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Postdigitality in children's crossmedia play: A case study of Nintendo's Amiibo figurines

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Introduction

Children's media spaces and practices are becoming increasingly complex arrangements as devices, screens, and toys are digitally integrated to enable the mobility and flow of both content and data (Holloway & Green, 2016). Nintendo's 'Amiibo' figurines are exemplary of these burgeoning 'crossmedia' infrastructures. They represent the dual trajectories of industry production and user participation in assembling and dispersing entertainment and franchises across multiple media platforms (Lomborg & Mortensen, 2017). They are, then, part of a broader industry of the Internet of Toys (IoT). The Amiibo figurines are physical toys based on characters from various Nintendo franchises. Amiibos work by 'interacting' with Nintendo hardware and software via wireless near-field communication (NFC) technology. In their production, promotion, and everyday use, the figurines solicit playful practices that cut across physical objects and digital spaces. For companies such as Nintendo, this type of crossmedia play - sometimes referred to as 'toys-to-life' - is a desirable commercial activity. It nurtures a physical bond between children, software, and the intellectual property (IP) of characters from various game franchises. Yet, as researchers have long recognised, children's media practices often exceed or confound the activities prescribed by media industries and promotional discourses (Giddings, 2014; Kline, 1995), and the Amiibos are no exception.

This chapter explores how the Nintendo Amiibo figurines circulate in and through children's crossmedia practices. We draw on three sites of analysis: first, interface analysis of how Amiibo products operate with the Wii U and Nintendo Switch platforms; second, promotional messages and discourses surrounding the Amiibo figurines; and finally, video content and user comment analysis of Amiibo unboxing and play on YouTube. This analysis highlights how Amiibos are clearly framed as a means to envelop children in Nintendo's crossmedia ecosystem. This is achieved through the software affordances of the figurines - which are capable of storing data corresponding to personal game experience and progress – as well as through marketing and promotional materials. However, YouTube videos of children's Amiibo play also highlight a tension in such crossmedia ecosystems. Although the Amiibos are designed to reinforce the interaction between the child and the branded world of Nintendo, the toys often enter the messy reality of children's everyday play in ways that exceed prescription through alternative forms and meanings of play.

This analysis connects with Internet of Toys research by building on the concept of 'postdigital' play (Apperley et al., 2016), which describes how the historical distinction between the digital and the non-digital has become increasingly blurred through mobile, pervasive, locative, and

augmented media (Berry, 2014). Previously, we conceptualised postdigital play through an 'aesthetics of recruitment' that involves an enrolment of player bodies and sensations that moves beyond the screen. In an article on the "ontological entanglement" of "the physical and virtual domains" of children's play with smart toys, Jackie Marsh (2017, n.p.) similarly suggests that children's IoT play should be considered hybrid and co-constitutive. She calls for further research on the political economy of internet-enabled toys - that is, how data is extracted and mobilised by toy companies, and for what purposes. Marsh (2017, n.p.) also reflects briefly on the possibilities of transgressive play with smart toys, and considers the ways in which "a young app user might be compliant with, and resistant to" the data-collection strategies of smart toys. Our chapter aims to address both of these concerns. In this chapter we use the Amiibo to interrogate the evolving intersection of crossmedia products and children's cultures of play. Informed by game studies' material turn (Apperley & Jayemanne, 2012), we explore the intersection of political economy and everyday practice in configuring such forms of postdigital play. We account for the reciprocal dynamic between children's everyday play (which often encompasses appropriation and repurposing of toys) and the branded world of IoT products in which transgressive forms of play are reincorporated back into a branded environment. In turn, these dynamics point to emerging questions around children's data literacies within the environments and economies of postdigital play - how the 'mundane data' (Lupton, 2017; Pink et al., 2017) produced within these everyday contexts of play are felt, experienced, and understood.

Postdigital ecologies of domestic play

This chapter contributes to a long tradition of household media research, which has sought to understand how new technologies are domesticated within physical spaces, family relations, and social practices, as well as how these practices become physically, socially, and symbolically located within the home (Silverstone and Hirsch, 1992). This tradition of research began with broadcast media such as television and its reception in the home (e.g. Morley, 1986), and later evolved to consider digital technologies such as the home computer (Lally, 2002), the internet and mobile phone (Haddon, 2011), and videogame systems (e.g. Aarsand & Aronsson, 2009). This research reveals that as successive waves of media technologies are domesticated — spreading spatially throughout the house and temporally around the clock — the places and patterns of leisure and play undergo changes. A key example is the shift from collective family television viewing, once organised around a single and immobile broadcast box (Morley, 1986), to the emergence of more distributed and individualised media practices (Turkle, 2011), based on the affordances of multiple and portable devices connected to the internet via household Wi-Fi. This steady accretion and dispersal of media throughout the home has created dense household ecologies of media.

These ecologies have become further intensified through emerging technologies in which computation and play spread beyond the screen through internet-connected toys. In game studies, this has been described as a 'postdigital' phase of play, wherein play is no longer a singular activity contained by one digital device at a time (Giddings, 2014; Jayemanne et al.,

2016). In a postdigital environment, play multiplies across digital infrastructures and environments, and media companies are thus incentivised to broaden their interface 'envelopes' to capture increasingly unruly and transgressive forms of digital/physical play. The concept of 'postdigital' (Berry, 2014; Berry & Dieter, 2015) is used to refer to the widely distributed digital connectivities and mobilities that have become characteristic in contemporary devices and apps. In videogaming, postdigital play is best illustrated in internet-enabled collectible figurines such as those associated with *the Skylanders* (Toys for Bob, 2011-) series, the *Disney Infinity* (Disney Interactive Studios, 2013) series, the *Lego Dimensions* (Traveller's Tales, 2015) series, and the Nintendo Amiibos. These toys use near-field communication to facilitate mobility and storage of data between games and consoles. Postdigital forms of play can also be understood to include non-videogame connected toys, augmented reality apps, and computer-augmented board games; each of which are adding new material elements and contexts to videogame play.

Elsewhere we have characterised the ludic devices and arrangements of postdigital play in terms of an 'aesthetics of recruitment' (Apperley et al., 2016; Jayemanne et al., 2016). This conceptualisation has been useful for thinking through the reconfigurations of play within such postdigital videogaming contexts, in which emergent and often unstable relations are produced through the enrolment and redistribution of various toys, devices, bodies, interfaces, data, and spaces in the formation of play. We are not the first to deploy the notion of 'recruitment' in political economic analyses of digital games. Scholars such as Scott Lash and Celia Lury (2007, pp. 54-55), for example, argue that the FIFA digital games function to recruit consumers to the broader FIFA brand. In the context of the postdigital, however, crossmedia franchises such as Amiibo figurines recruit different elements into an assemblage of play, cutting across the physical and digital to recruit a larger set of objects and practices into the branded space of play. This crossmedia configuration reinforces the connection to the brand by enrolling physical toy figurines based on characters from various Nintendo franchises into the space of play. This extends the digital brand out into the physical spaces of children's' physical play spaces and, in turn, reincorporates extensive forms of play back into a branded environment through attachment to both a physical object and the data it embodies. The Amiibo-player relationship is quantified through personalised histories of game play and reward, and qualified through an affective interaction based on an 'ecotechnics of care' (Ash, 2015, p. 109). In this arrangement, 'care' for characters and progress is bolstered through an expanded interface 'envelope' that reinforces a physical connection between child, toy, software, platform, and IP.

The Amiibo Interface

Amiibo play attempts to establish a postdigital videogaming ecosystem in which the integration of the physical and the digital are designed to reinforce the branded world of the franchise. In software studies, interfaces are understood as arrangements that assemble and decompose in dynamic relations and through a suite of different elements, including bodies, devices, peripherals, software, IP, and so on (Ash, 2015; Cramer & Fuller, 2008). Amiibo figurines are designed after characters from various Nintendo franchises, such as the crossmedia 'mascots' Mario and Luigi, who appear in a range of Nintendo games. The Amiibo figurines harbour NFC

tags that can connect wirelessly to Nintendo's Switch, 3DS, and Wii U videogame platforms. They can be differentiated from similar 'hybrid' toy/videogame franchises such as *Skylanders, Disney Infinity*, and *Lego Dimensions* to the extent that their functions multiply across platforms and games; they are not designed with one, specific technology or game in mind. This significantly reinforces the crossmedia appeal of the Amiibo. An Amiibo based on Nintendo's *Zelda* franchise, for example, is compatible with any NFC-enabled Nintendo platform, and will perform different functions depending on the software in use when the Amiibo is scanned. Amiibos are designed to interface directly with Nintendo hardware, so they are also distinct in not requiring additional plug-in hardware, like the USB 'Toy-Pad' that was necessary to play Traveller's Tales' *Lego Dimensions*.

In mediating such platform relations, Amiibo figurines operate as coded software objects (Kitchin & Dodge, 2014) for data storage and transmission. For some games, the Amiibos operate on a read-only basis – that is, they merely 'unlock' pre-existing content in the software when detected by the platform's NFC reader. For other games, such as *Super Smash Bros. for Wii U* (Bandai Namco Games and Sora Ltd., 2014), the Amiibos function as data storage devices that keep track of player profiles and character progress. Amiibos are often connected within the Nintendo crossmedia environment in multiple ways, which allows for different qualities of data to be shared. For example, in *Super Smash Bros*. *for the Wii U*, players can develop the strengths and abilities of the Zelda avatar, store this data on the Amiibo, and transfer it between Wii U and 3DS devices. This feature is similar to the limited data storage that Nintendo introduced on Wii remote controller or 'Wiimote,' which allowed for the storage of up to ten player-created 'Mii' (which refer to personalised player avatars on the Nintendo Wii), which could then be used if the Wiimote was connected to a different Nintendo Wii console.

Additionally, each Amiibo that is scanned to a device unlocks additional material. The promotional game *Amiibo Touch & Play: Nintendo Classics Highlights* (Nintendo, 2015) (also known as *Amiibo Tap: Nintendo's Greatest Bits*) allowed users to play one three-minute demo of a classic Nintendo game for each Amiibo they scanned. At the end of the demo players would be directed to the Virtual Console area of the Nintendo e-shop where the full version of the game could be purchased. Many of these classic games - such as *The Legend of Zelda* (Nintendo R&D4, 1986) and *Punch-Out!!* (Nintendo R&D3, 1987) - contain early incarnations of characters now featured on Amiibo figurines. These features situate Amiibos in an elaborate crossmedia promotional culture (Kinder, 1991; Kline et al., 2003), which connects the post-digital present of the Amiibo figure to the repackaging of past Nintendo content. This connection suggests a palpable enactment of an affective pedagogy of taste, where the toy becomes the access-point to a curated database of 'classic' experiences that are available to enrich people's affective experience of contemporary content and the Amiibos themselves.

The distributed interface of Amiibos can, then, not only be understood through its expanded envelope of branded interaction and relationality, but also as a further development of video gaming's current 'achievement' culture, wherein player performance, cultural capital, and gamer 'credentials' are made publicly available across an ecosystem of platforms. Examples of this include Microsoft's 'achievement' and 'gamertag' systems and Sony's 'public trophy' system.

These systems function not only as personal profiles for Xbox One and PlayStation 4 owners, but also as publicly viewable 'gamer CVs' of sorts. They display data on users' achievements and awards earned within specific games, and they do so as a means of aggregating an individual player's skill, performance, and cultural capital. James Ash (2012, p. 16) notes that, while these systems "have absolutely no exchange value in themselves", their political economy lies in their "affective value". That is, players seek out achievements and trophies because they have been purposefully engineered – graphically and sonically – to be aesthetically pleasurable and rewarding, and also because they bolster the player's public reputation. In turn, these systems generate "interface envelopes" (Ash, 2015), or affective spaces that establish player allegiances to particular IPs and platforms, that connect individual gameplay experiences to a wider platform ecosystem, and that ultimately make players want to play more and longer, thus generating economic profit.

Nintendo are aiming to create a similar system with the Amiibos, except rather than cultivating affective value solely through a screen interface, the whole system is externalised into the physical world of collectible toys and figurines. This greatly expands the interface envelope to encompass a broader 'aesthetics of recruitment,' wherein players may (unintentionally) enrol themselves in the Amiibo universe (and, by extension, the Nintendo platform ecosystem) through a simple physical encounter – either by handling or playing with a figurine – which may then translate into digital play somewhere down the line. This is an especially effective strategy when it comes to enrolling children in the Nintendo ecosystem, as children are arguably more likely to develop an affective connection to a physical toy, which can then serve as an entry point into Nintendo's crossmedia ecosystem. As Stephen Kline, Nick Dyer-Witheford, and Grieg de Peuter (2003, p. 126) note, Nintendo have long been concerned with generating a sense of brand loyalty among their child consumer base, as a means of developing a lifelong feeling of belongingness and commitment to Nintendo products. The Amiibo figurines can be seen as an extension of this long-standing business philosophy.

When it comes to the Amiibo figurines, brand loyalty cuts across physical and digital spaces, and may emerge through a messy combination of online or offline play practices, memories, and experiences. As will be discussed in the following section, the collapse of physical and digital play enabled by the figurines is constantly referenced in the Amiibo promotional discourses. This is further reinforced by the digital representation of Amiibo content in the videogames themselves. For example, the fictional universe of the Nintendo game *Super Smash Bros. for Wii U* is premised on the concept that Nintendo figurines are coming to life and doing battle. Likewise, Nintendo's recent Switch game *Splatoon 2* (Nintendo EPD, 2017) features a digital recreation of an Amiibo box – complete with branding and plastic packaging – in the game's main foyer area. If the player scans a *Splatoon* Amiibo on the Switch controller, an Amiibo figurine appears in the digital box and pops into life, and the player is rewarded with bonus content.

Nintendo's promotional discourses

Unsurprisingly, the first Wii U game to feature Amiibo compatibility was *Super Smash Bros. for Wii U* - a crossover fighting game that had already established itself as an explicitly crossmedia product through its transposition of characters from other Nintendo franchises, such as Mario and Pikachu, into a new game. This transposition of characters figured prominently in the initial marketing surrounding the Amiibos. In the *Smash Bros.* series, various Nintendo figurines come to life and battle against each other, with the in-game representation of figurines predating the release of the Amiibo toys. The Amiibo figurines were, then, marketed as objects that physically externalised this game universe. Players can 'train' and 'level up' their favourite characters in the game world and store their experience and progress on corresponding Amiibo figurines.

Nintendo's initial marketing for the Amiibo figurines focused on naturalising the concept of a crossmedia figurine ecosystem. In an early promotional video first shown at the 2014 Electronic Games Expo (E3), Nintendo of America's product and marketing manager, Bill Trinen, explains that the Amiibo figurines offer "new ways to interact with your favourite Nintendo characters", and that "each figure contains the spirit of the character they represent" (Nintendo, 2014a). He goes on to explain their functionality through the example of *Super Smash Bros. for Wii* U. In the video, the figurines are presented almost as a 'remediation' of the concept behind the *Smash Bros.* series itself, as well as an articulation of an (allegedly) long-standing childhood fantasy of seeing Nintendo characters come to life and do battle. Trinen also emphasises the affective value of the Amiibo toys. He explains that "no two Amiibos will be the same", and repeatedly emphasises the "unique" and "personal" nature of the player-Amiibo relationship: "collect your favourite figures, then battle, train, level up, and form your own unique bond with them".

The Amiibo figurines' affective value is the focus of another 2014 promotional video titled "Gameplay & Quest for the amiibo!" (Nintendo 2014b). In this video, a young *Smash Bros.* player ('Jack') seeks to beat his sibling's older friends in the game (and thus win their respect) by purchasing, training, and levelling up his own Mario Amiibo. In order to do this, Jack is portrayed developing an affective bond with the toy both inside and outside the digital world of the game; at the dinner table, at the park, in his bedroom, and so on. Once Jack has dedicated the necessary affective commitment to the toy, he is shown upstaging his sibling's older friends in a competitive match. This promotional video neatly illustrates the discursive instructions that Nintendo seek to impart to consumers for how to integrate the toys in both online and offline play. First, it attempts to illustrate that 'proper' usage of Amiibos entails a unique, personal, and above all affective attachment to be forged between player and toy. The interface envelope generated by the game 'follows' Jack into the messy reality of everyday life through the Amiibo figurine, thus producing an aesthetics of recruitment that cuts across digital and physical spaces.

The promotional video also reinforces and extends an 'ecotechnics of care' (Ash, 2015, p. 109), insofar as the Amiibo literally functions to minimise the discouragement felt by the player when he loses at the game. In fact, after Jack loses a match early on, a competing player consoles him with the following advice: "he hasn't even levelled up yet – but see, that's the fun part; you'll train [the Amiibo] and do better". The Amiibo functions to mitigate Jack's feeling of discouragement by making him focus less on the present loss and instead on abstract player

statistics that, with the proper care and development, will help him succeed in the future. Thus, Jack's feelings of frustration and anger are converted into an ecotechnics of self-care and self-quantification, which ensure he remains enrolled in Nintendo's platform ecosystem, and less likely to 'back out.' This, of course, feeds into the notion of gamer 'credentials' raised earlier. In the advertisement, Jack wins the respect of his sibling's friends by virtue of his gamer 'capital,' which he accrues through extensive affective investment in his relationship with the Amiibo.

YouTube videos and Amiibo play

Beyond the Amiibo's interface and product advertising, the representation, understanding, and use of Amiibos extends into everyday postdigital practices of play, which are accessible in some sense through video content and comments of Amiibo unboxing, review, and play posted to YouTube by users. These videos contextualise and visualise different ways that Amiibos are configured within everyday play and situated within domestic and family media ecologies, in which the complexity and messiness of digitally connected devices, screens, and toys unfolds. Nintendo's Amiibo figurines are seen in these videos as exemplary of expanding crossmedia and postdigital infrastructures of play, whilst also pointing to tensions between design intent and acts of appropriation within everyday play spaces and practices.

In a review video posted by the FamilyGamerTV YouTube channel, titled 'Super Smash Bros & amiibo Get Toy Tested' (FamilyGamerTV 2014a), the channel host introduces the newly released Amiibo figurines. The video involves the channel host interviewing and discussing Amiibos with a television games reviewer to explain to viewers how they work within the Nintendo platform and franchise ecosystem, providing demonstrations of game use and describing them in relation to other examples of postdigital toys:

> Host: "As you play with them, they level-up, which means they get stronger. But also they unlock new moves, so they develop and they grow. But also you get special items and you feed them to your character. And that gives them more powers and more abilities."
> Reviewer: "It's almost Tamagotchi-esque, if that's even a word! You have to feed them, look after then, take care of them"
> Host: "The more you do that, the more time you spend with them, the better they get."
> Reviewer: "The other thing that really interested me: you're saying that you can play them in more than one game... so you said super *Super Smash Bros.* and *Mario Kart 8*. So I'm assuming that as Nintendo bring out more games, these will be able to be put into different games. Now that is more interesting, because with *Skylanders* or *Disney Infinity,* you are playing the one game. Say you buy your *Mario*, you know that it's just not finished when they bring out *Super Smash Bros.* You know that you need to keep that, to look after that, because that's going to be useful to you next Christmas when I buy you the next game. So it has that longevity to it... which all parents want."

The video, then, works as a piece of videogame review and pedagogy, highlighting the affective attachments or 'ecotechnics of care' that Amiibo's engender through their cross-platform and software affordances for personalising player data and history, whilst also explaining how they operate by making connections to other familiar postdigital toys like *Skylanders* figurines, and going further back, Tamagotchi. Such connections establish a legacy of digital toy play, whilst simultaneously attempting to overcome the affective limitations identified in toys such as Tamagotchis, which were critiqued for materialising 'disposable love' and therefore degraded ecotechnic relations of care (Bloch & Lemish, 1999; Turkle, 2011). *Skylanders* is an essential reference here, because it was the first franchise to popularise crossmedia NFC toys. Many children and parents are familiar with the *Skylanders* franchise, which has released a multiplatform game and associated figures annually from 2011-2017.

In a separate video from the FamilyGamerTV YouTube channel, titled 'Brothers and Sisters Play Super Smash Bros. & Amiibo Wii U' (FamilyGamerTV, 2014b), the channel host - clearly operating more in his role as a father - demonstrates the intergenerational pedagogy that is tied into the use of the Amiibo figurines. He presents his three children with three Amiibos and asks them to identify them: Mario, Link, and Pikachu. This is followed with a short lesson in the nomenclature of *Legend of Zelda*, carefully explaining the difference between the titular Zelda and the protagonist Link, in order to clarify the name of the Amiibo that one of his children is using. Nevertheless, this confusion continues throughout the video.

The parent/host then turns to the more practical matters of showing and teaching the children how to use the Amiibos with *Super Smash Bros. for Wii U* and *Mario Kart 8* (Nintendo EAD, 2014). The adult focuses particularly on the more nuanced engagement that the Amiibos have *with Super Smash Bros. for Wii U*. In doing so, he appears to be fostering his children's data literacy by explaining how storing data will allow them to 'train' and 'level up' the Amiibo character for use as what Nintendo (2014a) calls "your alter ego, partner, or rival" in *Super Smash Bros. for Wii U*. The levelling up creates scope for customisation of the Amiibo, which means that the children have to make decisions about how to develop their Amiibo as soon as they have registered the figurine on *Super Smash Bros. for Wii U.* Then the host/parent gets his children to play Mario Kart, where the Amiibos unlock franchise specific wearable content for the Mii drivers of vehicles in the game, allowing players to customise their appearance (for example, by wearing a Yoshi themed green and white helmet). The host reflects with his children on his initial comparison with *Skylanders* and points out how their integration into multiple games makes the Amiibo distinct.

Throughout the video the host comments on the toy-like elements of the Amiibo, and how his children interact with them as toys, which he regards as a positive element of the Amiibo: "having this physical element to the game that brings them out of the game and into the living room". His reflections emphasise the 'physicality' of the toy and how this extends the interface: "you have that physical connection between the on-screen action and the physical toy", and attachment to the franchise/brand: "there's that real connection created between the on-screen character and the physical Mario toy". His comments also suggest that the interface envelope is permeable. Towards the end of the video he discusses some footage of his children playing

Super Smash Bros. for Wii U, noting that: “with Tom playing in the background, Ollie’s just happy to have that link character in his hand and treats it much like he would any other toy”. Not only does the physicality of the Amiibo create new opportunities for play, within practices of ‘turn-taking’ within social screen-based play (see: Apperley, 2010), but it also means that it can be removed from the screen environment, only to be later reincorporated. This latter possibility is noted positively by the video host: "[the Amiibo] gives him a reason to do stuff away from the screen".

It is conceivable, then, that crossmedia play with Amiibo toys can move outside the branded world of the franchise and into the messy reality of children’s everyday play worlds, where data are less reliably tracked. In fact, the interface envelope established by the Amiibo facilitates the movement between these two forms of play, which are not necessarily understood as ‘separate’ as children recruit different objects into their play practice and imbue them with new significance outside of their everyday context (Benjamin, 1999, p. 390). While the way that the physical characteristics of the Amiibo facilitates this shift between spheres of play is noted clearly by the presenter of familygamertv, Nintendo’s official position is that Nintendo’s goal for the Amiibo is to use them to “tie” people “back to the game experience” (Peckham, 2015, n.p.), and “to forge a better connection between gameplay and Amiibo itself” (Peckham, 2017, n.p.). In the aforementioned video, for example, the parent describes how his child fostered an attachment to the figurine much like any other toy, which seemed to occur independently of the software or platform (FamilyGamerTV 2014b). Many children are also more interested in the figurines as collector items rather than objects that augment the experience of Nintendo’s software. Nintendo’s president, Tatsumi Kimishima, has openly stated that this is a “challenge” for the company to overcome, as their main intention for the figurines is to create a more fully integrated media ecosystem that cuts across the physical and the digital, rather than a ‘regular’ line of toys that children can collect and play with (Peckham, 2015, n.p; Peckham, 2017, n.p.). For Kimishima (Peckham, 2015, n.p.), Nintendo’s aim with the Amiibos is to “tie [the Amiibo experience] back to the game experience, and then we’re creating a stronger connection with general knowledge of our IP and that fun experience they have.”

In the second video the cross-media element is speculated as leading to a deeper ‘affective investment’ in the Amiibo figure, as it has a ‘life’ beyond individual gameplay, software, or hardware. This affective investment in the Amiibo is created by the open-ended sequence of gamified and affectively constructed acts of data exchange. These data exchanges enact an ecotechnics of care, in which the process of caring for the Amiibo enhances the child’s gaming experience. There is a clear tangible benefit to Amiibo play by enacting this data exchange. But there is also a palpable experience of personal data produced through Amiibo play - it is made meaningful through such everyday contexts (Pink et al., 2017), in which data is sensed or ‘felt’ (Lupton, 2017) through its storage within the embodied materiality of the figurine and transmission into game-play personalisation and progression. This data is personal insofar as it records player statistics and behaviour, rather than identifiable personal information. Nonetheless, the Amiibo offers a possibility for young children to gain a sense or understanding of personal data and data exchange within the context of crossmedia play. The processes through which young people develop a rich and informed understanding of everyday data

exchange is an underexplored area of digital literacy. The Amiibo and the Nintendo crossmedia system implies an ostensibly 'safe' and bounded circuit for data exchange. Given that Nintendo is a seemingly 'trusted' brand, and there is not personally identifiable information in the data, parents appear comfortable letting their children engage in the datafied play guided by the prompts from the software and hardware. In this respect, the Amiibo offers children access to basic data literacies in an informal context.

Data literacy competencies are often difficult for young people to informally acquire, and are often shaped by the more deliberate and didactic pedagogies of families and schools with their emphasis on security and safety, in which data exchange is seen as a risk. In one sense, play may normalise data exchange, but the Amiibo crossmedia system also makes these often-invisible exchanges explicitly tangible by demanding a haptic engagement. Rather than being a configuration of settings on the software interface, the Amiibos require the coordination of hand, toy, and device to produce the data exchange, foregrounding it as an activity by making it a momentary focus within a game, rather than relegating data exchange to a more invisible or ambient experience (Hjorth & Richardson, 2014). However, in another sense, the play ethos and reward system of the Amiibo crossmedia system runs startlingly contra to everyday understandings of the 'risks' associated with the collection and sharing of children's' data. As it stands, the enclosed circuits of data exchange of the Amiibo promulgate an informal data pedagogy of assumed safety which may not serve young people as a useful model if deployed in a context where data exchange has wider privacy ramifications. In particular, the relationship of trust, care, and reward that shapes the experience of Amiibo use could create vulnerabilities if young people do not also develop a critical and discerning platform-specific understanding of data sharing; to be able to evaluate who, when, and what to share. This highlights the need for more research on the informal data literacies of children; better understanding of this area could help parents, teachers, and policy-makers develop a pedagogy of data that supports young people from the safe data exchanges of these kinds of crossmedia ecologies to more connected, risky, and data-diverse environments.

Conclusion

Studies of 'postdigital' play have acknowledged that children's play with digital media is increasingly messy and unpredictable. Postdigital play flexibly accommodates physical and digital experiences, leading to imaginative and potentially transgressive practices that "cannot necessarily be predicted before they emerge in the process of play" (Jayemanne et al., 2016, p. 51). Internet-enabled toys such as Nintendo's Amiibos can be seen in a similar light; however, they also point to recent developments in videogame interfaces wherein the 'messiness' of postdigital play is spatially co-opted and accounted for. In this chapter, we have argued for a need in digital games research and crossmedia studies to account for this reciprocal dynamic.

Our analysis of Nintendo's commercial ambitions for the Amiibos - which are laid bare in the advertisements, the in-game content, and the interfacing techniques involved in Amiibo play - reveal that postdigital forms of play are often reincorporated into a branded environment. The

Amiibos naturalise the process of data-collection, generation, and sharing. They expand Nintendo's interface 'envelope' to encompass physical activities that would normally go unnoticed or 'uncaptured' by traditional videogame hardware or software. The Amiibos facilitate an 'ecotechnics of care' wherein the difference between success and failure in videogame play is a product of the amount of 'care' one invests in their Amiibo toy. By extension, the Amiibos also suggest that one's personal data can be endlessly groomed to better accommodate individual tastes and desires, thereby inculcating children in a digital environment where self-governance is mediated through 'user-friendly' software (Chun, 2011). Crucially, these interface 'effects' take place in familiar environments for children - in physical play spaces, with toys and IPs that children recognise, trust, and personally connect with.

However, our analysis of the YouTube videos suggests that children often appropriate and repurpose branded IoT products into everyday play practices. Nintendo explicitly acknowledge the 'challenge' of getting children to treat Amiibos as more just a 'regular' line of toys; to encourage children to develop the necessary connections between software, IP, data, and 'fun'. Interestingly, however, when conducting our YouTube search for videos of children playing with and using Amiibo toys, the majority of videos we encountered portrayed children participating in very prescriptive modes of play. Granted, this could be an effect of the YouTube platform and the types of videos users seek to create, which are now less vernacular and more professionalised (Nansen & Nicoll, 2017). It could also be an effect of parental mediation, in that parents often feature in the videos and provide instructions to children about the 'right' way to play with the toys. However, children in these videos often follow Nintendo's instructions for the Amiibos quite closely, and only rarely play in unintended or unpredictable ways. In a sense, perhaps this illustrates that Nintendo's commercial ambitions for the Amiibos - which have been repeatedly emphasised in advertisements and in-game content - are slowly filtering into the ostensibly 'messy' world of children's postdigital play.

Ultimately, Amiibo and other toys-to-life figurines imply that sharing data is a fun and rewarding play experience. This suggests a need for better understanding how toys that involve the storage and transfer of personal data are experienced and understood by children, and how such playful data practices may translate into wider values and norms of data sharing. While Amiibos data transfer takes place in a playful environment, characterised by trusted iconic figures and multiple small rewards, we need to consider the broader implications of such mundane postdigital play data for shaping children's data literacies.

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