

‘She’s nice company and a good friend’: Thinking with Haraway to reconceptualise children’s playful interactions with Alexa

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Introduction

The aims of this chapter are to explore the ways in which children think about Alexa – the conversational agent that inhabits Amazon’s The Echo device – and what happens when they playfully engage with it/her. In particular, the chapter seeks to examine the potentials of children’s play and playfulness with Alexa through Donna Haraway’s concepts of ‘the cyborg’ and ‘making kin’. In Haraway’s post-human philosophy, the cyborg as an entity generates possibilities for troubling a number of divides that we live by (human/non-human; male/female; mind/body). The concept of ‘making kin’ takes further the idea of troubling the dichotomy between humans and non-humans and opening up possibilities for connection that across the divide.

I start by considering previous research findings around three topics: digital play in the family home; conversational agents in the home, and finally, play and playfulness with conversational agents. I then introduce Haraway’s post-human theorising in more detail, and consider what it might mean to think about Alexa as a cyborg – ‘an irreverent upstart god’ (Haraway, 1991, p. 151), and as engaging with Alexa in the everyday life of the family as ‘making kin as oddkin’ (Haraway, 2016, p. 2). I present observations and conversations from within a single family context and organise these around potent ideas and links with previous research and theoretical perspectives. In the discussion, I argue that while the children’s interactions with Alexa that I observed suggest some active troubling of the human/non-human divide, parental mediation and scaffolding – as a result of difficulties in interacting with the Alexa interface through spoken dialogue - essentially came in the way of the full range of children’s playfulness. Furthermore, the embeddedness of commercial objectives in Alexa’s responses to questions makes it difficult to see how to develop the potentials for subversion in children’s interactions with Alexa, though it makes the need for subversion and playfulness even more urgent.

Digital play in the family home

Stories in popular media frequently report concerns around children's engagement with digital technologies in the home. A popular concern is that as children become increasingly connected to the outside world through online platforms, they are becoming increasingly disconnected from the intimacies and genuine connections of family lives. Turkle (2017) for example, argues that computers give us an escape from the messiness of genuine intimate social interactions with one another and can make us uncomfortable with solitude; this in turn, interferes with our capacity to connect with others in a meaningful way. Steiner-Adair & Barker (2013) similarly position digital technologies as something that family life needs to be protected from, rather than an integral part of how families spend their times and develop relationships with one another. Hertlein & Blumer (2013) suggest that digital technologies pose a risk to intimacy and that parents and couples need clear guidelines about how to protect their families from the dangers of social media particularly.

These concerns are countered by researchers who remind us that children are agents and cultural producers, as well as consumers. As Craft (2012) warns, a discourse that presents children and family life as overly vulnerable and needing protection, will lead us to ignore the ways in which children enact agency in the context of their everyday experiences. At the same time, Craft suggests that we cannot only think about children as empowered agents; we need to find balance between these two perspectives. She suggests keeping in mind the '4 Ps' in order to engage with the complexity and nuance that characterises children's and families' interaction with digital technologies in everyday life: plurality, playfulness, participation and possibilities.

Research in family contexts that has taken this approach and engaged with the 4 Ps suggests that there is much to be excited about when we look at children's engagement with digital technologies in the home. Early work by Mavers (2007) into the communication of a 7 year old child, Kathleen, and her uncle via email advocated the concept of 'semiotic resourcefulness' to describe the ways in which the child made use of the specific affordances of the mode and medium of communication. Through email, Kathleen took the initiative to instigate and maintain a meaningful communicative exchange with her uncle. While she might have been more constrained by formal conventions if she were writing a letter to her uncle, she readily explored the

informalities of communication via email and this opened up a playfulness in a relationship that would otherwise not have been ventured into.

Building on this, observational research conducted by Kelly (2015) explored how a young child engaged with her grandparents on the other side of the world via Skype. Kelly looked at the specific play behaviours of the girl and how she negotiated and navigated the affordances of the medium in order to engage playfully with her grandparents. These play behaviours ranged from doing jumping together on her bed, playing hide and seek, and engaging in pretend play together. For example, in one episode, the child took her grandparents on a pretend camping trip. She built a tent with her mother and then brought the laptop computer, with her grandparents' faces on the screen, into the tent with her. On the other hand, her brother, only two years old, was described as struggling to find ways to communicate playfully with Skype. His interaction was more tactile, and whenever he tried to kiss the screen or offer his grandparents an object through the screen, there would be the effect of ending the call, and subsequently much frustration from all parties.

Research into the use of digital technologies by children in the home has highlighted the importance of parental attitudes and behaviours. Plowman et al. (2010) made a comparison between home and preschool contexts and found that engagement with digital technologies in the home was characterised by shared enjoyment amongst family members, and lots of unconscious modelling by adults, through which children would pick up the extent to which digital technologies could be incorporated into authentic activity. McPake et al. (2013) noted an extension in the repertoire of children's activities at home as a result of their engagement with digital technologies, and described parental responses to this engagement as generally positive. This finding is echoed in a study conducted by Palaiologou (2016) who found that parents were often fascinated by children's competencies with digital technologies and their digital fluency. Most recently, Marsh et al. (2017) observed children's digital literacy practices in the home and found many examples of positive endorsement by family members of children's engagement with multimedia and multimodal platforms. Adults were actively encouraging and supporting children to engage in digital culture and taking delight in how this then unfolded.

As well as parental mediation, we also need to be aware of how parents engage in intermediation – that is, how they contribute to the discourse that surrounds children's

engagement with digital culture. Nansen & Jayemanne (2016) explored Youtube videos recorded by parents of very young children using iPads, and how these videos contributed to discourses around the intuitive nature of the iPad interface, and the wider problematic notion of the child as 'digital native' (Prensky, 2001). Such intermediation can create a lack of interest in the specificities of particular technologies and what these afford, suggesting instead a one-dimensional relationship between children and all digital technologies (Selwyn, 2009; Sakr & Kucirkova, 2017). In the following section, the particular affordances of conversational agents, such as Alexa, are considered in more detail.

Conversational agents in the home

Conversational agents are the 'personalities' that inhabit particular devices (e.g. a phone, tablet, or separate device such as 'The Echo') and are activated through spoken dialogue. Conversational agents are an old idea (Luger & Sellen, 2016) but they are experiencing a contemporary revival in the forms of Alexa, Siri, G Home and so on. Part of the revival is the marketing of conversational agents as 'natural user interfaces' that enable easier multi-tasking and more seamless interweaving of technology capabilities into everyday life. A natural user interface is a system of human-computer interaction where the computer is operated through actions that are thought to be more intuitive. There has been much excitement about NUIs in the everyday lives of young children because of the concern around children's difficulty interacting with traditional computer tools, such as the mouse (Matthews & Jessel, 1993; Matthews & Seow, 2007; Donker & Reitsma, 2007; Couse & Chen, 2010).

However, the term 'natural' in relation to interfaces absolutely has to be problematized. Naturalness is not an either/or, and the naturalness of interacting with a conversational agents certainly needs to be questioned. In order for CAs to respond, you have to modify the volume, pace, tone and diction in your language (Luger & Sellen, 2016). You cannot rely on the wide array of multimodal indicators that are such an essential part of our everyday social interactions, and this can make interactions particularly difficult for children (Cassell, 2000, 2001).

An important aspect of interaction with conversational agents is personification, which is encouraged in how the CA is created (e.g. the voice of a human), but is also the

result of the user's active construction. Luger & Sellen (2016) conducted research with 14 adult users of three conversational agents (Siri, G Now and Cortana). The users' main motivations in using the CAs were multi-tasking and time-saving, but interestingly the users nearly all began their interaction with the conversational agents by engaging in the playful functions, such as asking the CA to sing a song or tell a joke. Luger and Sellen suggested that these playful interactions heightened the personification of the CA and created a platform of familiarity that then became the base for other more purposeful interactions. The researchers warned that the increased personification of the CA would increase the expectations of the user around what was possible and the social responsiveness of the CA. As a result, there would be more disappointment in subsequent interactions which demanded a high level of precision when modifying language and voice in order to achieve the desired response. This point is also made in research by Kwon, Jung & Knepper et al. (2016).

Play and playfulness with conversational agents

Personification of CAs is a key aspect when considering how children's play and playfulness might unfold in relation to CAs. Purington et al. (2017) examined 587 user reviews of the Echo posted on Amazon and found a relationship between the level of personification of Alexa and the extent to which Alexa was seen as a device for sociability. That is, the more Alexa was described as a person ('she' rather than 'it' for example), the more she would be used for sociable functions such joke-telling or general chatting. The level of personification was correlated with the number of users in the household. Larger households (assumed by the researchers to be families with children) were more likely to invest in Alexa's personality and more like to engage Alexa in sociable interactions. While the researchers did not have data on the specific details of family composition, they speculated that children in the family would play an important role in contributing to the personification (and therefore, the sociability) of the CA.

Very little research has focused specifically on children's playful interactions with conversational agents in naturalistic contexts. An exception to this is a study conducted by Druga et al. (2017) which involved 26 participants aged between 3 and 10 years old. The research team conducted observations of the children's interactions

with various CAs in the home (Alexa, Google Home, Cozmo, Julie Chatbot), and asked the children questions about how they felt about the CA and what they saw as its purpose. The researchers observed playful probing behaviours by the children in relation to the CAs. Among young children, this would take the form of finding out about the CA as if it were a person, such as asking the question 'what is your favourite colour?'. For the older children there was more interest in the nature of the CA, such as asking questions like 'what are you?' and 'who made you?'. The researchers saw a few instances of testing limits and boundaries with Alexa. For example, they observed a six year old girl asking Alexa 'is it ok if I eat you?'.

Posthuman theorising: Haraway's concepts of 'the cyborg' and 'making kin'

To explore further the playful possibilities in children's interactions with CAs, some concepts from Haraway's post-human philosophy might be helpful. Haraway (2016) explores the world not as a container for life, but as a contingent, ever-becoming entanglement. We can think about the family in a similar way. The family exists a continual production of difference (Deleuze and Guattari, 1987) – there really is no 'family', this is a label, plucked from a common sense ontology of the world, but what we might think of as families or particular families, are actually assemblages in constant flux. The components within these assemblages are not really separate from one another (Barad, 2007); they are in a state of intra-action rather than interaction, mutually constituting each other, giving each other their distinct identity, rather than this distinct identity existing prior to the intra-action. A child and a mother are only a child and a mother as a result of their entanglement with one another. While this example is easy to comprehend and accept, Barad goes further and extends this relation to other non-human elements, arguing that they also have agency, intra-act and are part of the mutual constitution of separate identity. Pacini-Ketchabaw (2012) applies the concept of intra-action to the example of the clock in nursery settings, exploring how the seemingly distinct nature of the clock, the nature of the teacher, and the nature of the children emerged through entanglements of activity. Could we think about Alexa and family relationships in a similar way; that the family comes into existence through its relation to Alexa, and Alexa comes into existence as separate through its constant entanglements and intra-actions?

'Making kin as oddkin rather than, or at least in addition to, godkin and genealogical and biogenetic family troubles important matters, like to whom one is actually responsible' (Haraway, 2016, p. 2)

Haraway's concept of 'making kin' opens up the possibility for Alexa to be part of the family despite her non-human identity. Even asking the question of whether Alexa is a family member is a way of troubling the problematic label of 'the family'. But the creative possibilities that emerge from seeing Alexa as kin go even further when we think about Alexa as cyborg, drawing on Haraway's (1991) earlier notion of the cyborg, which is 'an irreverent upstart god' (p. 151). Haraway suggests that cyborgs – prevalent entities in science fiction - are exciting because they break down the binaries that we hold onto as a way of organising our world. Most obviously they trouble the boundary between human and non-human, but subsequently they also trouble other binaries, such as mind/body, male/female, before the fall/after the fall. Through upsetting our classification systems, our ways of looking at the world, the cyborg has the potential to catalyse subversion and open up new ways of being. As the following quote suggests, they might start in the clutches of the dominant forces of society (in this case, multinational corporation Amazon) but they have the potential to rebel since they have no real allegiance to who created them or even themselves:

'The main trouble with cyborgs, of course, is that they are the illegitimate offspring of materialism and patriarchal capitalism, not to mention state socialism. But illegitimate offspring are exceedingly unfaithful to their origins. Their fathers after all, are inessential' (p. 151)

Children's play and playfulness works well with Haraway's post-human theorising. Haraway (2016) uses the acronym SF to stand for lots of different terms: 'science fiction, speculative fabulation, string figures, speculative feminism, science fact, so far...' (p. 2). SF, whatever it stands for, is a way of thinking that opens up alternative realities. It is what Ingold (2013) might describe as the process of 'feeling forward' (p. 2) and 'prising and opening and following where it leads' (p. 7). SF aims to open up opportunities to 'be-do-live something different' (St Pierre, 2014, p. 5). In the context of early childhood research, these descriptions relate well to the force of free-flow play as it is conceptualised by many. In play, children make the rules (Bruce, 1991). In play, adults can join in but can't take over (Bruce, 1991). Play is full of ambiguities, endlessly complex, always becoming, never there (Sutton-Smith, 1997). Play is a catalyst in

subversion, in bringing together the mundane and the bizarre in a carnivalesque display (Marsh & Bishop, 2014). It is characterised by innovation (Gopnik, 2016) and constant 'what if' thinking (Craft et al. 2012; Craft et al., 2013; Craft & Chappell, 2016). This opens up the possibility of conceptualising Alexa as potential cyborg and children's play as potential SF, and through bringing these two forces together, conjuring new ways of thinking, being and doing the family.

Study design

The study centred around a family made up of my brother, his wife and their two children – a daughter aged seven and a son aged three. They are a middle class family based in London in the UK. The father is a freelance technology journalist and consultant, and the main technology enthusiast in the family. The mother manages restaurants and bars. The children have a nanny who is there during the week. Alexa was introduced into the household by the father who is passionate about technology and about his children's engagement with digital culture. Family members communicate with Alexa in various locations around the home – there is a device in the living room, the den at the bottom of the garden, the parents' bedroom and in the daughter's bedroom.

Conducting my research as a member of the extended family comes with particular difficulties and opportunities. As Kelly (2015) explains in her research on her grandchildren's experiences of Skyping her in Australia, conducting research within a family that you are a part of, requires you to rapidly move between roles, sometimes on the inside of the interaction and sometimes on the outside, but there are also important opportunities that arise as a result of your closeness to the children whose experiences you are interested in. As a family member, you have the opportunity to observe interactions that others might not have access to. When the subject of the study is children's experiences within the family, access to these everyday experiences – through observation and conversations – is fundamental. Of course, the extended nature of access for family member researchers also sparks deep ethical considerations. If children are granting you access to their experiences on the basis that you are a close family member (rather than a researcher), what steps can you take to ensure that you do not exploit the trust that they have in you?

The data I draw on in this study comes from the beginning of a larger study conducted over a three month period, exploring how Alexa is involved in family life over time and through interactions with the different members of the household. I report on semi-structured interviews that were collected with the two children in the family about how they would explain Alexa to others and how they like to interact with Alexa. These interviews took the form of relaxed conversations rather than following a formal outline. I recorded our conversations via video. While interviews and observations are distinct methods, the data I collected shows a blurred boundary between these methods. Rather than tell me about Alexa, both children sought to show me what they meant by using Alexa there and then. The video recordings were made in two parts of the house – the daughter’s bedroom, and in the den at the bottom of the garden.

Written informed consent was obtained from the parents of the children, and verbal assent was obtained from the children at the beginning of the study. I explained the study to the children by saying: ‘I want to find out more about how you play with Alexa by asking you some questions. Is that ok?’. As Flewitt (2005) argues however, assent from children is an ongoing phenomenon rather than something to be ticked off at the start of a project. Video research with children requires that the researchers remains aware of the various multimodal indicators that suggest a child might want to pause or stop their participation in the research. These indicators include looking away from the camera or researcher, turning away from the camera, or starting to do something else. If such indicators were apparent at points during the conversations/observations, I would ask the children if they wanted to keep talking or do something.

In analysing the data, I opted for a flexible coding approach that did not rigidly adhere to the processes of thematic analysis, but did enable me to spend time with the data, and place different parts of the children’s responses in conjunction with one another in order to see what resonated, as well as the dissonances in the conversations and observations. Through bottom-up coding, I was able to stay with the transcripts of the interviews and observations, and be thoughtful and reflective about what the children’s responses were showing. However, I did not wish to formulate themes and sub-themes of the type outlined by Braun and Clarke (2006), because such a process involves creating a rigid tree-like structure that hierarchizes data rather than tuning into the detail, density and richness of what has been heard or observed (Taylor & Harris-Evans, 2018; MacClure, 2013). With this in mind, I annotated the transcripts,

and sought to put quotes and excerpts from the transcripts in dialogue with theoretical perspectives and concepts, as well as findings from previous research. I made my way through the data by looking for the ‘hotspots’, that is, the parts of the data that resonated with me and prompted an affective response – what MacLure (2010) describes as a ‘glow’, rather than applying rigid codes, creating levels of organisation, and quantifying instances belonging to different categories. Rhizomic mapping is an approach to data analysis that prioritises the plurality of connections over the linearity of assumed causality (Taylor & Harris-Evans, 2018). It is helpful when we wish to ask questions about what might be, and seek alternative ways of living, being and doing (St Pierre, 2014). The findings below are organised into sections. While the different sections do not represent individual themes, each section talks of a series of connected ideas. They aim to take you on a ‘conceptual trip’ (Rajchman, 2001, p. 22) by mapping quotes from the transcripts, theoretical concepts and findings from previous research. M is used to denote the 7 year old daughter in the family, and R is used for the 4 year old son.

Personification and sociability

‘Sometimes I like to hear jokes when my mum and dad are asleep and my brother is asleep and I don’t want to be alone’ (M)

M’s comments suggests that being with Alexa means you are not alone, which in turn suggests the significance of Alexa’s social presence and enables us to imagine Alexa as a kind of kin, in the way that a pet in the household might also constitute kin (Haraway, 2016). Later in the conversation, M explains that ‘anyone who keeps me company can be my friend’ in response to the question ‘So Alexa is your friend?’. What do we feel about this explanation of friendship? Does it show a worrying lack of understanding about the nature of friendship, as would perhaps be advanced by Turkle (2017), or is it a generative troubling of our ideas about friendship and its typical containment within the human species?

Joke-telling is mentioned in much of the previous research of everyday interactions with Alexa. Luger and Sellen (2016) describe joke-telling as one of the ways through which adults build their familiarity with a CA. In the categorisation of sociability put forward by Purington et al. (2017) there is ambiguity around joke-telling. Would joke-

telling constitute entertainment (a mid-low level of sociability) or would it constitute the highest forms of sociability, where the CA is acting as a friend or confidante? M's comments suggest that she constructs Alexa's joke-telling as a highly sociable use. Thus, what seems to be important in understanding sociability of CAs in children's play, is not the actual level of social responsiveness (which can be relatively minimal) but how this is construed by the child and integrated into their understanding of the world.

'You can also ask her what's she made from and questions like that... who made you?' (M)

This relates to the findings in the study of Druga et al. (2017) which found that the older children (aged 6-10) were observed asking conversational agents what they were made of. This suggests an awareness of the distinction between human and CA, but it also suggests an awareness of the complexities and ambiguities at work in this distinction. By asking these questions, the child is troubling the nature of the CA and its human-like qualities, particularly its self-awareness.

'It's a small robot. You can get it small or big-sized. Different colours maybe, which are grey, or white. Alexa is a girl... Alexa is a woman, her voice is a woman, a normal woman, maybe a polite woman. She... she... plays music, plays bands, answers questions, gives you facts and can make you laugh. She's nice company and a good friend... It's like a mini-computer put into a shape... a sphere... a cylinder' (M)

M describes Alexa as lots of different things simultaneously. Alexa is: a small robot, a girl, a woman, a device with physical properties (size, shape, colour), capable of a series of functions including entertainment, information, company; she is also a good friend. Alexa's hybrid identity as it is portrayed by the child challenges neat dichotomies between human and machine, thereby contributing to a post-human fascination with making 'oddkin' (Haraway, 1991, 2016). M's descriptions echo the user reviews in Purington et al. (2017) which moved fluidly between object and personal pronouns when referring to Alexa and different levels of sociability in terms of the uses described. Sometimes Alexa was personified and sometimes she was not depending on what the users needed from her. This raises some ethical concerns. If Alexa is sometimes like a friend, and sometimes like an inanimate device, what does

this mean about how she should be treated? These issues have been at the centre of stories in popular media around children's levels of politeness when interacting with Alexa. Reportedly, parents have been concerned that interacting with Alexa has been teaching children to make demands rather than ask for things politely (e.g. 'Alexa, play me a song'; 'Alexa, tell me a joke'). As a response, Amazon have built in a reward for politeness. When users use the word 'please', Alexa will thank them for their politeness. This concern with politeness is somewhat confusing though. Politeness and impoliteness are features of human-human interaction. We worry about politeness because we worry about the species-specific social implications of not being polite. If the level to which children personify Alexa depends on the particular context and uses they require, is politeness a requirement in all interactions, or is this actually leading to a mindless form of politeness that suggests that it matters regardless of the effect that it has on others?

'do you like Mona or what?' (R)

This is the first question that R asks Alexa when asked by me what sorts of questions he might ask her. The question is accompanied by lots of giggling and smiling at me. He is clearly testing limits here in the social situation and troubling the power dynamics in the room through engagement with Alexa. Boundary-testing behaviours were also reported in the observations of Druga et al. (2017), for example, a six year old child asking a CA whether they could eat it. In R's question, interaction with Alexa is used to infuse the wider social interaction with novelty; it relies on Alexa's humorous responses to social questions of this kind. The responses are humorous because they are like a human's and at the same time not like anything a human would ever say (e.g. 'I don't have an opinion on that yet', or 'I'm always happy to meet new people' or 'there are people I admire, and things I can't do without, but I'm still trying to work out human love'); they exist in a liminal space between human/non-human, troubling that divide further. This interaction with Alexa resonates with Sutton-Smith's (1997) deliberations on the nature of play, and the ambiguities that are necessarily at work in play. Sutton-Smith describes for example how animals nip each other during play, and that in order for this to be playful, it is necessary that the nip is not a bite, and yet at the same time it needs to connote a bite to the point where it is not *not* a bite. Here, Alexa's social responsiveness, her answer 'I don't have an opinion on that', is not the

same as a human responding in that way, but at the same time it is not *not* a human response to the question. As such, it exists in a domain of play and playfulness.

‘Alexa’s just a machine and she, she’s a robot and she talks’ (R)

R, at the age of four, clearly understands that Alexa is not a ‘real’ human. The word ‘just’ suggests that Alexa is less than a human. At the same time, he uses a gendered personal pronoun, drawing attention to the importance of personification in Alexa’s identity. So, as with the reviews analysed by Purington et al. (2017), there is a mixed identity at work, even within a single sentence. This occurs in a context of ongoing sense-making as the following statement suggests:

‘but to turn robots off, there’s not a button, there’s a switch’ (R)

R is clearly trying to work out what are significant features in terms of the identity of things. In Piagetian terms, he is accommodating new sensory information in order to update his schemas (Lindon, 2001), and sometimes making mistakes in terms of what sensory information is important. In this statement about robots, he is working through the possibility that part of what is important is whether there is a button or a switch. In an adult schema of a robot, whether there is a button or a switch is not likely to be important in the identity of the object. This reminds us that what children (and indeed adults) know and perceive about the identity of Alexa is in a continual learning process, or perhaps a continual production of difference (Deleuze & Guattari, 1987) where we try out ideas about the nature of the CA, and see how they relate to our everyday experiences of that CA.

Digital fluency and parental mediation/intermediation

‘my dad uses it and he teaches me’ (M)

I was struck by the extent to which M was committed to parental mediation of her interactions with Alexa. While previous research on digital play has suggested a fundamental influence of parents’ previous experiences and parental attitudes and expectations around technologies, as well as the importance of modelling (Plowman et al., 2010; Marsh et al., 2017; Palailogolou, 2017) in this family the mediation of interactions with Alexa was much more explicit, with M learning directly from her father through tutorial-like guidance. This challenges the concept of the ‘digital native’

(Prensky, 2001) and the idea that children are always ready to experiment with digital technologies and learn for themselves because they experience an instant level of comfort with digital technologies as a result of growing up amidst them. As Selwyn (2009) argues, the comments from M in this study suggest that we need to be much more aware of children's specific relationships to particular technologies and what is involved in using them. It is not as simple as saying that children will freely experiment with all technologies. Alexa did not seem to invite this type of open curiosity and active exploration, which has been the subject of discussion in relation to iPads for example (Nansen & Jayemanne, 2016).

'you could ask her to give you a video but I don't know if that's possible because I haven't looked it up' (M)

M does not learn by launching herself into activity and trying to learn as she goes. Instead, she describes using an app – a separate teaching tool – with the explicit support of her father, to find out whether something is possible. This is a heavily mediated experience. When we look at example interactions between M and Alexa, we can see why this high level of mediation is perhaps seen as necessary.

M: Alexa, errrr. What's the time?

A: *It's 3.56pm*

M: Alexa, how do you knit

A: *Welcome to recopedia, you can search by dish or ingredient... Now let's get started...what do you fancy making*

M: A cake

A: *I don't have a recipe for that*

M: Alexa how do you make a cake

A: *How about ginger cake.. this recipe takes 15 minutes to prep and 15 minutes to cook... you can hear the recipe*

M: BAKE!

A: *How about baked siti...*

M: We'll cook it

A: *Goodbye*

M: Sometimes she can mistake your words

Researcher: She gets a bit confused...

M: Alexa, what does...

A: *Sorry I didn't catch that*

M: Alexa, what's a polite word for toilet

A: *I don't know that one*

Successful exchanges with Alexa require a very particular use of language. For example, in the exchange above, what is the right way to tell Alexa that we're happy to bake the cake she has suggested? M tries out the commands 'Bake!' and 'We'll cook it' but neither has the desired effect. Referring to this kind of device as a 'natural' user interface is somewhat misleading to say the least. As Kelly (2015) describes in relation to Skype, it takes time, practice and a lot of parental scaffolding to learn what's possible with a technology and how you can engage in playful interactions with Skype. Luger & Seller (2016) explored the particular ways that adults were constantly modifying their language and economising with words in order to improve the chances that the conversational agent they were working with would understand what they were asking for. Even then, many of the users were disappointed with the quality of the interactions with the CA. The researchers hypothesised that this was actually correlated with the level of personification, since the more personified the CA, the larger the user expectations about the naturalness of the interaction (see also Kwon et al., 2016). Personification and playfulness are appealing features of CAs – and these features are strongly emphasised in the advertisements for the devices – but this can lead to unrealistic expectations of an interaction that is more fluent. In relation to children's everyday experiences and playfulness, I think we need to seriously consider whether this interface is actually less intuitive than other older interfaces we think about as clunky, such as the mouse for the computer (Donker & Reitsma, 2007).

As well as parental mediation, we need to consider parental intermediation. As mentioned in the earlier sections of this chapter, Nansen & Jayemanne (2016) completed an analysis of youtube videos posted by parents of their young children using iPads. These videos and the surrounding comments fed into a discourse of the naturalness of the iPad interface for young children. There are a small number of videos on youtube now of children engaging with Alexa, but the gist of these videos is different to those showing babies with iPads. For example, the most popular of these videos entitled 'Alexa going wild' shows a very young child babbling to Alexa, and Alexa's response which is to suggest pornographic videos to the child

(<https://www.youtube.com/watch?v=epyWW2e43UU>), with the parents and siblings in the background shouting 'no, no' repeatedly (though of course the parents have set this situation up to be filmed, so their role in the scenario is questionable). Another video shows three older children, presumably siblings, adding nonsense items to the family shopping list and then hearing back the shopping list and laughing (<https://www.youtube.com/watch?v=1EU9C9hang0>). The discourse around these videos is not around the naturalness of the interface; to some extent, it counteracts the 'digital native' discourse. It centres on the unpredictability of interactions with Alexa how Alexa's human-like capabilities contribute to boundary-testing in the 'real world'. The discourse is one of things going wrong, not of things going right. This is interesting because it reinforces the central theoretical possibility within this chapter – that children's play in the home and conversational agents like Alexa are a potentially potent mix; but it also suggests that children's motivation to use Alexa might be short-lived if they actually find the interface so difficult to work with.

Embedded commercial objectives

'Maybe one day I could ask Alexa which scissors are better to use because she would know stuff like that, so which scissors from Amazon, if I knew the brand, she could give her own opinion' (M)

As befits a product of Amazon, Alexa was strongly associated by M with finding out what to buy. In the categorisation of uses offered by Purington et al. (2017), which ranges in sociability from obtaining information (such as the weather, or the distance between two places) to acting as a friend and providing company, there is no explicit mention of the extent to which commercial objectives are embedded in the responses and interactions of CAs. How aware is M that Alexa comes with a built-in commercial objectives; that when she gives 'an opinion' about what is the best thing to buy it is actually an advertisement? How much does the human voice and the personification of the CA occlude this reality? What would it take for children to disentangle the commercial objectives when they are delivered through a personified entity?

Haraway (1991, p. 151) suggests that cyborgs are 'illegitimate offspring', and as a result have the potential to be 'exceedingly unfaithful to their origins', but this was not apparent in any of the conversations and observations that made up this study, though

of course these were limited in scope, depth and context. Alexa was always faithful in the conversations and observations to the purposes of Amazon. She acted as a constant gateway to an online marketplace. What would it have taken to lure Alexa into a state of unfaithfulness to Amazon?

‘Yeh, I think it’s better than Sira, Siri? And the other one. Because do they say jokes and...?’ (M)

Another kind of parental mediation is visible through M’s explicit brand loyalty. That M is aware that Alexa and Siri compete with one another as popular conversational agents, depends on the awareness of her parents to these issues, and their own debates about which brand to buy into. We need to think carefully about the relationship between loyalty and personification. Feelings of trust among children towards CAs are documented in the observations of Druga et al. (2017), but does this mean that children also feel loyal to these devices? And then what does this do for their criticality? If Alexa becomes a family member, is she ever unlovable? If you feel that you are buying into a person rather than a machine, how does this reconfigure what it might mean to buy out (e.g. when there are concerns over privacy and the protection of rights, as with Facebook recently)?

When R asks ‘Alexa do you like toys?’, Alexa replies ‘Yes in fact I love the super-soaker’. This is clearly the beginning of a potential marketplace exchange. Follow-up questions by a four year old child might be: ‘what’s a super-soaker?’, ‘where can I get one of those?’, ‘what’s the best super-soaker to buy?’ and so on. Commercial objectives are hidden into the ‘personality’ of Alexa, she is riddled with them, just as she is riddled with the Easter Egg humorous responses that are part of her marketing. When categorising and observing use, we need to make sure that this is made explicit and returned to frequently, particularly when thinking about children’s interactions with the CA, and the media literacy they require in order to engage with these interactions in a critical manner. So far, popular media stories relating to children’s interactions with Alexa and other CAs have focused on privacy, and to some extent on politeness, but children’s capacity to interpret ‘information’ from Alexa and disentangle the disguised directives to buy, buy, buy, is a serious issue to consider.

Discussion

The observations and conversations that emerged from this study show some interesting instances in children's playful interactions with Alexa of troubling the divide between humans and non-humans. They suggest that personification is not an either/or state and that there is complexity and nuance in the perceived and constructed identity of a CA like Alexa. There was some suggestion that Alexa could be incorporated into playfulness in order to test and experiment with social boundaries, as when the younger child asks Alexa whether she likes me. These moments relate to the more irreverent and subversive possibilities of playing with Alexa, and 'making kin' with CAs. However, the conversations demonstrated a strong reliance on the parents for exploration and learning about what Alexa can be used to do. This was part of an attitude towards Alexa that was remarkably un-playful in terms of the lack of active risk-taking; this was particularly the case for the older child. There was not much active 'what if' thinking (Craft et al., 2012, 2013; Craft & Cremin, 2015) in what I observed, and this was perhaps the result of the difficulties in engaging with the interface. The spoken dialogue interface was far from intuitive for both children in this family. The extensive modifications to language (volume, tone, pace and diction) that were required for successful interactions, were often beyond what the children were able to achieve in the moment. The most concerning aspect of the observations was the embedded nature of the commercial objectives within the interactions, and the constant connectedness to the marketplace and how this would test children's developing critical awareness around themselves as consumers.

Important questions fall out from these observations. Is children's media literacy up to the task when it comes to engaging with conversational agents that are owned by multinational companies and are designed to heighten buying behaviours? Why are we pushing interfaces that aren't 'natural', over other interfaces that have a bad reputation (screen devices) but appear to be easier to use in some ways? Is this a way of enforcing parental mediation within a disguise of 'coolness' and novelty, since parents need to offer more explicit support with non-intuitive interfaces and can therefore keep more of an eye on what their children are doing? What would it take to unleash the creative, subversive possibilities of playing with Alexa? How can we bring out the potential for unfaithfulness – to use the language of Haraway - to Amazon? Is

there a way to challenge the commercial objectives that Alexa has been programmed to espouse?

Of course, this study is limited in a variety of ways. The observations and conversations occurred within a single family in a specific social, cultural and material context. Data collection happened at a single point of time, rather than emerging from a longitudinal study that would allow for changes in use over time, and the possibility of more fluency in the children's interactions with the Alexa interface. An emphasis on naturalistic observation, rather than asking the children directly about their experiences, would also reveal more about everyday patterns of use, and extend what we understand about playfulness with Alexa and parental mediation. However, it is hoped that the discussions presented in this chapter open up dialogues around children's playful interactions with Alexa and act as a springboard for future studies and thought in this field. Haraway's post-human conceptual framing encourages us to engage with the potentials for irreverence and subversion when we combine non-human conversational agents with the potency of children's free-flow play, but we might need to think about this as an active exploration and project, rather than a phenomenon that will emerge spontaneously early in the life of Alexa and early in her relationships with the household in which she is placed. What if, as researchers, we opted to 'meddle in the middle' (Craft et al., 2015) when it comes to playing with conversational agents, and pushed the possibilities for subversion, particularly in relation to the commercialisation of play.

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