Living Through the Parameters of Technology: Filipino Mothers in Diaspora and Their Mediated Parenting Experiences

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The ongoing diaspora of Filipino parents in the era of neoteric communication media and technologies (CMT) has progressively been cultivating an innovative breed of Filipino parenting. While migrant parents primarily leave the country to provide for their children, this genre of parenting, which the author labels as "communicated parenting," offers migrant parents the opportunity to function beyond economic provision by allowing them to parent their children despite the distance. Indeed, extant literature confirms that Filipino migrant mothers engage in communicated parenting through long-distance communication and CMT use. But how do migrant mothers genuinely assess the communication technologies that they use in their communicated parenting and how do they manage the capacities and limitations of these technologies? In keeping with the perspective of *Apparatgeist*, this article scopes the "experienced parameters" of technologies, or the capacities and limitations of technologies experienced by Singapore-based Filipino migrant mothers, as well as their attempts to manage these experienced parameters in their efforts to parent their teenage children even across borders.

Keywords: transnational parenting, communication media, communication technologies, migrant mothers

Filipino Mothers in Diaspora

In recent decades, the explosion in the number of Filipinos departing the country to seek better economic and career opportunities abroad has consequently amplified the number of Filipino transnational families. In fact, Rhacel Parreñas (2005a) observed that "Transnational families are increasingly the norm in Philippine society" (p. 30).

Among the Filipino workers in exodus are Filipino parents who have chosen to work overseas hoping that they would be able to better provide for their families back home. Extant literature documents that, indeed, migration enables migrant parents to provide for their families' needs (Añonuevo, 2002; Asis, 2008; Center for Migrant Advocacy, 2009; Zosa & Orbeta, 2009). However, there are rousing concerns on whether the economic benefits of migration justify the social costs that it imposes on transnational families (for instance, Graham, et al., 2012; Graham & Jordan, 2013; Pernia, Pernia, Ubias, & San Pascual, 2013; Zosa & Orbeta, 2009). In particular, questions have been raised on how transnational families are faring especially if it is the mothers who are the migrant workers (Añonuevo, 2002; Battistella & Conaco, 1998; Beltran, Samonte, & Walker, 1996; Parreñas, 2001, 2005a; San Pascual, 2012; Sobritchea, 2007; Uy-Tioco, 2007). While there are children in mother-away families who experienced tremendous difficulties adjusting to transnational family life, literature also records that there are also children who manage to live a healthy and "normal" life despite the difficulties that they experience from living apart from their mothers (Asis, Huang, & Yeoh, 2004; Parreñas, 2001; Parreñas, 2005a; Sobritchea, 2007).

Then again, Parreñas (2005a) explained that concern for the families left behind by transnational migrant mothers could be traced from societal expectations of gendered roles and responsibilities where women are held to be the families' nurturer and giver of care. While various scholars criticize and argue against such traditional and gendered views (for instance, Gustafson, 2005; Parreñas, 2001; Parreñas, 2005a; Uy-Tioco, 2007), Parreñas (2005a) found that "it is the continued nurturing of mothers that sets apart children who find less dissatisfaction in the transnational family" (p. 107).

This article touches on the experiences of Filipino migrant mothers in their persistent efforts to parent their children even across borders.

Communicated Parenting

Studies reveal that Filipino transnational migrant mothers strive to remain connected with their families back home, that they endeavor to sustain their relationship with their children, and that they make an effort to continue parenting their kids in spite of the distance (Madianou & Miller, 2011 & 2012; Parreñas, 2001, 2005a & 2005b; San Pascual, 2012; Uy-Tioco, 2007). Through long-distance communication (LDC) and use of communication media and technologies (CMT), from traditional platforms such as letters, packages, and land-based phone calls, to newer forms such as SMS, mobile voice calls, e-mail, online chat, online video calls, and social media, these mothers are able to engage in what the current author refers to as "communicated parenting."

Masud Hoghughi (2004) describes parenting as "purposive activities aimed at ensuring the survival and development of children" (p. 5), and these activities involve provision of physical, emotional, and social care, setting and enforcing boundaries, encouraging and supporting education and other development needs, as well as instilling values. These imply the significance of spatial proximity in carrying out parenting activities; hence, transnational migration and the consequent parent-child separation understandably impose parenting challenges among migrant parents (San Pascual, 2012; San Pascual, in press). Communicated parenting, however, presents them with an opportunity to address the challenges entailed by their transnational labor migration as it enables them to exchange physical administration of care and physical expression of emotion with communicated experiences, activities, care, concerns, emotions, and affections (San Pascual, 2012; San Pascual, in press). Furthermore, while providing for their families' needs remains the primary reason for their transnational labor migration, communicated parenting grants migrant mothers the chance to function beyond economic provision by allowing them to parent their children despite the distance (San Pascual, 2012; San Pascual, in press).

Given that literature already confirms that migrant mothers engage in transnational parenting, this article now presents how migrant mothers assess the communication technologies that they use in their communicated parenting and how they attempt to manage the capacities and limitations of these technologies.

Understanding the Parameters of Communication Technologies through the Perspective of *Apparatgeist*

The perspective of Apparatgeist offers a new theoretical orientation for understanding the meaning of technology in human lives. A neologism put forward by James Katz and Aaron Aakhus (2002), Apparatgeist refers to "the spirit of the machine" (p. 305), which consequently bears on the significance which users, non-users, and anti-users accord to technology. Katz and Aakhus (2002) reason that Apparatgeist does not only recognize the philosophies of functionalist and structuration theories but it also moves beyond these theories to accommodate a more dynamic view of the individual and social significance of technology. While it agrees with the functionalist perspective that technology has utilitarian functions, it argues that it has symbolic importance as well. Moreover, while it concurs with the structuration perspective that technology becomes institutionalized as it becomes integrated in the fabric of social life, it contends that the process of integration is very much individual as it is social. Thus, it can be summarized that Apparatgeist is constituted by the interplay of (a) the design of the technology itself, (b) the social contexts surrounding its use or non-use, and (c) the individual contexts surrounding its use or non-use.

Taking up Katz and Aakhus' (2002) offer to examine the meaning of technology using the perspective of Apparatgeist, this article seeks to appraise the spirit of technology by investigating the interplay of (a) the characteristics of technology used for long-distance parenting, (b) the social circumstances surrounding its use or non-use for mediated parenting, and (c) the personal circumstances surrounding its use or non-use for transnational parenting. In doing so, this article proposes that Apparatgeist, or the spirit

of the machine, may be revealed through the experienced parameters of communication technology (see Figure 1).

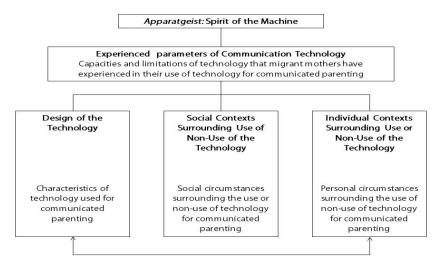


Figure 1. Experienced Capacities and Limitations of Communication Technology

Consistent with Katz and Aakhus' (2002) arguments, the experienced parameters of technology, or the experienced capacities and limitations of communication technology, weave together the inherent design of the machine, which weighs on the machine's functions, as well as its social application, which affects the machine's assimilation in everyday life. Apart from the technological and social dimensions of the machine, the experienced parameters of technology also integrate the individual's personal circumstances, which surround the use or non-use of the machine. Thus, the experienced parameters of technology may reveal the machine's Apparatgeist. In the context of this study, the capacities and limitations of technology exhibit the experienced parameters of technology, which the migrant mothers encounter in their communicated parenting efforts.

The design of the technology is defined in this study as the characteristics of technology. In logging the experienced capacities and limitations of technology in terms of technology characteristics, three of the four criteria identified by Richard Daft and Robert Lengel (1984) in assessing media richness guided this study: capacity for synchronous or asynchronous exchange, capacity to display multiple cues, and capacity to convey using natural language.

Meanwhile, this study defines the social context surrounding use or non-use of technology as the various social instances of communicated parenting. The experienced capacities and limitations of technology may be catalogued as it is used for mediated parenting during a variety of circumstances, from everyday instances, to special occasions and events, to moments of urgency and distress (Trevino, Lengel, & Daft, 1987).

Finally, this study defines the individual contexts surrounding use or non-use of technology as the personal circumstances of migrant mothers that surround their use or non-use of technology for communicated parenting, which may include socio-economic circumstances, such as access to technology and cost of access to technology, as well as technological circumstances, such as attitude towards technology and skills in using technology. These factors may also mark the experienced capacities and limitations of technology.

Thus, this article ventures to ask the question: How do Singaporebased Filipino migrant mothers assess the communication technologies that they use in communicated parenting? In keeping with the perspective of Apparatgeist, this article scopes the experienced parameters of communication technologies, or the capacities and limitations of technologies as experienced by the migrant mothers in their efforts to parent their teenage children even across borders. These capacities and limitations may be experienced through their interactions with the design of the technology or the characteristics of the technology used for long-distance parenting, the social circumstances surrounding their use or non-use of technology for mediated parenting, and the personal circumstances surrounding their use or non-use of technology for communicated parenting.

Furthermore, an examination of the interplay between and among these three components of Apparatgeist would also illustrate how technology users endeavor to live through the parameters of technology as they strive to manage the limitations imposed by technological design, social situations, and personal circumstances in order to maximize the benefits that they get from technology use. As such, this article further asks: How do Singaporebased Filipino migrant mothers attempt to minimize their experienced limitations of communication technologies used for communicated parenting to maximize their experienced capacities of these technologies?

The findings discussed in this article were based on the author's analysis of the data derived from her interviews of 32 Singapore-based Filipino migrant mothers for her graduate thesis titled *Communicated Parenting: Singapore-Based Filipino Working Mothers and Their Long-Distance Parenting of Their Teenage Children in the Philippines* (2012). All the mothers were recruited through referrals and, at the time of the interviews, they were employed in Singapore and had at least one child in the Philippines aged 13 to 19 years old. Each mother participated in a single interview session conducted from October 2010 to March 2011.

Profile of the Interviewed Migrant Mothers

Socio-demographic profile of the

Singapore-based Filipino migrant mothers

Half of the mothers interviewed were employed as professionals, associate professionals, managers, sales and service workers, and clerical support workers. On the average, these mothers have been working in Singapore for 3 years and for most of them, their work experience abroad has only been spent in Singapore. All of them have college degrees, a couple of them even have post-college degrees, and two have taken some post-college units. Their ages ranged from 32 to 49 years old.

The other half of the mothers interviewed were employed as household service workers. Most of them have been working abroad longer than the 3-year average of the other set of mothers and eight of them have also worked in countries other than Singapore. Five of them have high-school degrees, two have taken some college units, while the rest have vocational degrees. Their ages ranged from 33 to 44 years old.

The average age of these mothers' children is 15 years old, which means that their children are generally in secondary school. These mothers leave the care of their children to their children's father, their children's grandparents particularly their grandmothers, and their children's aunts and uncles. The left-behind children of mothers who are employed as professionals, associate professionals, managers, sales and service workers, and clerical support workers live in Metro Manila or in urban to partially urban areas outside Metro Manila. Meanwhile, the left-behind children of half of the mothers who are employed as household service workers live in Metro Manila while the rest live in partially urban to rural areas outside Metro Manila.

Socio-economic and technological

profiles of the Singapore-based Filipino migrant mothers

The Singapore-based Filipino migrant mothers interviewed reported that they prefer to use newer media, like mobile phone and personal computer, and newer technologies, such as SMS, mobile voice call, online chat, online video call, e-mail, and Facebook, for communicated parenting. While these mothers prefer newer media and technologies, some of them also use older forms of media, such as land-based phone and postal mail, to connect with their families back home.

The interviews expose that the migrant mothers employed as professionals, associate professionals, managers, sales and service workers, and clerical support workers have ownership of mobile phone and Internetconnected computer. Hence, these mothers benefit from both mobile-based technologies, such as SMS and mobile voice call, and from Internet-based technologies, such as chat, video call, e-mail, and Facebook. Moreover, their families back home also have ownership of these devices so they can also engage in LDC through basic mobile-based and Internet-based technologies. Some of these mothers and their children even own a smartphone so they also take advantage of mobile Internet technology.

In contrast, the migrant mothers employed as household service workers only own a basic mobile phone. For those of them who talk to their families through online technology, they either borrow their employers' Internet connected computer or they go to Internet shops. Meanwhile, these mothers' teenage children usually have their own basic mobile phone. Like them, their families also typically do not own a computer unit so they just visit Internet shops when they need to go online. None of these mothers reported that they or their children own a smartphone. Hence, these mothers and their families greatly depend on basic mobile-based technologies for their LDC.

The migrant mothers interviewed give premium to personal ownership of the communication device used for overseas communication because it enables them to bypass asking for permission for its use. Personal ownership also translates to exclusive use, which offers them privacy in their LDC and allows them to monitor and control their LDC expenses.

Given that the mothers who are household service workers only own mobile phones, they value their personal ownership of the device even more because it conveniently allows them to be in *perpetual contact* with their families regardless of time and place (Katz & Aakhus, 2002). Because they value personal ownership, it is also not surprising why these mothers are hesitant to use their employers' Internet-connected computers even if their employers allow them to do so.

Since the migrant mothers employed as professionals, associate professionals, managers, sales and service workers, and clerical support workers personally own a mobile phone and a personal computer, they are able to comfortably use a wide array of mobile-based and Internet-based technologies in their LDC with their families thereby providing them bigger chances of being in perpetual contact. Some of them also reported owning a smartphone, which allows them to be in perpetual contact through several simultaneously running communication platforms anytime and anywhere. Hence, they have an even wider array of technological choices for their LDC with their families.

Components of Apparatgeist and the Experienced Parameters of Communication Technologies

The narratives of the Singapore-based Filipino migrant mothers revealed how they personally experienced the capacities and limitations of communication technologies as they engage in communicated parenting. Their accounts about their experienced capacities and limitations of technologies were subsequently analyzed and categorized according to the components of Apparatgeist: (1) the characteristics of communication technology used for long-distance parenting, (2) the social instances circumscribing its use or non-use for mediated parenting, and (3) the personal circumstances surrounding its use or non-use for communicated parenting.

Characteristics of communication technologies used for communicated parenting

The key characteristics of communication technologies that emerged from the narratives of the migrant mothers interviewed are consistent with Daft and Lengel's (1984) criteria for assessing media richness: the technology's ability for synchronous or asynchronous exchange, its textual or voice format, and the extent of nonverbal cues it enables. Aside from these, the migrant mothers also articulated the importance of portability of the communication device through which the technology is accessed.

The accounts of the migrant mothers reveal that the mothers who have experienced using similar technology registered consistent accounts of experienced capacities and limitations of that particular technology, regardless of their employment. In other words, the Apparatgeist related to the design of a particular technology does not markedly differ across mothers who have similarly used that particular technology as they have commonly experienced similar capacities and limitations offered by the characteristics of that particular technology in their long-distance parenting.

Furthermore, the chronicles of these mothers show the interaction between the social circumstances component and the design component of Apparatgeist. The interviews of these migrant mothers indicate that, irrespective of their employment, they choose the available technology that adequately matches the contextual need for its use. This displays the essence of Apparatgeist, which underscores the interplay between technology and human-social experience. Moreover, matching the use of technology with the contextual need for its use is a strategy to manage the limitations imposed by the parameters of technological design.

The main difference concerning the design component of Apparatgeist between the mothers employed as professionals, associate professionals,

managers, sales and service workers, and clerical support workers and the mothers employed as household service workers lies in how they respond to their experienced parameters of technologies. That is, the personal circumstances component of Apparatgeist differentiates how mothers would manage the experienced parameters circumscribing the design component of Apparatgeist. Given that the former set of mothers has a wider range of easily available communication technologies to choose from, they are also better able to adjust their choice of technology to maximize their experienced capacities of certain technologies and to minimize their experienced limitations of other technologies. Thus, the more favorable socio-economic and technological circumstances of the former set of mothers open wider opportunities for them to live through the parameters of technologies.

Social circumstances surrounding the use or non-use of communication technologies for communicated parenting

The migrant mothers interviewed narrated the various circumstances that open opportunities for them to engage in mediated parenting: when they routinely talk to their children and their children's caregivers, when they talk to them during special occasions and events, and when they talk to them during moments of urgency and distress. These circumstances coincide with the range of situations that Trevino, Lengel, and Daft (1987) listed as situational factors that influence the choice of communication technologies.

The chronicles of the migrant mothers uncover that regardless of their employment classification, they have experienced analogous social circumstances in their communicated parenting. Their narratives also reveal that mothers who have experienced using similar technology during parallel circumstances registered consistent accounts of experienced capacities and limitations of that particular technology, irrespective of their employment.

Once again, the narratives of these mothers demonstrate the interaction between the social circumstances component and the design component of Apparatgeist. These mothers, regardless of their employment, select the available technology that amply complements the contextual need for its use. This is a manifestation of Apparatgeist, which highlights the interplay between technology and human-social experience. Furthermore, when these mothers harmonize their technological choice with their contextual need for its use, they are essentially managing the limitations imposed by the parameters of technological design.

As with the design component of Apparatgeist, the main difference concerning the social circumstances component of Apparatgeist between the mothers employed as professionals, associate professionals, managers, sales and service workers, and clerical support workers and the mothers employed as household service workers rests on how they manage the experienced parameters of technologies. Again, the former set of mothers are better able to adjust their choice of communication technology during various instances of mediated parenting so that they are also better able to maximize their experienced capacities of particular technologies and they are likewise better able to minimize their experienced limitations of other technologies. Hence, the more promising socio-economic and technological circumstances of the former set of mothers unlock more propitious prospects for them to live through the parameters of technologies. Similar with the design component of Apparatgeist, the personal circumstances component differentiates how mothers would respond to the experienced parameters surrounding the social circumstances component of Apparatgeist.

Personal circumstances surrounding the use or non-use of communication technologies for communicated parenting The narratives of the migrant mothers interviewed expose the socioeconomic and technological circumstances that surround their use or nonuse of communication technologies. The socio-economic circumstances that emerged from these mothers' accounts include ownership of the device where technology is accessed and cost of accessing technology. Meanwhile, the technological circumstances that emerged from these mothers' chronicles cover preference for newer forms of media and technologies, preference for user-friendly technologies, and skills in using technologies.

The narratives of the migrant mothers bare the disparities in the socioeconomic and technological circumstances between the mothers employed as professionals, associate professionals, managers, sales and service workers, and clerical support workers and the mothers employed as household service workers. The former set of mothers has more favorable socio-economic and technological circumstances, which bears on the range of communication technologies that they can choose to use. Consistent with Mirca Madianou and Daniel Miller's (2012) concept of *polymedia*, these mothers are able to experience the capacities afforded by a multi-media environment, as they are able to enjoy the array of technologies offered by mobile phone and Internet-connected devices such as personal computers and smartphones. Furthermore, polymedia could also be considered as a condition that enables migrant mothers to manage the parameters of technologies, as a multimedia environment enables them to conveniently choose the technology that would most effectively and efficiently complement their social needs and personal circumstances. Indeed, the interviews of migrant mothers

reveal that mothers who are in a polymedia environment are better able to maximize their experienced capacities and minimize their experienced limitations of technologies.

Then again, interviews of the migrant mothers who are employed as household service workers expose that these mothers still choose the available technology that appropriately matches their contextual need for technology use. That is, even if they only have the basic mobile-based technologies of SMS and voice call to choose from, they still choose the most effective and efficient basic mobile-based technology that would address their mediated communication needs. Instead of the term polymedia, San Pascual (2012) coined the term "polytechnology" (p. 138) to refer to the media environment of mothers who choose the most effective and efficient technology that would complement their social needs and personal circumstances from an array of technologies offered by a single medium.

Migrant Mothers' Experiences with Communication Technologies

The narratives of the Singapore-based Filipino migrant mothers reveal how they personally experienced the capacities of communication technologies, which enable them to parent their children even when they are living apart from them. Their chronicles also expose how they directly experienced the limitations of communication technologies, which open occasions for them to contextualize their choice of communication technologies and, at times, to acknowledge that current communication technologies cannot yet replace face-to-face interaction.

This section discusses findings about these mothers' experienced parameters of technologies used for communicated parenting. Table 1 summarizes these experiences as capacities and limitations and categorizes these experiences according to the three components of Apparatgeist: (1) characteristics of technology, (2) social circumstances circumscribing its use or non-use, and (3) personal circumstances surrounding its use or non-use. In addition, this section also discusses how these mothers strive to manage these capacities and limitations in order to maximize their experienced capacities and minimize their experienced limitations of technologies.

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Communication Technology	Characteristic of Technology Experienced Capacities / Experienced Li	Characteristic of Technology Experienced Capacities / Experienced Limitations	Social Circumstances Experienced Capacities / Experienced Limitations	Imstances Experienced Limitations	Personal Circumstances Experienced Capacities / Experienced Limitations	Personal Circumstances d Capacities / Experienced Limitations
SMS	Portability of mobile phone Asynchronous Textual format Conveys limited nonverbal cues	Asynchronous Keyboard encoding Textual format Conveys limited nonverbal cues	Practical during routine conversations Viable during special occasions A possible option during moments of distress	Not practical during urgent or emergency situations	Easy to use Family back home also has easy access to SMS technology Newer form of technology Free Internet-based SMS	Not cost-free when service is accessed through a regular mobile phone
Mobile Voice Call	Portability of mobile phone Synchronous Voice format Conveys more nonverbal cues	Synchronous Voice format Conveys more nonverbal cues	Practical during urgent and emergency situations Viable during special occasions and events Disciplined use during routine conversations	Impractical for frequent and lengthy routine conversations	Easy to use Family back home also has access to mobile voice call technology Device ownership Newer form of technology Free Internet-based voice call	Not cost-free when service is accessed through a regular mobile phone
Internet Chat	Synchronous and asynchronous Textual format Conveys limited nonverbal cues Handily available if accessed through Internet- connected mobile phone	Asynchronous Keyboard encoding Textual format Not handily available if accessed through Internet- connected computer	Practical during routine conversations Viable during special occasions A possible option during moments of distress	Not practical during urgent or emergency situations	Free service Device ownership Newer form of technology	Not everyone has access to Internet- connected computer or Internet- connected mobile phone Requires Internet skills

Table 1. Experienced Parameters of Communication Technologies Used for Communicated Parenting

Characteristic of Technology Experienced Capacities / Experienced Li Resemblance to Not handily i face-to-face if accessed	mitations available	Social Circumstances Experienced Capacities / Experience Practical during Could be routine during	d Limitations impractical urgent	Personal Circumstances Experienced Capacities / Experienced Limitations Free service Not everyone has Device ownership access to Internet-	umstances Experienced Limitations Not everyone has access to Internet-
communication Synchronous Voice format Conveys widest range of audio- visual cues Handily available if accessed through Internet- connected mobile phone	through Internet- connected worth connected worth computer spectra duri Internet of duri connection of d	conversations Worthwhile during special occasions A possible option during moments of distress	or emergency situations	Newer form of technology	connected computer or Internet- connected mobile phone Requires Internet skills
Asynchronous Textual format Conveys limited nonverbal cues Handily available if accessed through Internet- connected mobile phone	Asynchronous Not ge Keyboard encoding Not handily available if accessed through Internet- connected computer	Not generally used	Not generally used	Free service Device ownership Newer form of technology	Not everyone has access to Internet- connected computer or Internet- connected mobile phone Requires Internet skills

Communication Technology	Characteristic of Technology Experienced Capacities / Experienced Lin	Characteristic of Technology Experienced Capacities / Experienced Limitations	Social Circumstances Experienced Capacities / Experienced Limitations	Imstances Experienced Limitations	Personal Circumstances Experienced Capacities / Experienced Limitations	:umstances Experienced Limitations
Facebook	Offers a variety of forms of contact (wall post, private message, comment, chat, photo and video upload) Allows textual, visual, and audio-visual formats Synchronous and asynchronous and asynchronous Handily available if accessed through Internet- connected mobile phone	Asynchronous Keyboard encoding Not handily available if accessed through Internet- connected computer	Practical during routine conversations ldeal for exchanging photos and videos	Not practical during urgent or emergency situations	Free service Device ownership Newer form of technology	Not everyone has access to Internet- connected or Internet- connected mobile phone Requires Internet skills
Land-Based Phone Call	Synchronous Voice format Conveys more nonverbal cues	Not handily available	Practical during urgent and emergency situations Viable during special occasions and events Disciplined use during routine conversations	Impractical for frequent and lengthy routine conversations	Easy to use Free if service is part of employment privileges	Cost involved Non-ownership of device Older form of technology
Postal Mail	Physical existence of posted mail	Asynchronous	For posting official documents For sentimental reasons	Impractical with the advent of newer media and technologies	Relatively easy to use	Cost involved Older form of technology

Experiences with SMS

Based on the narratives of the Singapore-based Filipino migrant mothers, with respect to technology characteristics, the portability of mobile phone clearly counts as an experienced capacity because it allows them to remain connected with their families anytime and anywhere. By extension, technologies accessed through the mobile phone, such as SMS and mobile voice call, benefit from the device's characteristic portability.

The migrant mothers recounted the various social circumstances where they have variedly experienced SMS' technological design parameters, as they have experienced its characteristic asynchronicity, textual format, and limited nonverbal cues as capacities at one time and limitations at other times. The context-bound parameters of SMS manifest the interaction between the technological design and the social circumstances components of Apparatgeist, which lends support to Apparatgeist's assertion about the interplay between technology and human-social experience.

From the chronicles of the migrant mothers, SMS's asynchronous nature enables them, their children, and their children's caregivers to access and respond to messages at their convenient time. They explained that this characteristic adequately works during routine contact, when feedback is not urgently needed nor expected. One mother expressed, "When my daughter, who is in college, is in class, she can't respond to phone calls. But if I send her SMS, she can read and reply to my message after her class" (Mother 17, personal communication, November 14, 2010).

Moreover, these mothers are also fond of sending symbolic messages like "I love you" and "I miss you" and they clarified that they do not necessarily expect their children to reply to these messages. However, they hope that, through these symbolic messages, they are able to convey their love to their children, which is ever more important given the absence of physical expressions of affection during migration. Some mothers also shared that they send their children SMS greetings during special occasions, oftentimes during midnight to welcome the special day. They explained that the asynchronous nature of SMS enables them to message their children even if their kids are already in bed. This way, their children wake up to their mothers' SMS greeting.

On the other hand, the mothers expressed that they have experienced SMS's asynchronous character as a limitation during urgent circumstances when immediate feedback is necessary. Moreover, they also mentioned that, during similar circumstances, they have likewise experienced its characteristic textual format as a limitation. They pointed out that textual format requires keyboard encoding which is inefficient during urgent situations as it slows down the speed of message expression and exchange.

Then again, there are some instances of distress when SMS's asynchronous nature, textual format, and limited nonverbal cues tolerably worked for these mothers. One mother recounted her shock when her 17-year-old daughter's boyfriend messaged her to ask for her daughter's hand in marriage. She called her daughter's boyfriend but her phone calls were repeatedly ignored. She then resorted to sending him SMS. Thus, even if she preferred to talk to him through voice call, she was still able to get her sentiments across through the less intimidating channel of SMS. Another mother narrated her difficulty in reaching out to her daughter when her daughter found out that her father already has another family. Likewise, this mother repeatedly tried to contact her daughter through voice calls but her daughter kept on ignoring her voice call attempts. This mother also resorted to sending her daughter SMS. This way, she was still able to reach out to her daughter without actually talking to her.

With respect to the personal circumstances component of Apparatgeist, which incorporate the technological circumstances surrounding SMS use, the migrant mothers across employment classification expressed that they have experienced SMS's easy-to-use technology as a capacity. This enables them to effortlessly exchange messages with their children and their children's caregivers. Moreover, as these migrant mothers give premium to device ownership, they also conveyed that ownership of mobile phone is an experienced capacity because they can comfortably exchange SMS with their families using their own device. Besides, SMS adequately fits their preference for newer forms of technology.

Aside from technological circumstances, personal circumstances also include the socio-economic circumstances surrounding technology use. The migrant mothers across employment categories articulated that their families back home have ready access to mobile phone so they could easily exchange SMS with them.

Given that the migrant mothers in household service work primarily depend on their mobile phone for their LDC with their families, they also highly depend on SMS for their regular contact with them. However, they reported that the cost of sending international SMS is an experienced limitation so they judiciously manage their LDC expenses by prudently dispensing SMS. They also mentioned that they avail of international SMS promotions offered by Singapore telecommunications networks to get more value for their money.

In contrast, the migrant mothers employed as professionals, associate professionals, managers, sales and service workers, and clerical support workers have access to a wider range of mobile-based and Internet-based technologies so they are not as dependent on SMS unlike the other set of mothers. Besides, these mothers shared that they oftentimes use free Internet-based SMS technologies, like Chikka Messenger. Thus, the multimedia environment of this set of mothers offers them more options to live through the parameters of SMS.

Experiences with mobile voice call

Similar to SMS, mobile voice call benefits from mobile phone's characteristic portability, which the migrant mothers reportedly experienced as capacity. Aside from this, the migrant mothers described the social circumstances where they have experienced mobile voice call's characteristic synchronicity, voice format, and capacity to convey wider range of nonverbal cues as capacities and the other social circumstances where they have experienced these as limitations. As with SMS, mobile voice call's context-bound parameters exhibit the interaction between technological design and social circumstances giving further evidence to Apparatgeist's claim about the interplay between technology and human-social experience.

The migrant mothers recounted that they have experienced the characteristic portability of mobile phone as a capacity. One mother shared, "When I work overtime, I usually call up my daughter on my way home. Otherwise, I won't be able to talk to her because she would most probably be in bed by the time I get home from work" (Mother 18, personal communication, November 14, 2010)

They also considered the synchronous nature and voice format of mobile voice call as capacities during urgent circumstances. The migrant mother, whose daughter's boyfriend sent her an SMS to ask for her daughter's hand in marriage, promptly called her daughter to clarify the message she received. Through voice call, she was immediately and directly reassured that her daughter would keep her promise to finish her studies before getting married.

In addition, the mothers related that they have experienced mobile voice call's characteristic voice format and wider range of nonverbal cues as capacities when they wanted to capture their emotions through talk. Specifically, they said that these characteristics offer them an easy way to convey their love and affection. They explained that oral articulation is essential because migration does not permit them to physically express their emotions. They also remarked on the importance of such articulations during special occasions so that their children would feel remembered and loved. Hence, they shared that they make it a point to place an overseas call during special occasions because they have observed that their children feel special when they exclusively receive an overseas call on their special day. Some mothers also shared that they have also experienced the characteristic voice format and wider range of nonverbal cues of mobile voice call as capacities when they need to discuss delicate matters. For instance, a mother explained,

I consider sex a delicate matter and there was a time when I felt I had to talk to my daughter about the boundaries that she has to observe in her relationship with her boyfriend. I actually felt uncomfortable because talking about sex is not part of our routine conversation. I placed a voice call and we had quite a lengthy talk because I was speaking in a roundabout manner to refrain from mentioning the word 'sex.' Then again, I think talking about it through voice call is less awkward and more efficient than talking about it through text. (Mother 17, personal communication, November 14, 2010)

Nonetheless, the synchronous nature of voice call, its voice format, and its ability to communicate more nonverbal cues have also been experienced as limitations. In the case of the mother whose daughter's boyfriend refused to answer her repeated attempts at voice call, this mother rationalized that voice call could have been an intimidating channel on the part of her daughter's boyfriend.

With respect to the personal circumstances surrounding the use of mobile voice call, which cover the technological circumstances of technology use, the migrant mothers across employment categories expressed that they have experienced mobile voice call's easy-to-use technology as a capacity. This enables them and their families to effortlessly initiate and respond to mobile voice calls. In addition, since these mothers prefer to use devices that they own, their ownership of mobile phone is an experienced capacity because they can comfortably use their device to engage in voice calls. Moreover, mobile voice call matches these mothers' partiality towards newer forms of technology.

Personal circumstances also encompass the socio-economic circumstances surrounding technology use. The mothers across employment categories reveal that mobile phone is easily accessible among their family members allowing them to engage in mobile-based conversations with each other anytime and anywhere. However, they expressed that the cost of international mobile voice call is an experienced limitation. Thus, they discipline themselves on their use of this technology. They reportedly alternate their use of mobile voice call with other technologies to keep within their LDC budget.

Given that the mothers in household service work primarily depend on their mobile phone for their overseas communication with their families, they are also more reliant on mobile voice call. In contrast, the mothers employed as professionals, associate professionals, managers, sales and service workers, and clerical support workers have access to a wider range of mobile-based and Internet-based technologies so they are not as dependent on mobile voice call. Again, the multi-media environment of this set of mothers offers them more options to live through the parameters of mobile voice call as they could readily substitute another technology that could adequately complement their social needs and personal circumstances.

To keep within their allotted monthly LDC budget, the mothers in household service work reported that they adjust the length of their conversation sessions with their families depending on the frequency of their mobile voice call. They also alternate their use of mobile voice call with SMS so they do not overspend. Thus, even if they are not operating on a multi-media environment, this set of mothers is still able to live through the parameters of mobile voice call by sensibly alternating the use of basic mobile-based technologies to match their social needs and personal circumstances.

Experiences with Internet Chat

As earlier discussed, the migrant mothers across employment categories expressed that they prefer to use devices that they personally own. However, unlike the universal ownership of mobile phone among the migrant mothers across employment categories, ownership of personal computer generally characterizes the migrant mothers employed as professionals, associate professionals, managers, sales and service workers, and clerical support workers. Some of them even own a smartphone as well. This set of mothers can also afford the cost of Internet service. As such, their socio-economic circumstances enable them to take advantage of a range of relatively cost-free Internet-based technologies. Unlike SMS and mobile voice call, Internetbased technologies, such as chat, video call, e-mail, and social media, offer opportunities for frequent and lengthy conversations at no extra cost.

In contrast, only one of the migrant mothers in household service work personally owns a computer, none of them owns a smartphone, and only a handful of them have access to the Internet and have tried using Internetbased technologies to communicate with their families. Besides, their technological circumstances also prohibit them from taking advantage of Internet-based technologies because a good number of them admitted that they lack computer skills.

Although the mothers who have experienced using Internet chat reported that they prefer Internet video call when they can manage to engage in online, lengthy, and routine conversations with their children, there are circumstances when chat has been chosen over video call. This context-bound choice speaks of the interaction between and among the three components of Apparatgeist. For instance, these mothers shared that they resort to online chat when Internet signal becomes erratic for video call. A mother reported that she uses online chat when talking to her son because he prefers it over video call. Another mother shared that when discussing delicate matters with her daughter, they opt to use Internet chat to remove the possibility of others overhearing them.

Other context-bound parameters of Internet chat include its characteristic synchronicity, asynchronicity, and textual format. The mothers shared that they have experienced chat's characteristic ability to enable both synchronous and asynchronous exchange as capacity. They narrated that they are able talk to their children and get immediate feedback when they are both online and they are also able to leave or receive offline messages when the other party is unavailable. For instance, they mentioned that they typically leave offline messages when they are not able to catch their children online when they get home from work.

Then again, they shared that they have also experienced chat's characteristic asynchronicity and textual format as limitations during urgent circumstances when they need to exchange messages right away, even if the service is accessed through a smartphone. Besides, chat is not handily available if accessed through Internet-connected computer.

Experiences with Internet video call

Of all the technologies used for communicated parenting, online video call garnered the strongest positive review among the migrant mothers because of its characteristic ability to resemble face-to-face communication at no extra cost. In fact, even those who have not yet experienced using video call recognized this capacity. These mothers also acknowledged that the advent of smartphones opened an outlet for using online video call anytime and anywhere.

Aside from its ability to resemble face-to-face communication, its characteristic synchronicity, voice format, and ability to convey the widest range of non-verbal cues rated as experienced capacities. Then again, these mothers' narratives also reveal that there have been instances when they have experienced these same characteristics as limitations, which led them to choose Internet chat over video call. Once again, these context-bound parameters demonstrate the interaction between the social circumstances and the design components of Apparatgeist, lending support to its assertion about the interplay between technology and human-social experience.

Internet-based technologies, such as chat and video call, are still cheaper than basic mobile-based technologies, like SMS and mobile voice call, given the frequency and length of conversations that Internet-based technologies allow at no extra cost. The socio-economic and technological circumstances of the mothers employed as professionals, associate professionals, managers, sales and service workers, and clerical support workers permit them to experience this value-for-money service offered by Internet-based technologies.

This set of mothers engages in daily conversations with their families through video call, unlike the mothers in household service work who send daily SMS and make weekly mobile voice call. Ironically, the former set of mothers earns comparatively more but they also spend relatively less for their LDC given their access to Internet-based technologies.

These mothers reported that their daily video conversations could run for hours since they do not have to worry about per-minute LDC charges. A mother recounted:

> Apart from getting updates, I also tutor my kids during our regular online video calls. Compared to mobile voice call, I could spend hours talking and tutoring them without worrying about the cost. One time, my son even practiced his oral presentation with me. He even asked me to help him come up with a presentation outfit so he was showing me his options through video call. (Mother 12, personal communication, October 31, 2010)

These mothers also shared that they oftentimes multitask while engaging in lengthy video conversations with their families. One mother said,

I often talk to my kids while doing other things especially during weekends when we have more time to spend for video calls. Like around noon today, I was on video call with them while I was preparing my lunch. (Mother 30, personal communication, February 26, 2011)

Another mother said,

My kids also multitask while on video call. Sometimes, they are doing their homework while I'm doing stuff on my end. But even if we are not talking the entire time, we don't end our video call. I guess it's our way of spending time together. We are just there. (Mother 7, personal communication, October 25, 2010)

Aside from routine conversations, there are also mothers who experienced simultaneously celebrating special occasions with their families through video call. A mother recounted, "We were on video call during my birthday so my daughter could see me celebrating with my friends and it felt like she was also here celebrating with me" (Mother 2, personal communication October 27, 2010). Another mother shared, "My family surprised me on my birthday. On a video call with them, they greeted me with a birthday song and a lighted cake which I 'blew' on screen" (Mother 7, personal communication, October 25, 2010).

However, online video call requires strong Internet connection and a number of these mothers admitted being frustrated when their online conversations get choppy or disconnected. When this happens, they resort to Internet chat.

Furthermore, there are mothers who shared that even though video call resembles face-to-face communication, it could not yet replace physical contact with their families. One mother recounted,

> When my children got sick, I felt frustrated that I couldn't do anything. I saw them on video call but I wanted to be there to personally take care of them. So I took an emergency leave from work and went home. (Mother 7, personal communication, October 25, 2010)

Experiences with e-mail

As with other Internet-based technologies, socio-economic circumstances surround the use of e-mail for communicated parenting. Again, the migrant mothers employed as professionals, associate professionals, managers, sales and service workers, and clerical support workers are the ones who are able to include this technology in their array of technological options. However, it appears that they do not generally use e-mail for communicated parenting.

Similar with other communication technologies, the experienced parameters of e-mail are also context-bound. These mothers have experienced e-mail's characteristic asynchronicity and textual format as capacities at times and limitations at other times. As with SMS, e-mail's asynchronicity enables receivers to read and respond to transmitted messages at their convenient time. However, similar to SMS, e-mail's asynchronicity, textual format, and the keyboard encoding it entails make e-mail impractical during urgent situations, even when accessed through a smartphone. Then again, one mother experienced its textual format as a capacity. She said, "I e-mail important reminders which I tell my kids to save or print. I also tell them to refer to my earlier e-mails when they needed reminding" (Mother 30, personal communication, February 26, 2010). Once more, these experienced parameters exhibit the interplay between the technological design and the social circumstances components of Apparatgeist.

Experiences with Facebook

Similar with other Internet-based technologies, the more favorable socio-economic and technological circumstances of the migrant mothers employed as professionals, associate professionals, managers, sales and service workers, and clerical support workers surround their use of this technology. Once more, this reflects Apparatgeist's assertion about the interplay between technology and human-social circumstances.

These mothers articulated that they have experienced Facebook's various modes of contact, spanning synchronous and asynchronous forms, as a capacity. One mother recounted, "I use Facebook to connect with my kids in various ways, through chat, private messages, comments, and pictures" (Mother 20, personal communication, January 29, 2011). Another mother reported, "I could reach my kids through Facebook chat than through Skype and Yahoo Messenger because they are habitually on Facebook whenever they are online" (Mother 4, personal communication, October 23, 2010).

In addition, they also experienced Facebook's ability to allow them to post textual, visual, and audio-visual messages as capacity. For instance, these mothers expressed that Facebook provides them and their families a convenient way to view and exchange photos and videos. They explained the importance of sharing photos and videos among transnational family members and Facebook offers them a convenient way to get visual updates and to vicariously experience each other's lives.

Then again, the use of Facebook depends on technological skills and a number of the mothers employed as household service workers disclosed that they lack computer and Internet skills. One mother related, "My children usually send me an SMS if they have uploaded new photos on Facebook. Since I don't know how to use a computer, my employers help me view my children's recent uploads" (Mother 6, personal communication, October 24, 2010). In fact, some of these mothers acknowledged that their

employers considerately urge them to use their computer units and that their employers also generously support them in cultivating their computer and Internet skills.

Experiences with land-based phone call

The experiences of migrant mothers with land-based phone call exhibit the interplay between and among the three components of Apparatgeist. As earlier mentioned, the Singapore-based migrant mothers, regardless of employment, prefer to use newer forms of media in their LDC with their families. Consequently, even if land-based phone call is an easy-to-use technology, these mothers stated that their non-ownership of land-based phone hinders them from engaging in land-based phone call. Besides, they pointed out that their mobile phone already addresses their need for voice conversation. Hence, only a handful of mothers use this technology.

Most of the mothers who use land-based phone are household service workers and they explained that they resort to using their employers' unit when they run out of prepaid load credits in their mobile phone. Some of them also shared that their employers shoulder a portion of their overseas land-based phone call expenses as part of their employment privileges.

With respect to technology characteristics, while the experienced capacities of land-based phone call are similar to the experienced capacities of mobile voice call, the migrant mothers still prefer mobile phones because it is handily available compared to land-based phone.

Experiences with postal mail

Postal mail is the least used channel for communicated parenting. As with the other communication technologies used for mediated parenting, the use and non-use of postal mail reflect the interplay between and among the three components of Apparatgeist. In terms of technology characteristics, the physical existence of a posted mail is catalogued as its experienced capacity while its asynchronous nature is classified as its experienced limitation. As with land-based phone, the migrant mothers interviewed no longer see the need to send postal mail as the newer forms of media already satisfy their communication needs. Two mothers who routinely send postal mail have done so due to the sentimental value of writing and receiving a postal letter. Two other mothers who experienced sending postal mail have done so only during their initial months in Singapore when they still did not have access to a mobile phone. One other mother has done so only because she had to courier official documents to her family. Besides, postal mail is not cost-free and the amount could go up depending on the weight of the posted mail.

Apparatgeist and the Experiences of Migrant Mothers with Communication Technologies

Apparatgeist, or the spirit of the machine, is constituted by the interplay of (a) the design of the technology itself, (b) the social contexts surrounding its use or non-use, and (c) the individual contexts surrounding the use or non-use of technology. This article appraised the spirit of communication technologies by investigating the interplay of (a) the characteristics of technologies used for long-distance parenting, (b) the social instances circumscribing use or non-use, and (c) the personal circumstances surrounding use or non-use. In doing so, this article proposed that Apparatgeist, or the spirit of the machine, could be revealed through the experienced parameters of technologies, or the capacities and limitations of technologies as experienced by the Singapore-based Filipino migrant mothers in their attempts to parent their teenage children across borders. Moreover, this article also proposed that the interplay between and among these components of Apparatgeist could illustrate how the migrant mothers attempt to live through the parameters of technology as they strive to manage the limitations imposed by technological design, social situations, and personal circumstances in order to maximize the benefits that they get from technology use.

Based on the narratives of the Singapore-based Filipino migrant mothers interviewed, the Apparatgeist relating to the technological design of a particular technology does not markedly differ across mothers who have similarly used that particular technology for communicated parenting. Moreover, the Apparatgeist relating to the social circumstances surrounding the use of a particular technology for mediated parenting does not distinctly differ across mothers who have similarly used that particular technology during parallel circumstances. In other words, regardless of their employment, migrant mothers select the available technology that adequately complements the contextual need for its use. This demonstrates the interaction between the technological design and the social circumstances components of Apparatgeist.

Then again, the narratives of the migrant mothers expose the disparities in the personal circumstances between the mothers employed as professionals, associate professionals, managers, sales and service workers, and clerical support workers and the mothers employed as household service workers. The former set of migrant mothers has more favorable socio-economic and technological circumstances, which bears on the range of communication technologies that they can choose to use for their communicated parenting. Indeed, the interviews of this set of migrant mothers reveal that their multimedia environment enables them to better maximize their experienced capacities and better minimize their experienced limitations of technologies. In effect, this set of mothers are in a better position to live through the parameters of communication technologies as they are able to choose technologies that would most effectively and efficiently complement their social needs and personal circumstances.

Findings from this study provide support for Apparatgeist, that there is indeed interplay between and among technological design, social instances, and personal circumstances and one cannot simply consider the inherent characteristics of technology when assessing its parameters. Hence, in scoping the parameters of technology, it is best to keep in mind that parameters are context-bound, shaped by the interaction of technology and human-social experience. Thus, future studies may further examine the parameters of communication technologies in various technological, social, and individual contexts.

Nevertheless, while there are idiosyncrasies in experiencing technology, it might also be interesting to respond to Katz and Aakhus' (2002) call to examine whether Apparatgeist could be encapsulated in collective or even a universal form. Apparatgeist as a collective or universal construction is probable given that the inherent characteristics of a particular technology are apt to be analogous, that the social contexts of its utilization tend to have similar patterns, and that personal circumstances are likely to have common threads. In short, while each individual's construction of a technology's Apparatgeist may not exactly be the same, there could be a chance for these constructions to overlap. Future studies may thus examine the range of similarities and differences of these constructions to determine whether Apparatgeist is indeed universal, communal, or truly an eccentric construction.

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End Note

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