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"It All Feels Too Real": Digital Storyworlds and Ontological Resonance

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"It all feels too real": Digital Storyworlds and 'Ontological Resonance'

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Introduction

Interactive digital narratives are an increasingly prevalent form of contemporary culture. Not only are they multimodal, combining text with image, sound, and/or film, but narratives produced on social media, on the web, in videogames, or in Virtual Reality require that the reader is involved in their construction. Clicking a mouse, following a hyperlink, controlling an avatar, or answering questions, the reader/player has a more active and, potentially, intimate role in and relationship with the storyworlds than in non-interactive texts. While existing research has examined the way in which readers are psychologically projected into storyworlds when they read them, using the results from my empirical research on Blast Theory's app *Karen*, I investigate the reverse experience in which interactive digital narratives create the sense that the virtual world is intruding into or has merged with the actual world. In particular, I show how interactive digital fiction can play with the boundary between reality and fiction to produce what I define as "ontological resonance": a phenomenon in which reading/viewing/playing a fictional work can result in a prolonged response and aura of significance which is generated by perceived bidirectional ontological transfers between the actual world and a storyworld both during and after the experience. As the introduction to this special issue shows, contemporary culture displays a continued interest in the foregrounding of ontological questions paired with a serious interest in the negotiation of ethical questions. Against the backdrop of texts that play with the boundary between actual and fictional worlds in print fiction (see Gibbons in this issue) and other media including film, documentary, advertising, and social media (see Alber and Bell), I suggest that ontological resonance is becoming increasingly prevalent in digital culture specifically. I demonstrate how empirical research can reveal ways in which such ontological uncertainties occur and, crucially, how they are conceptualized by readers. I also show that ontological resonances can be generated by and felt in response to narratives across media.

Digital Culture and Ontological Ambiguity

As digital technology becomes more pervasive, its role in society and its effect on our conception of the "real" is becoming increasingly important, with cultural theory focusing on the way in which digital and non-digital worlds interact or indeed dissolve into one another. Berry and Deiter, for example, suggest that the "historical distinction between the digital and non-digital becomes increasingly blurred" (2) as some societies become "post-digital," a state in which the novelty of digital media has worn off and digital technology is simply commonplace. Collapsing the boundary between the two domains even further, Stimler and Vial propose the concept of "Digital Monism," which is "the idea that the contemporary human world is inseparably digital and non-digital, online and offline or, in obsolete terms, virtual and

real." Relationships can be formed across the internet or face-to-face, for example. From a digital monism perspective, it is irrelevant whether our experiences originate online or offline.

A concern with the ontological uncertainties that digital technologies can create is also apparent in discussions of the contemporary cultural epoch. In debating what is happening in post postmodernism, McHale claims that "the technological power of the new digital media has made virtual realities more pervasive than ever before in human history" problematizing the distinction between virtual and real worlds and leading to "the erosion of ontological stability" (180-1). He thus sees the capacity for contemporary manifestations of ontological ambiguity being enabled by digital media as a significant form of new artistic expression.

In a more extensive examination of the ways in which digital technology has inflected contemporary culture, Kirby outlines the concept of "digimodernism" which he claims "has decisively displaced postmodernism to establish itself as the twenty-first century's new cultural paradigm" (1). Kirby proposes that a cultural change started to take place in the mid-1990s as a consequence of digital technology, resulting in "the digimodernist text" which "in its pure form … permits the reader or viewer to intervene textually, physically to make text, to add visible content or tangibly shape narrative development" (1). Accordingly, Kirby shows that digimodernism can be found across digital media including CGI films, reality television, Web 2.0 platforms, and videogames. Digital technologies, he demonstrates, allow works to be continually updated, edited, or influenced – sometimes by more than one author and sometimes by the reader/viewer themselves. What results is a "group of texts in new and established modes that also manifest the digimodernist traits of infantilism, earnestness, endlessness, and apparent reality" (1). Kirby thus sees the new digital artistic mode as a form of cultural production that both participates in and departs from postmodernism, "wip[ing] out postmodernism's irony" and replacing it with a "digimodernist earnestness" (151). Crucially, his examples show that many instantiations of digimodernism are enabled precisely because of the interactive affordances of digital technology, with the reader/viewer/player/listener's ability to shape the text being a constituent feature.

McHale and Kirby each reflect on the ways in which readers/players/viewers can influence digital narratives of the twenty-first century. Kirby suggests that "a reader or viewer … shapes the development and progress of a text" (51) and thus that they partially determine the course of a narrative and by implication its storyworld. McHale is more explicit about the ontological nature of the audience's involvement in a virtual space, observing that we "project ourselves into cyberspace, adopting the identities of game-world avatars, citizens of Second Life, and other online selves" (180) thus apparently transgressing the boundary between reality and fiction to occupy another virtual self, with the interactive nature of digital technology and its capacity for visually representing the user in a digital space innately enabling the mixing of reality and fiction.

Yet while theorists have investigated the ways in which digital storyworlds, such as those created by videogames or online virtual worlds, can make readers feel as though they exist in those virtual spaces (e.g. Ensslin and Muse), what is less examined is the inverse ontological maneuver and specifically the way in which elements from an interactive digital narrative can appear to exist in the actual world. Of course, fictional entities cannot really cross the ontological boundary to become part of the actual world because this is completely impossible.

However, such ontological impossibility is precisely what some readers experience in their encounters with some contemporary interactive digital narratives.

In what follows, I report on my empirical research on interactive digital narratives and readers to show how ontologically transgressive effects manifest in the short and long term. I use Blast Theory's app-fiction *Karen* as a case study, but argue that this effect occurs across fictional interactive digital narratives as well as in some narratives in other media. I propose the new concept of 'ontological resonance' to explain the way that fictional elements are appear to move from the storyworld to the actual world and which take place both during and after reading/playing. I suggest that ontological resonance is used in *Karen* to explore concerns about online anonymity, privacy in the digital sphere, and the ontologically ambiguous nature of computer-mediated relationships. It thus comments self-reflexively on digital technology itself while remaining an immersive and affecting experience for those that interact with it.

"It all feels too real"

Karen is an app-fiction for smartphones published by Blast Theory in 2015. The app uses full motion video and interactive interface elements to construct a storyworld around protagonist Karen, a middle-aged British woman, who is assigned as the reader's life coach[1]. Over the course of eight days, readers receive seventeen short videocalls from Karen in which she directly addresses the reader, giving the impression that the reader and Karen are in dialogue. In each call, she divulges information about herself or else gathers information about the reader by asking her/him questions and requiring her/him to input text or select an answer from a number of onscreen options. The entire *Karen* experience relies on the reader being in a serialized conversation with Karen and, if the reader misses a scheduled interaction, they receive a text message notification from Karen to say so, each signaling varying degrees of familiarity: e.g. "I'm ready to get going when you are"; "Erm, yeah, we should do a session."

The app is classified as "Entertainment" on the Apple and Google Play app stores, offering a paratextual clue as to its fictional status and, as I show below, the app's ironic style also indicates fictionality. However, there are various devices in place which work to make this experience feel authentic. First, the interaction takes place on the reader's smartphone or tablet and thus on a device with which they will likely take part in the digital communicative methods that the app exploits in their daily life. The use of the full motion video feels like a real Skype or FaceTime call and the notifications mirror messages that readers would receive from any other app and appear alongside notifications from real people such as text messages or emails. Thus, the Karen experience exploits and blends into the user's everyday interaction with their mobile device, playing with the distinction between reality and fiction via its medium-specific affordances.

While the narrative relies on technological devices that feel familiar, Karen as a character feels very much overfamiliar. In our first encounter with the app, Karen walks through a street and up some stairs into her flat. She looks into the camera and says enthusiastically "I'm looking forward to getting to know you" with the use of a second-person address directed at the reader. However, she undermines her authority as our life-coach by adding "a bit nervous." The first question that Karen asks the reader to respond to is prefaced with "I am knackered" which is an over-familiar and perhaps inappropriate

declaration in a professional life-coaching session. One of the answers from which the reader can choose – "This feels weird" – also pre-empts what they might be feeling in response to Karen's informal and overfamiliar style.

As the *Karen* narrative progresses, readers are asked to give more information about themselves such as their personal goals, the names of people special to them, and the way they feel about their lives. In the tenth episode of the serial, a character called Dave (Karen's roommate) begins calling readers – initially without Karen's knowledge – in order to undermine the apparent confidentiality of the coaching process and admit his romantic feelings for Karen. Karen meanwhile becomes increasingly erratic as she crosses more personal boundaries, by asking us to help her with her dysfunctional relationship with Dave. In the last interaction, and without warning that the narrative is about to end, readers see Karen's empty flat with her belongings removed, as though she never existed or else she has left never to return. However, she has taken with her all of the reader's responses to her questions and thus any personal information that they have been coerced into giving.

While the *Karen* app is intended to give a semblance of authentic life-coaching, Karen's incompetence and inappropriate behavior as a life coach as well as the humor elicited by the multiple-choice responses that readers are offered show that it is not. Karen is not real and, because the actor playing her is performing a script, the reader cannot interrupt or guide the conversation as we would in a real conversation. However, the familiarity of the linguistic interaction, the way in which Karen responds to the reader's input, and the accustomed conventions of digitally mediated communication on which the app relies all combine to make the experience feel uncannily real for some readers. Indeed, some app-store customer reviews of *Karen* show an interplay between what people know is a fictional experience and what appears to be a real interaction. One review reads: "Immersive, Interactive, Unique mixed-reality game, feels real, has a lasting impact" (Apple Store 2015). The reviewer gives the app the maximum five stars and the positive evaluation is thus at least partially based on the fact that the experience "feels real." Another five-star review is entitled "It all feels too real" as though there is an uncomfortableness about the level of authenticity they have experienced, even though they also state that they "loved it" (Google App Store 2015).

The Empirical Method

In order to explore the way in which *Karen* plays with ontology, I undertook an empirical study of the app in 2017 as part of the Reading Digital Fiction project.[2] The study aimed to investigate responses to interactive digital narratives that play with the boundary between reality and fiction. The research methodology is situated within and contributes to the emerging paradigm of reader response research in stylistics which, as Whiteley and Canning explain, is "characterised by the application of … [reader response] datasets in the service of stylistic concerns in order to contribute to a stylistic textual analysis and/or wider discussion of stylistic theory and method … [and] enables the testing and development of stylistic methods and theories" (73). What distinguishes reader response research in stylistics from other forms of empirical literary research therefore is both the commitment to close textual analysis – be that the primary text and/or the reader data – and the use of reader-response research in the development of stylistic theories, methods, and analyses.

The empirical study involved 20 participants (32-76 years of age) who were members of five established book groups in the North of England in the UK. Participants were each asked to experience *Karen* individually and then meet up in their respective book groups to discuss it. In terms of media experience, all participants read fiction on a regular basis and were competent smartphone users. Very few of the participants played computer games regularly. Only two participants declared that they had read a digital fiction app before, but app-store reviews of *Karen* indicated that very few people had experience of this kind of fiction before they encountered the app either. The digital reading experience of the participants thus matched that of the more general *Karen* app audience.

The study was designed as a "naturalistic" (Swann and Allington) empirical study which seeks maximum ecological validity by always presenting texts in their original form, using readers' discussions about texts in their usual environment – typically a book group at someone's house or café, or online discussion –, and using minimal researcher intervention (i.e., the researcher is not present during the discussion). The participants were given relatively modest and unobtrusive instructions in terms of what to discuss in order to reassure them that I was not looking for any right or wrong responses. I expected that participants would comment on the protagonist Karen, but since the study aimed to elicit responses about the ontologically intrusive nature of the app, participant instructions explicitly invited them to discuss: "the story experience as a whole (i.e., the story itself and also the experience of experiencing the story on a mobile phone); the main character Karen; their relationship to Karen; and anything else they would like to talk about."

Because of the discursive nature of book groups, naturalistic studies generate verbal data that is almost always analyzed via qualitative methods (e.g., Peplow et al., Bell et al. "Immersion"). In the *Karen* study, the book group discussions were audio recorded and then subsequently transcribed. The datasets were coded for emerging themes using NVivo, which is a software package that facilitates qualitative data analysis, with data within relevant themes subsequently analyzed linguistically. In terms of the methodological approach to the data, I draw on Bortolussi and Dixon's psychonarratological distinction between "reader constructions", which are "subjective and variable mental processes" (37) as responses to the text and "textual features", which are "objective and identifiable characteristics of the text" (37). I argue that analyzing reader's verbal reports as expressions of "reader constructions" about a particular text can show empirically how that narrative has been experienced and conceptualized and thus how particular textual features in the text are responsible for that experience (cf. Bell et al. "Reader"). In the *Karen* study, the result is an empirically grounded understanding of the relationship between readers and an ontologically playful and ambiguous storyworld that is created by an interactive digital narrative.

Reader Constructions and Textual Features

While participants liked or disliked the *Karen* app as an overall experience to varying degrees, almost all of the participants in all five reading groups spent time discussing their reactions to the character Karen. Typical responses were that Karen was "unprofessional" (Elaine, B, 294) but others noted her poor emotional state, describing her as "unhinged and desperate" (Laura, A, 609), "a bit of a train wreck" (Lily, E, 3), and "[in] many ways […]

quite painful to observe" (David, D, 13).[3] In David's testimony, he uses the verb "observe" to describe his interpersonal relation with Karen, an expression that implies separateness from her actions. His use of the simple past tense "was" also implies that his relation to Karen took place in the past and that it is no longer happening. Other participants, however, felt like the relationship was much more emotionally charged and temporally contemporaneous. The discussions between the five participants in Group A were particularly significant in this respect. Annie, for example, states "I was involved […] even though she's weird" (A, 311-3). Not only does Annie explicitly declare her emotional involvement with Karen but her use of the present tense 'she's' suggests that Karen still exists. While Annie uses the past tense "was" to describe her interactions with Karen, the present tense copula shows that Karen is conceptualized as still existing with an enduring "weird" trait.

Laura felt a very strong emotional responsibility for Karen, experiencing feelings of guilt about their own behavior in relation to her, stating "I actually started to feel responsible for her unravelling" (A, 487-8). In this case, the interactive function required of Laura – in terms of her having to respond to Karen's questions and appeals for help – causes a significant feeling of unease. Even though she knows that the experience is fictional, Laura feels a strong emotional burden with her use of the adverb "actually" suggesting that this response is surprising to her.

The discussion about the relationship with Karen continued throughout Group A's conversation with some discussion implying that it felt strangely real. Heather reports what she describes as a "weird" (439) instance in which she was at home with her partner late at night, in their bedroom when Karen called. Karen asked her whether she was alone and Heather remarks: "it felt really like- it felt like somebody was prying on something" (448-9). Heather's feeling of being watched and invaded is related to the fact that she was interacting with the *Karen* app in a very private space - i.e. her bedroom - with her partner present. Her use of the verb 'prying' implies that she felt Karen was too closely involved and therefore the interaction was inappropriate. However, her response also implies that she felt as though Karen had been present in her personal space and thus in her actual world.

In addition to commenting on their synchronous interactions with Karen, some participants also indicated that their affective responses had a greater longevity. Laura, for example, reports that her connection to the fictional world continued in-between episodes, remarking that "I was sort of thinking about it in-between actually" with fellow group member Annie also agreeing (A, 314-5). Others in Group A reported talking to Karen when they were not interacting with the app:

> Nancy: Yeah, cause I mean when I'm at work I'm like- //Karen, come on (hahahaha)
> Annie: // (hahahahaha)
> Kim: You not bothered about me anymore? (A, 390-3)

In this example, Nancy anticipates the video call from Karen and Kim uses the second person "you" to address to Karen, joking about being rejected by her as though she exists.

Of further significance is the fact that some participants felt nostalgic about Karen after the entire narrative was over. Nancy declares that she "felt a whole host of emotions, if I'm

being really honest" (1376-7) but she also tentatively admits: "I miss her hahaha" (1379). The rest of the group then respond:

Annie: (shouts) YES!

Nancy: // Oh my god!

Annie: // Yeah, yeah

(laughter from all) (1380-4)

Analyzing the language used by Nancy in particular, she notes using the past tense that she "felt a whole host of emotions" when she was interacting with the app, but she then shifts temporally in to the present tense using "miss" to describe the way she feels now. The use of the simple past here implies that the feeling persists and also implies that Karen still exists somewhere – that it is the relationship that is gone, not Karen. Other participants concur enthusiastically with this sentiment, indicating that they also feel the same.

Finally, two participants from two separate groups explicitly remarked on the way in which Karen and/or the fictional world was intrusive. Jennifer, for example, states "I just felt it was like somebody was actually interfering in my life" (C, 114) and thus explicitly attributes responsibility to the fictional character Karen for "interfering," a verb which implies an undesirable presence. In an evaluation of the Karen app towards the very end of their discussion, Group A note a similar feeling:

Kim: It came into your life
Nancy: Yes
Annie: Yeah, whether you liked her or not (A, 1488-1490)

Kim uses the spatial deictic verb "came" which indicates that the actual world forms the proximal center of her experience with "it" - a pronoun which refers to the experience as a whole - moving into that domain. Nancy and Annie both agree with Annie noting that Karen's presence was non-negotiable. Importantly, Jennifer and Kim use the prepositions "in" and "into" which both invoke the spatial metaphor of life-is-container. This conceptualization implies that their lives represent a physical space that other entities - a fictional character or a narrative experience in this case - can also occupy. Notably, both of these particular examples of metaphor show that the intrusive experience occurred in the past so that participants no longer feel, at the moment of reporting, as though Karen is involved in their lives.

The "reader constructions" gathered from the app-store reviews and the reader response study show that some readers felt as though the *Karen* experience was real even though they knew it was not. This is expressed either explicitly in the app-store reviews in terms of the experience feeling real, when the reading group study participants missed or talked to Karen outside of the app, when Karen's presence feels inappropriate for participants, and in the container metaphors used to describe the experience overall. It is also expressed implicitly as

evidenced by grammatical constructions, such as present tense verbs and second-person address, which suggest that Karen was conceptualized as still existing either during or after the narrative experience. Both the online reviews and the reading group data show that the ontological impossibility of that feeling is part of the reason that the app is enjoyable if not uncomfortable at times.

Yet while these are genuine and authentically felt responses to Karen, the participants also know that Karen is fictional and she thus cannot communicate with readers in the actual world because ontologically she is a fictional character that is constructed as part of a fictional narrative. In terms of mapping the ontology of the interaction, textual features are present which show how readers are given the impression that they are communicating with a fictional character who is ontologically distinct from them. Karen's consistent use of the second-person is particularly important in terms of her face-to-face conversations with readers, text messages, and interactive multiple choice questions. She addresses readers throughout using "you" and asks them to respond to questions interactively. This places them in what digital media theorist Espen Aarseth calls "a cybernetic feedback loop" with the text/machine in which "information flow[s] from text to user" via the modes of representation the text deploys "and back again" (65) via the interactive functions the reader can perform. The multiple choice questions are an important example of features that create a cybernetic feedback loop: if readers want to continue through the text, they have to respond to Karen's questions, but if they do so they implicitly become the "you". In particular, readers are maneuvered into a relationship with the "you" commonly found in digital media that Jill Walker defines as "forced participation" in which it is impossible for the reader to continue through a text without physically performing the actions suggested by the text – in this case that would be one of the possible multiple choice answers. They are embodied as the "you" in the text through their interactive role: the ontological distinction between the actual and fictional world is breached by those linguistic and interactive features working together.

Readers, Cognition, and Ontological Instability
In order to account for the ontologically intrusive feeling that some interactive digital narratives, such as *Karen*, generate, I propose a new concept – ontological resonance – which augments existing cognitive narratological models which are based on a unidirectional transportation into a storyworld[4]. Primarily, I synthesize insights from Peter Stockwell's cognitive aesthetics of reading, which he uses to account of the ways in which print literature generates felt, embodied emotional responses in readers, with videogame research into "Game Transfer Phenomenon" (Ortiz de Gorari) to account for the cognitive effects of ontologically ambiguous interactive digital narratives.

As a central part of his cognitive poetic framework, Stockwell proposes the concept of "literary resonance" which he defines as "the way in which reading a literary work can create a tone, an atmosphere in the mind that seems to persist long after the pages have been put down" (17). In particular, Stockwell focusses on emotional resonance which he defines in terms of a literary work's capacity for generating "the dual *process of a prolonged response and an aura of significance*" (18). Emotional resonance is a state, he claims, in which readers feel the emotional effects of reading a particularly affecting work which can be "revivified

periodically after the initial experience" (17) and which starts with "an initially intense moment followed by interference, damping, and decay or persistence" (19).

In explicating the cognitive mechanics of literary resonance, he draws on empirical research (Gerrig, cf. Green et al.) which shows that readers often utilize the reading-is-transportation metaphor to talk about their reading experiences. He thus suggests that reading involves a psychological projection into a storyworld. Yet Stockwell notes that the transportation model of reading, on which many narratological and stylistic world-based theories rely, does not adequately address all aspects of reading, arguing that "the most affecting moment along the transportation metaphor is the moment of return, where the physical text is closed and emotional resonance begins" (93). He thus suggests that while the transportation metaphor effectively models the immersive nature of some reading experiences, it cannot account for the emotional effect of those experiences. To account for the apparent shortfall of the transportation metaphor, Stockwell draws on a reading-is-investment metaphor which conceptualizes reading both in terms of the currency invested – "e.g. time, emotional attachment, intellectual effort" (94) – and also the emotional return on that investment which he sees as empathy. Literary resonance is therefore a way of accounting for prolonged emotional responses that readers experience when they read a particularly affecting literary text.

While Stockwell focusses on empathetic responses to poems and novels published in print, the investment metaphor is particularly pertinent in the context of interactive digital narratives because of the collaborative nature of the text. The reader of digital narrative has to invest by being an active participant (e.g. by choosing hyperlinks, responding to questions on screen, etc.) and so in their contributions have an effect on that fictional world. In some of my empirical data above, while readers do not specifically comment on feeling empathy for Karen, there is evidence of emotional investment in terms of readers feeling "involved," "responsible," and also missing Karen.

Emotional resonance can be used to account for some of the emotional responses in the *Karen* data, but it does not account for the ontological effects that some of the readers felt and particularly the conflicting sensation that Karen feels real even though readers know she is not. Alderson-Day et al.'s empirical study on print reading provides data to show that readers do re-experience fictional encounters after reading a text. They identify a phenomenon they call "experiential crossing" in which "characters and voices [are] experienced outside of the context of reading" (106) and which was "in some cases […] described almost as an echo of prior reading experiences, with auditory imagery re-emerging in a particular context or scenario, but in other accounts it appeared to shape the readers' style and manner of thinking – as if they themselves had been changed by a character" (106). Experiential crossings, as the terminology suggests therefore, are experiences that influence readers' behavior or thinking in the actual world as opposed to accounts of ontologically ambiguous encounters with or reflections on storyworlds and characters. Importantly, however, they note that the participant reports of experiential crossings "suggest a certain kind of rebound, in which fictional agents and worlds are activated in real-life scenarios" (106) with their use of the term "rebound" framing their concept in language which, like Stockwell's use of "resonance", acknowledges the reverberating nature of evocative fictional experiences.

In the context of digital media, empirical research on videogames within cognitive psychology has identified Game Transfer Phenomena (GTP) as "the transfer of experiences from the virtual to the physical world that can manifest as altered sensorial perceptions, sensations, automatic mental processes, behaviours and actions with videogame content)" (Ortiz de Gorari 6). Examples of phenomena that are ontological in nature include: hearing a sound or seeing an image from a videogame when not playing; mixing up videogame events with events in the actual world or wanting to use videogame elements in a real life context; and avoiding locations or objects in the actual world because they have connotations via exposure in a videogame. In a study of over 2,200 videogame players, 96% of respondents had experienced some form of GTP (13).

Like Stockwell's literary resonance and Alderson-Day et al.'s experiential crossings, GTP usually occurs after contact with the game has occurred. However, unlike the other two concepts, GTP "typically last for a very short time (second or minutes)" (12). The transfer of experiences from the virtual to the actual world thus do not normally linger either consistently or intermittently. In terms of ontology, as a phenomenon that can involve misperceptions and hallucinations, players that experience GTP can sometimes confuse it with the actual world, if only momentarily. This stands in contrast with emotional resonance and experiential crossings which are experienced as a response to an ontologically separate fictional world – albeit one that generates empathy and/or thus feels personally relevant in the actual world.

Ontological Resonance

Returning to the readers' experience of *Karen*, the data above shows that some readers of *Karen*, like some players of videogames, experience a sense of ontological ambiguity. Importantly, unlike in GTP, the readers of *Karen* know that Karen is not real. However, the impossibility of the experience is part of the pleasure they derive from it. Stockwell's theory of emotional resonance, unlike GTP, accounts for the way in which reading can lead to a "*prolonged response and aura of significance*" (18). Some readers of *Karen* feel as though Karen has entered their lives during, in-between, and after exposure to the app, as though the actual and fictional worlds have merged, and this is a feeling that can linger. Stockwell's theory of resonance also emphasizes the reverberations that occur between worlds, with readers moving back and forth between them. Readers are transported into a storyworld but elements of that world are transferred back into the actual world. In Stockwell's account, resonance is purely emotional, but the readers' experiences of *Karen* show that resonance can also be ontological too.

To account for the way in which *Karen* feels real for participants both during and after the experience, I define "ontological resonance" as: the way in which reading/viewing/playing a fictional work can result in a prolonged response and aura of significance which is generated by perceived bidirectional ontological transfers between the actual world and a storyworld both during and after the experience. The term "resonance" accounts for the way in which each world impacts on the other; readers are transported into a storyworld but because they return to the actual world bringing the ontological authenticity of the experience with them, elements of the experience are transferred into the actual world. As in Stockwell's account, therefore, my new concept acknowledges the part that transportation

plays in generating resonance, because readers have to be transported into a world in order for elements of it to be brought back into the actual world. It recognizes both the blurring of fiction and reality that can happen in texts that play with the boundary between reality and fiction but also the prolonged felt effects of those ontologically transgressive texts. As with Stockwell's emotional resonance, ontological resonance generates a prolonged response. While an aura of significance is generated in emotional resonance by the reader's empathic response to the text, ontological resonance's aura of significance is generated by the apparent impossibility of the experience. Like Stockwell, the theory of ontological resonance recognizes that there will be "an initially intense moment followed by interference, damping, and decay or persistence." Readers of *Karen* may feel as though Karen is real while reading, in-between episodes and afterwards but this feeling can also degenerate. Evidence of this degeneration can be seen in the data when participants use past tense verbs in relation to the life-is-container metaphors which implies that the ontological resonance occurred in the past.

As the analysis of textual features above shows, ontological resonance in *Karen* is at least partially generated by the fact that readers have an active role in that storyworld; they are addressed using the second person "you" and they have to make decisions by answering the protagonist's questions. However, ontological resonance is also achieved because readers interact with the protagonist on a device that already belongs to them (i.e. their smartphone) and on which they will also talk to actual world individuals such as friends, colleagues, or even life coaches. Unlike second person narratives published in print that appear to address the reader directly, the Karen app is phenomenologically anchored to an object that already belongs to the reader and which facilitates communication in the actual world. *Karen* thus potentially ambiguates the ontological status of all communication which takes place on that device. In addition, *Karen* shows how the ontological origins of storyworld elements affect the extent to which ontological resonance occurs, with ontological resonance more likely to happen in texts which commandeer material artefacts from the actual world to construct their fictional domains.

This article has used the app-fiction *Karen* as a case study, but other narratives across media can also generate ontological resonance. In Naomi Alderman and Rebecca Levene's location-based interactive narrative *Zombies, Run!*, for example, users listen to an immersive audio drama on their smartphone as a soundtrack to their run. The narrative invites them to imagine that the actual world is part of the fictional Abel Township, with world-building elements either sufficiently vague to allow the player to associate descriptions with themselves or associate the landscape described in the audio with what she/he can see in the actual world. Once each story mission is complete, the runner can click on an in-app map which shows their route in the actual world and the fictional artefacts in an inventory that they have collected on their mission.

Zombies Run! as well as other location-based interactive digital narratives such as the augmented reality mobile game *Ingress* (Niantic) and the app-fiction *Jellybone* (Pullinger) are likely to cause ontological resonance because they incorporate physical locations in the actual world into their storyworlds in real time. Ontologically, therefore, the actual world appears to blend with the fictional world. Indeed, as Ben Bunting notes in relation to his own experiences of location-based mobile gameplay, "after the game is over, … resonances remain with the player, effectively mingling gameplay with everyday life" (161). While

Bunting uses "resonance" in a colloquial sense (as opposed to invoking Stockwell's or my use of the term), his observation that location-based media can mix reality and fiction echo my theory about the ontological resonance of interactive digital media.

In addition, ontological resonance can occur during or after audiences experience non-digital media. Immersive theatre performances use actual world locations as the basis for their performance (see Gibbons "Building"). Tourists who visit locations such as New York City go on *Sex and the City* tours because they want to imagine that they are going to the same bars as protagonist Carrie Fisher and her friends. A reader of print fiction might choose to read a book when travelling that is set in the location that they are visiting so that it feels more ontologically resonant. In interactive digital media, ontological resonance is strongest because readers have some agency in terms of the interactive role they have in the text and because digitally mediated communication can ambiguate the ontological status of participants in general. However, I suggest that this is a difference in degree rather than in kind, with interactive media generating what I define as active ontological resonance and non-interactive media generating passive ontological resonance.

Conclusion

This article has provided empirical evidence for a phenomenon that was not previously captured in existing theory and which I define as ontological resonance: the way in which reading/viewing/playing a fictional work can result in a prolonged response and aura of significance which is generated by perceived bidirectional ontological transfers between the actual world and a storyworld both during and after the experience. I have shown that in order for ontological resonance to occur, readers are initially transported to a storyworld. In the reader data above, participants that describe feeling involved with, responsible for, or missing *Karen*, show explicit evidence of emotional immersion (Ryan). Spatial immersion will be responsible for the ontological resonance experienced in the narratives that I mention above which utilize geographic locations. However, all readers that experience ontological resonance will experience immersion in some form.

The immersive element of ontological resonance is significant because interactive digital narratives have previously been found to block immersion, because the interactive function required of the reader draws attention to the constructed nature of the storyworld (cf. Bell *Possible*, Ryan). *Karen* does use self-reflexive narrative elements; readers have to select responses from the user interface and some of the multiple-choice responses display a level of irony which draws attention to the fictional nature of the narrative. However, self-reflexivity in this case does not prevent readers from becoming immersed. Ryan suggests that "the key to immersive interactivity is ... [when] the participant's verbal contribution[s] ... count as the actions and speech acts of an embodied member of the fictional world" (209). My reader response research has found empirical evidence for this conjecture. Immersion and subsequent ontological resonance are achieved in *Karen* precisely because readers feel as though the storyworld and the actual world become part of one another, ontologically resonating. If, as the theorists at the beginning of this article claim, the boundary between the actual world and digital worlds is becoming increasingly unstable, digital narratives are more likely to achieve immersive interactivity. However, as all kinds of interactive digital narrative become more ubiquitous, empirical research is vital for understanding how these new kinds

of texts operate and, crucially, how they are experienced. Without empirical research to capture authentic reader responses of narratives across all media, the true nature of a narrative experience can be lost or else inaccurately theorized.

In terms of the thematic message of *Karen* and its place in contemporary culture, it is because the boundary between the actual world and the storyworld is destabilized that Karen's unexpected departure at the end of the narrative feels so affecting. Readers have bonded with Karen, sharing experiences with her and giving her guidance. I argue, however, that the digital technology through which we interact with *Karen* is the very thing this interactive digital narrative teaches us to be cautious about. It models and potentially problematizes the way in which we might readily give out personal information about ourselves in digitally mediated communication to people we do not know or whose ontological status is unclear. Reality is shown to be an inevitable mixture of the actual and the virtual, with *Karen* foregrounding the way that we might casually communicate across and with digital media in what might one day prove to have unexpected consequences. On the one hand, this shows the way in which we can form strong human connections across what may or may not be ontological boundaries; digitally mediated interactions can be just as poignant and feel just as significant and "real" as those that take place outside of that context. On the other hand, *Karen* shows the way in which digitally mediated relationship can be abused. After all, the requests we get for personal information online are sometimes "fictional" in so far as they can come from fake sources (e.g. phishing; unauthorized data mining). In *Karen*, ontological boundaries are breached, but it is personal boundaries and access to our own world that proves to have the most significant consequence for the reader. The work thus explores the potential changes in our perception of reality, and the new ontological encounters, ambiguities, and uncertainties that digital worlds can create.

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[1] I use the term "reader" to describe the person who interacts with the *Karen* app. While there are ludic, interactive elements in the text that make it game-like, the term "reader" is meant to capture "reading" in the generic sense of the way that we "read" text, images, sounds, and interactive interface elements.

[2] Reading Digital Fiction was funded by the Arts and Humanities Research Council in the UK (Funding Reference: AH/K004174/1), www.readingdigitalfiction.com

[3] All names are pseudonyms. Letters refer to the group and numbers to the line number(s) in the dataset. The underlying data can be accessed at: http://shurda.shu.ac.uk/id/eprint/60

[4] Some rhetorical narrative theory does not link fictionality with worlds, instead preferring to frame fictionality as "neither a boundary between worlds, nor a frame of dissociating the author from the discourse, but a contextual assumption by the reader, prompted by the manifest information that the authorial discourse is offered as fiction" (Walsh, 36) (see also Polvinen in this issue for a critique of world-based theories). As Stockwell argues, however, empirical studies on reading have shown that readers' colloquial understanding of fiction often builds on the assumption that a text describes a fictional world that is separate from - albeit based on - the actual world. Some of the empirical evidence from my study also suggests that readers perceive Karen as existing in an ontologically distinct world. I thus take a world-based approach in order to model ontological ambiguity (cf. Gibbons in this issue).