the person is going to get most out of this (the optimal outcome), and then go setting about doing it.
>
> (Jack, then, related the use of digital technologies at work with everyday information and communication technologies.)
>
> So, it is similar to me with Twitter, that there is a potential of Twitter, which is way up high (points upward to the ceiling), what I am getting out of Twitter is down here (points down to the floor)… but I am not willing to put that time into, you know, *to live in there*…
>
> *E: Why not?*
>
> I don't see the returns being right for me. Mmm… (after a long pause) *it's not worth it*." – *excerpt from the interview*.

A hermeneutic reading reveals the following insights. First, his reflections suggest that IT can be seen as devices fulfilling one's interests. Second, although a person's needs determine the use of a device, the use

of a device is primarily about getting the service and has little to do with reflecting on one's values and how a digital device may facilitate a good life. Jack's outlook on IT was not the exception; there were others who held similar views. For example, although Fionn was critical of reliance on devices (his account is presented in detail later); he also said that new digital solutions could improve his work while old design and devices were negatively related to better work practices (e.g., he and others distanced themselves from a website design which they referred to as "*worthless*"). Contrariwise, Dorothy, an intern, during an interview, candidly remarked that she tends to overlook IT functionality or a device's characteristics as long as it fulfills her interest and facilitates achieving the software development goals.

For Jack, the digital devices were, as he once said, a feature of his life, but, in a paradoxical sense, he also often actively sought distance from them to focus on things, which were closer to his family and social relations. Why is that so? Had he accepted the device paradigm as his way of life? In one interpretation, that might be true because he saw technology as a device and was quite happy with it. However, he was also a skeptic of it, although not explicitly. This seemingly bizarre relationship discloses the dialectical tensions, help us understand and delve deeper into the device paradigm. Similar points were also discussed by others (discussed next) as the points of resistance to counter the device paradigm.

Alice Quizzes the Devices

"I'm talking about *devices* and I'm also talking about various applications on them," replied Alice, when asked about what she meant by digital technologies that add little value to her life. When probed further, which kind of technology is closest to her in everyday life? She laughed and replied: "Obviously not my phone because I forgot it [at home]."

Later, I observed that some participants were often dealing with devices in particular ways that were determined by their values. For instance, Alice, who was not in a purely technical role (she was in a support role), praised a particular computer programming solution developed by a colleague saying, "I wish I could do that, but this is not for me." When I inquired casually, why the programming skill is "not for you," she explained that she is curious and finds it an interesting skill, but she could not identify it

with her values or purpose to engage with it. She was somewhat suspicious about simply doing a practice without actually being involved in it. She recalled that once a colleague tried to teach her programming skills, "I just didn't know what to do with it; there was no real task anyway," she giggled timidly. Alice understood that it is not about becoming a programmer by learning to write code, rather she must always engage in meaningful programming work, which must also relate to her values (for example, Sicart 2014 makes a similar argument concerning computer programming). This candid encounter reveals that what one values cannot be separated from what one does in their work practices, and that it is problematic to study one without taking the other into account. It also suggests that IT management cannot be separated from personal values.

During an interview, Alice reflected further on her relationship with IT. She said that she found the impact of digital devices on her life as "negative and efficient." She argued that devices let her perform tasks in a quick and efficient manner. Her negative assessment of devices was a powerful reply to Jack's analysis using the means-ends relationship. Rather than rejecting the view of devices delivering commodities, she said that one must know their values, which are strongly grounded in communal aspects of practices. She pondered a counter perspective:

> "Well if you think, if you *value* [your] community most and you think that this generalized concept of technology is fracturing that into individualized lives and motivations…through self-interest.
>
> …
>
> If we think about the common technology that's mass produced now, it's all about the individual's wants, what they want to gain as an individual; how they're going to use it to succeed as an individual. It's very individualized, and it doesn't really have that, you know, communal aspect.

> So I think, perhaps, if your ideal is a community, if your end goal is that, if your idea of good, [and you think] that's good for you, then, perhaps, technology is divisive and, therefore, negative." – *excerpt from the interview*.

Borgmann (1984) would agree with Alice's view that devices do not promote communal engagement. In contrast, scholars are divided on whether or not digital technologies truly facilitate communal engagement (Turkle 2011). But Alice was using the concept of community to highlight what she understood as the good life. She remarked,

> "if your idea of, your *concept of the good* is not [found in what a device offers], so like I have used the concept of community as perhaps the good that someone might adopt, [by using different devices] maybe you're creating a network of people but it's not really a community because it's all kind of disjointed.
>
> But maybe on the flipside maybe it is a community, maybe it's a new form of community. Maybe it's kind of, you know, you're pushing the boundaries of the community. But I definitely don't think it's the traditional sense of community." – *excerpt from an interview*.

Alice's insight is critical in two ways. First, like Borgmann, she is open to the idea of "pushing the boundaries," but also, she is skeptical of it and concerned about the loss of values. Second, her insights suggest that the simple use of digital technologies to develop a social relationship is problematic as it does not necessarily bring people together (Turkle 2011, 2017). That is to say, new forms of technologies lack the focal aspects (at least in the beginning) and, therefore, should be approached with care.

Like Alice, Dorothy was also critical of using new media for things that she valued. She gave the example of instant-messaging, which she considered good, for general communications, but not for significant affairs. She said that she uses instant-messaging tools daily as her primary communication method. However, she will go out of the way to deliver important hand-written notes and messages by hand to show her values:

> "for something important, like my mum's birthday, or some festival, I still make [an effort to] call…[or write letters] because it feels more reliable and better [as it was done] in the old ways." – *excerpt from the interview*.

By old ways, she was not referring to a pre-digital age but manual tasks such as writing a letter and sending it via post. For her, reliability was not about the delivery but knowing that she has invested effort and disclosed her involvement to the recipient with a handwritten message (Borgmann 2010, p. 30). Although she was an expert computer programmer, she explained that the idea of focal things is not necessarily digital for her. In an interview, she reflected on the social media strategy of Initech, she said:

> "For me, it is not about technology at all; it is about the purpose of using a thing… I can still use an old [style of] technology like an old camera to take photos, why should it be a problem?...
>
> I do not understand the [management's] obsession with new technologies. People can listen to music on their phone, but I like Vinyl, that is the point." – *excerpt from the interview*.

Although this is the second instance of Dorothy mentioning 'old' technologies, she was far from nostalgic. She explained that she owns state of the art computer systems, smart TVs, and often had meals while working on multiple devices. Hence, her point was not nostalgic but focal. For example, for her, vinyl was more important than digital music, and letter writing was more significant than instant-messaging. These are the things which draw her to be involved with her social sphere (even in digital context) in ways that Alice likened to the idea of the good in practice.

The above also suggests that digital and organizational practices are human practices impregnated with human values and, as ordinary human beings with rich and diverse histories, we care about certain things (and people and places). Human practices are a complex meshwork where technology is but a part of the larger whole; to understand, how one engages with technology in practice, we also need to understand the human side of practices, which are often furtive and requires careful interpretation.

Fionn's Secret Gathering and Focal Practices

One night, after leaving a work dinner, I was walking with James (a senior manager). We started to talk about the dinner event. It was part of the Initech planned activity for the whole department. Although the evening was full of games and a good meal, I shared with him that I felt that not everyone enjoyed the work dinner. Some left very early, others only showed up and then left. James said that most people only showed up because the management asked them to do so. It is not that they did not like the social gathering. Quite the contrary, James told me that the team preferred their private gathering as they used to do in the past, but now no one has much time. He said that Fionn was primarily responsible for preparing those gatherings, but now he was buried in work. He said that it used to bring everyone together and hoped that there would be more such gatherings. As he explained, it became clear that there was a hidden part of the field. The next day, when I asked Fionn about what James had told me; he referred to their past social events as "our secret gathering" and that "it is always fun." When I probed him further, he said that he would think about doing the next gathering but "for now, it is a secret." As I had other deadlines to attend to, I asked him about the venue and time: Will it be an evening affair? "Evening? It will be in the morning, and it will be here," he laughed and pointed all around. I was clueless. Although I was excited about it, I had little details and did not know what to expect.

After some days, Fionn shared with the team that they will soon have their secret party. I finally learned that it is a communal cooking gathering where food is made from scratch. Of course, it was not secretive as it might sound, they simply referred to it as a secret because they saw it as "our thing," as Fionn put it. They decided on a waffles breakfast (but they had had many different styles in the past). Although Initech did provide breakfast or lunch on occasion, like many other IT organizations (e.g., Google is famous for their notorious free food strategies, see Bock 2015), this is not the same as cooking *together* in one's own workplace and coming together by one's own volition. Moreover, the participants had to invest time, personal resources, and effort to hold the secret gathering (e.g., buy food, bring cutlery, etc.); the end goal

was not to make or eat food but to *be together*. It was evident that pleasure and fun were significant values that were associated with their practice of cooking at work.

== Insert Figure 2 about here ==

The breakfast event started slowly. The workplace was transformed into a communal kitchen (Figure 2). Some parts of Figure 2 are intentionally pixelated in order to preserve the anonymity of the participants. Fionn was responsible for cooking and declared an area of his workplace as "our kitchen." Others got busy with setting up or storytelling. A workstation was also used as an entertainment system.

> "Fionn turned plugged his Smartphone to [a workstation's] speakers and tuned in to a Spotify music channel. The workplace was filled with festive tunes. Everyone requested their favorite song to be added to the list. As the music started, it suddenly changed the mood; the lights were dimmed, and the floor was lit with natural sunlight." – *excerpt from the interview* (continued next)

We can see how otherwise routine organizational IT devices emerge as focal things. At some point, the music streaming started to jitter, which caused everyone to gather around the workstation and they attempt to figure out a solution together. Of course, their aim was neither to fix nor to listen to music but to enjoy their social event. Music was just a part of it. The pleasure was not just listening to the music in a social gathering, but to listen together, to be together. A simple failure in device mattered to them. The important insight here is that what is understood as a device without value can suddenly be transformed into something extremely valuable to their life. A device, that is otherwise seen as providing music as a commodity *for* pleasure, came to the fore as something that relates to the pleasure of community involved in a focal practice. Once the device was fixed, everyone went back to his or her seats. Fionn and I returned to *the kitchen*:

> "Fionn was in charge of making the waffles. Before starting, he asked James how much dough is required. James said that usually one and a half spoons is enough, "but I don't have the same spoon." So they used different measures.
>
> Also, the waffle makers were of a different brand, in addition to the different type of dough, so it took a while before timing and amount were refined after some trial and error.
>
> Fionn and I made most of the waffles. James came in from time to time, too. While we were preparing, Caitlin sat next to us. She started chatting and playing with the waffles' dough. She was visibly excited." – *excerpt from a field note*.

Some of the above details might appear mundane, but they are of critical importance as they are indicative of deep human involvement. Once the food was prepared and set up, we all sat together and ate. In this way, even ordinary things such as a work desk (transformed into a meal table) became a focal thing. As we sat down and were about to eat, a senior director showed up and was pleasantly surprised by the gathering. He said that it felt like "stepping into someone's home." He was invited to join us for the meal. This coming together would constitute as a powerful example of focal practice in three ways. First, it brings people together in ways which invite them to be involved with other people, things, and places. Second, it requires effort and resolve at work. Third, the ultimate aim is to enjoy time with friends. The last point is also extended to the potential collapse of hierarchies within organizations as it is reflected in the senior director's comments. Finally, these practices cannot possibly be actualized without transformation of everyday technologies, as it has been shown. In other words, the purposeful configuration of digital and everyday devices is not always superficial but found to be related to the people's values and their idea of good.

Sid has No Use for the Devices: Living by One's Values

For the final evidence, I present a long-form narrative in which Sid reflects on his relationship with organizational IT and work. Sid was an expert network engineer who was versed in advanced digital

network systems. He had worked on numerous complex enterprise projects and was considered a critical resource for Initech. Furthermore, his work required immersion in both physical (network equipment) and virtual (software configurations) devices at almost all times (e.g., working from home on demand). He was also pursuing technical courses to improve his digital skills and had many pet projects. It stands to reason that he liked his IT work and was fully immersed in it as well.

On one of my many software deployment tasks, I was assigned to work closely with Sid. We often spent long hours chatting and discussing various concepts from IT to travel to life in general. We became good friends. It is then I began to understand that his technological skills (and even the IT career) were concomitant of his idea of good and ethical life. He shared his worldview and reflected on his doubts about the efficiency of IT in everyday situations. Despite being involved with the ubiquitous IT environment, Sid questioned the ubiquity of IT in everyday life and Initech's organizational context. He said that he found the idea of ubiquitous technology problematic because it often inhibits his creative and critical thinking; consequently, he tried to develop non-technological solutions wherever possible in many situations (for a similar strategy in the context of digital design, see Edwards et al. 2017). However, what is the significance of non-digital solutions in the digital scenario? I asked. He was first hesitant but then opened up his heart. What follows is his rather confessional narrative, offered as an alternative understanding, which is remarkably closer to the contemporary analyses of the device paradigm (E: denotes ethnographer's remarks):

> "I think inherently as human beings [we are] *seeking*… *happiness* (laughs), [and] there will be a lot of resistance against it [i.e., from devices].
>
> *E: Can information technology bring happiness?*
>
> Umm, No (laughs).
>
> *E: But if things are efficient, are they not a source of happiness?*
>
> No (laughs).

E: Then what is the source of happiness?

I think… we have to go right back to the… (here he stopped and had a long pause)

Okay, *I'm a Buddhist* so I [follow] life philosophy and a lot of times, [for me], the source of happiness is to bring out our really strong characteristics [values], you know, the things like overcoming problems.

The other one is to overcome our sufferings, and there are lots of things involved in that. And, you know, kind of reaching our goals and being, you know, *being compassionate*. So technology can help us reach these goals, but it cannot do it for us (smiles).

E: So from the Buddhist perspective, do you think the new technology has an essence?

I think that (information) technology is just technology [a thing], but the people… *that is the key* to where we find happiness… It's not [about being] focused on the tools or whatever that we're using to reach the happiness; it's the, umm, how we can, how we look in [sic.] ourselves spiritually and that sort of thing to find, not find happiness, but to really *bring out* true happiness. Because there are lots of things that people [mistakenly] think as happiness.

You know, they [the management] think if I can get a house that has a million things or whatever [it will make me] happy. But, you know, and I guess it also depends on what your view of happiness is… I don't believe that happiness is something that is kind of obtained through something else [like a device] (laughs), [or] like obtained [as a product], [it] is not outside of yourself, it is *within* yourself." – *excerpt from the interview*.

As his narrative shows, the question of technology is a sensitive one and often linked to one's personal beliefs, which is rarely if at all qualitatively discussed in the literature. A radical insight is that a person's everyday situation is not separate from their work (in this case IT related design work). A study of IT phenomena is incomplete and simplistic without taking everyday human values into account. For

example, to be a software engineer is more than doing software development but there are complex human values at play that comprise what a software engineer *is* (for a similar argument concerning computer programmers, see Sicart 2014). For Sid, the essence of IT was not technological; IT was seen as an everyday thing; and, the epitome of his IT world was still seeking happiness and overcoming suffering. This is a radically different interpretation of information technology which invalidates most mainstream conceptualizations (e.g., information technology as an artifact, tool, equipment, or infrastructure). However, it is closer to the idea of the focal things and overcoming device paradigm. This view favors one's values and the notion of good. Unfortunately, these complex ideas, which also disclose differences in values among people, were found to be absent in Initech's approach to IT management.

We also know that most organizations are oblivious to a person's personal beliefs and find them irrelevant to work practices. Most information systems researchers ignore or overlook the problems related to values held by people and instead focus on reinforcing (corporate) values of an organization. This is problematic because, in cases of the extreme clash of ideas in an organization, often a likely output is a public announcement of one's distance from an organization or group such as documented in the recent cases of whistleblowers (e.g., Facebook, NSA, etc). Although this was not the case at Initech, some of the participants did express concerns of disengagement with work practices. Sid, on a different occasion, mentioned that he also saw his IT work practices from the perspective of his spiritual and moral values, which required him to revisit and improve his life after each cycle (i.e., a Buddhist spiritual phenomenon). Despite being in the ubiquitous digital environment, his focal practices were, in effect, spiritual practices. Like Borgmann's concerns, he saw his work disengaging and feared that it did not facilitate being a good human being. We learn from him that a work practice that has little or no spiritual significance is uncritical and not worth pursuing. Indeed, he ultimately left Initech on the same grounds. He did not find any use for devices that were all around him.

DISCUSSION AND CONCLUSIONS

In this paper, I have suggested that the device paradigm can be used to identify and integrate human values in the studies of digital work, using rich contextual accounts of critical engagement. Hence the insights are not about the question of the decentering or downplaying agency; on the contrary, the device paradigm perspective is invoked to illuminate, in Borgmann's terminology, the *centers*, where the human values lie, which draw people, and inspire them to be more involved and ethically engaged with the phenomena.

While prior studies of information technologies have discussed the ethical implications of digital work, they do not adequately take human values into account (e.g., Myers and Venable 2014; Walsham 2012). This study expands the ethical dimension of IT by explaining how a diverse range of human values are held by IT professionals, how values are attached to the focal things (as well as devices), and how these differing values relate to a richer understanding of information technologies and associated practices. This is the added value of the device paradigm to highlight focal things and practices in digital work. As I have shown, people at Initech held different values and beliefs concerning their engagement with technologies. Management did not pay attention to human values and, therefore, overlooked the focal things and practices. For efficient management of IT and associated practices, values must not be opaque as the device paradigm has it. Scholars, as well as practitioners, need to integrate focal things and practices to both promote engagement which, more importantly, might encourage people to come up with new and novel solutions based on their worldviews.

My application of the device paradigm suggests two novel insights concerning values: digital devices can have focal aspects, and everyday (work)places can be seen as focal places. Although the original insight of the device paradigm was that devices do not add values, I have suggested that digital focal things are ingrained in our practices in a way that resonates with our values and ideas of good. Digital devices can be enacted as focal devices. A critical question for the scholarship is what to do about it? My suggestion should be seen as expanding the device paradigm argument in ways which are grounded in ethnographic

evidence of engagement with the contemporary digital context. Of course, I am not suggesting that every case of IT should be seen as a focal thing, nor every digital practice at work is a focal practice. Rather, the focal aspects emerge when the values of a person are in line with their engagement with devices in their everyday practices (values attached to a device). This suggestion is also consistent with contemporary interpretations of the device paradigm, as also discussed by Fällman (2011) and Coyne (2014).

Furthermore, more than a mere means-ends separation, I propose that there is often collapse of means and ends separation facilitated by digital devices. That is, by engaging with a device (mean) for a specific purpose (end), the accomplishment is often intimately connected to the invested effort, although the latter is often invisible as deep immersion. For example, when one interacts with a smartphone to write an email, a person effortlessly engages (which might appear as disengagement) with the phone as an everyday thing than as a device providing a service. In fact, it is often the case that one does not pay attention to the device in practice but engages with the task such as writing a message, photography or exploring the natural world (Coyne 2014). Despite this effortlessness, our purpose of engaging with a device is resonated with our values that cannot be negated by the disappearance or lack of effort (cf. Sayer 2011, pp. 26-9). Hence, focal practices can be seen emerging from digital devices. Consistent with Borgmann (1984), but going beyond the recent critiques of the device paradigm, I suggest that focal practices can materialize when a person engages with a digital thing in a manner which shows one is absorbed in and dedicated to the digital thing. What a (digital) device delivers is, then, not seen as a commodity but something valuable to the person. This includes pleasure associated with the digital device, fun in engagement, and how intimate a person feels towards a digital focal thing (and associated practices). Therefore, I propose that a digital device does have values attached to it even if we do not always notice them.

The second insight of my work is about the places where we engage with IT. Although the previous studies of the device paradigm highlight the focal things and practices, they overlook the significance of place and take it for granted (Davison 2004). My suggestion is that the focal things are firmly grounded in

focal places, which facilitate the emergence of focal practices. As ethnographic evidence uncovers, for the focal practice (such as the communal cooking at Initech) to occur, it has to be in a focal place, which houses focal things and people that one cares about. That is, if the communal cooking were done outside their workplace, it would have been seen merely as a communal cooking or social gathering (which might have been focal in its own right but little to do with their work relationships).

The idea of focal place is also particularly relevant to the practice of ethnography and doing the fieldwork. Place engenders unpredictable engagement. One cannot foresee how a practice will unfold in a place (even if it is a familiar place). When ethnographers enter the field, they do not just enter an objective space; rather they step into a diverse range of places that matter to people, places that have specific values. An ethnographic field is a focal place for the participants and, therefore, it is also a focal aspect of the fieldwork and for the fieldworker, and should be interpreted as such (i.e., places with values). The practice of doing fieldwork is a focal practice. Ethnographers are encouraged to explore values *in* the field (held by people) as well as values *of* the field (attached to the places).

The findings of this study are limited by the sample characteristics or nature of participants (young technology professionals) and their account of engagement, but they provide powerful insights that might be possible to generalize within similar cases (*sensu* Geertz). How can we better integrate human values in the studies of information systems research? Quite often researchers humor themselves with the nature of information technology in practice rather than exploring the problems of engagement with practices. Consequently, important questions concerning what adds values to one's life, what one values, and problems of disengaged context are often overlooked in what is argued to be the dominant paradigm in the information technology literature.

I suggest four crucial areas of further exploration of device paradigm; they are culture, intimacy, design science, and critical research. First, the value system of culture is encoded in structures (e.g., language, symbols, etc.), the meaning potential[13] (beyond everyday use of language) of structure is enacted by people (with specific values such as in postcolonial and multicultural contexts as well as gender and

identity) in their engagement with everyday practices. As digital technologies become integral to everyday sense-making and doing things in practice, this suggests that focal things, practices, and places might play a complex role in the enactment of meaning potential, which needs to be carefully unpicked and examined in order to understand how meaning emerges in the device paradigm. Second, people can develop an intimate relationship with focal things and places, and this relationship needs to be examined. Borgmann (1999) talks about intimacy with the world and relates it to pleasure. Although pleasure and intimacy was not the focus of this paper, it seems that focal things and places (and to some extent, devices) can also sponsor pleasure and therefore can add value to one's life. Third, in the design literature, there have already been important developments using device paradigm (e.g., Keymolen 2016). Future studies of design could engage with the device paradigm to highlight and study focal practices, places, and things regarding gestures, proxemics, kinesics, haptic and so forth. Fourth, for critical researchers, the ideas of focal things and practices might be useful for identifying and exploring human values vis-à-vis ethical stance, politics, and morality of technologies. They might be able to further extend the device paradigm and interpret how disengagement inhibits emancipation and highlight more sensitive human values[14] (such as those related to colonization, politics, indigenous, gender, power, and disabilities). More ethnographic research is needed to examine the human values in the cotemporary digital contexts.

NOTES

[1] In this work, following Borgmann (1984), I make a distinction between moral values and values in the sense of worth. In particular, Borgmann uses the definition provided by Kurt Baier to make a distinction between value as a property of thing and values held by people (Baier, p. 40). The value of a thing is its "capacity to confer a benefit on someone, to make a favorable difference to his life" (Baier, p. 40). Values held by people are their "tendencies of people to devote their resources (time, energy, money [the means of all means]) to the attainment of certain ends" (Baier, p. 40). Based on this distinction, Borgmann (1984)

further distinguish between the hard (measurable) and soft (elusive) values (p. 80). His examples of values include beauty, stability, integrity (p. 186), freedom, prosperity, pleasure (p. 213) and justice (p. 289).

[2] The research site, Initech, had over 300 employees that were in five strategic business units. I was working in one team that was part of a particular business unit; my team, Initeam, had approximately 26 people. It is approximate because, during the course of the fieldwork, some people joined and others left. Although I did fieldwork among the Initeam for over 18 months, I only interviewed ten key participants.

[3] I use the term paradigm in this paper as a metaphor, as discussed in Kuhn (2012) where it meant a framework of interpretation. In particular, I use it as a concept to illuminate the "ways of seeing" and describe the "ways of knowing" the prevalent discourse of engaging with information technologies (Ihde 1991, p. 33). I refer the readers to the discussion of different applications of the term paradigm, for instance Hassard and Wolfram (2013). Similarly, I use the term device, as suggested by Borgmann (1984), to conceptualize a technological mechanism that provides a service or product on demand, be it social, digital, or any other form.

[4] In a conventional sense, devices are neither necessarily ubiquitous nor do they provide a commodity in an instantaneous manner (e.g., a kitchen stove may still require some effort or may not always be available). However, the digital devices are both ubiquitous and instantaneous and, to some extent, safer in their delivery of a commodity (e.g., online products and services are mostly always on and always available).

[5] William Lovitt remarks in his introduction to Heidegger's (1977) essay, *The Question Concerning Technology*: "Today all things are being swept together into a vast network in which their only meaning lies in their being available to serve some end that will itself also be directed toward getting everything under control" (p. xxix).

[6] According to Langdon Winner, it is possible that "techne itself might become a politeia, that technical forms of life might in themselves give powerful and authoritative shape to human affairs" (Winner, 1983, p. 98) This interpretation of a pervasive techne resonates with the contemporary examples of data related power exerted in terms of social media organizations, personalized content, and surveillance.

[7] In this paper, I am only concerned with the value aspect of focal things and practices in an organizational workplace; there might be a good opportunity for scholars to expand the idea of focal things in other contexts of social as well as IT related work.

[8] The hearth photo in Figure 1 is licensed under Creative Commons 2.0 and free to copy and redistribute in any medium or format with the following credit: *A large hearth, Ulster American Folk Park, cc-by-sa/2.0 - © Kenneth Allen - geograph.org.uk/p/4902849*. The Microwave photo in the same figure is free to use with no attribution required.

[9] A simple act of taking a photo in nature (for the sake of being a photographer) can add value and contribute to the good life; on the other hand, a selfie-style photo, which is done for the sake of taking a photo, do not add value to one's life (see Coyne 2014).

[10] All names used in this work are pseudonyms.

[11] Elsewhere I have reported other findings from the study (see Chughtai & Myers, 2017)

[12] Fun and *play* are focal aspects of technological practices; this I have written about at length (see Chughtai & Myers, 2014a, b).

[13] I am thankful to one of the reviewers for drawing my attention to Michael Halliday's work on meaning potential. Although meaning potential is primarily discussed in the context of language, ethnographers are encouraged to extend it and develop critical ethnographic narratives based on meaning potential of other symbol systems, including objects and devices.

[14] For example, Michelfelder (2010) suggests a feminist interpretation of the device paradigm; Stolterman & Fors (2006) suggest aesthetic experience interpretation to make sense of meaningful engagement with information systems.

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Figure 1 Hearth (Focal Thing) and Microwave (Device)

793x266mm (72 x 72 DPI)

Figure 2 Cooking as a Focal Practice

84x113mm (220 x 220 DPI)