

Embodied dwelling: The ontology of objects in *Pokémon GO*

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Abstract

The actions of making trails and wandering along them have long been limited to just a couple of realms: either they have existed in media such as games, in the imagination, or they have taken place in the physical world. This article is a speculative engagement with the metaphysics of the mobile phone-based augmented reality game Pokémon GO, which combines the physical and digital worlds into a unified experience of embodiment, movement and play. It considers the nature of the embodiment experienced by Pokémon GO players, and their relationship to the spaces and places in which they dwell during and after play – simultaneously in both the real world and the virtual game world of Pokémon GO. Both worlds offer the opportunity to experience different instantiations of the same space, in the sense that the digital world recreates aspects of the physical world and, in so doing, fuses and entangles them. Pokémon GO is an interesting case study because, unlike many other digital games, it enforces physical movement through the real world as a mechanic of gameplay. It is also a wildly popular game that builds upon similar mechanics of the forerunner game Ingress by the same publisher, Niantic. Embodiment is positioned alongside the notion of dwelling as a distinct practice of attunement to and engagement with the world – as a turning towards the world through the use of devices that reveal hidden digital features. Additionally, the article explores the ontology of objects within the game, plus the mobile devices used to access the game world, both of which operate to distinguish the game world from the underlying ‘real’ world. These objects are positioned as ‘mediators’, after Latour’s actor-network theory (ANT). Their role is described as boundary markers and access points between the digital and physical.

Keywords: dwelling; fictional objects; mobile games; Niantic; *Pokémon GO*

Introduction

The act of carrying a mobile phone device in the hand has become nearly ubiquitous in much of the world – both in wealthy countries where mobile phones are status symbols used for leisure and in poorer nations where lack of access to stable landline networks makes them necessary for communication and coordination. Such devices are connected wirelessly to numerous others: the towers that provide network access; contingent devices such as smart watches and bodily activity trackers; and global positioning satellites. They are mediators between an individual and the world, connecting, tracking and positioning

the human body in relation to any number of other objects and humans. This article explores the nature of a particular version of such positioning through the case of *Pokémon GO*, a wildly popular smartphone-based videogame by Niantic that makes use of augmented reality features (Giddings, 2017; Sicart, 2017), a wealth of data generated by players of predecessor game *Ingress* (Jin, 2017) and players' real-world location and movement (de Souza e Silva, 2017; Licoppe, 2017).

Pokémon GO was released in mid-2016 in countries around the world in successive waves (although it is not yet available globally). The game deploys the decades-old transmedia entertainment franchise Pokémon – short for ‘pocket monsters’ – in which the central characters capture, collect and train animals who are capable of rapid evolution to entirely new forms. The mechanics of this central concept mimic the childhood experience of collecting insects of creator Satoshi Tajiri (*Time*, 1999; Keogh, 2017). Although *Pokémon GO* is the first game in the franchise to require players to physically move around the world, exploration and movement have always been central features of the Pokémon games and related media. It was also important to *Ingress*.



Figure 1: Features of the Pokémon Go gamespace

Players of *Pokémon GO* have a number of goals towards which they work, although progression does not come from the linear conquering of particular challenges or levels, as in many other videogames. Rather, players can focus on any of the following: the widely known creed ‘gotta catch ‘em all’, meaning to discover, capture and evolve all the possible creatures; powering up or strengthening particular Pokémon; capturing and holding ‘gyms’, which are prominent in-game structures attached to significant real-world locations; or collecting objects of use in the game through visiting smaller in-game structures known as Pokéstops. In Niantic’s earlier successful game *Ingress*, players nominated themselves to opposing teams whose

essential goal was to 'capture' landmarks around the world. Data generated by players of *Ingress* have been re-used in *Pokémon GO* to site gyms and Pokéstops.

The movement inherent to gameplay in *Pokémon GO* is an embodied, physical experience that is mediated and layered by digital objects and spaces. While some scholars (e.g. Moores, 2012) contend that all media use is embodied, augmented reality games such as *Pokémon GO* are among the only media that actually *require* bodily movement through space and the landscape. *Pokémon GO* furthers this relationship between digital and physical aspects of the world by infusing its gamescape with real-world objects and locations, and marking up those locations as in-game resources. Thus the game engenders a peculiar form of digital–physical entanglement. Given these unusual modes of existence and interaction, there is a need for examination of the relationship between the game and players' 'lived experience of being-in-the-world' (Keogh, 2017). This article does so by contextualising the playing of the game as a mode of dwelling, in the Heideggerian sense (Heidegger, 1996). As argued by Evans (2015, p. 62), 'We dwell by attuning ourselves to the local world, and this attunement must be an attuning to things in that locale.' As such, dwelling necessarily enrolls nearby objects and those with which users engage in the course of gameplay.

The mobile devices used by all players and the game objects of gyms and Pokéstops act as the core objects that mediate between the two worlds, constructing and enforcing entanglement between them. This article accounts for the presence of those objects by describing them, following Latour (1993, 1999, 2005), as mediators. Mediators are 'actors endowed with the capacity to translate what they transport, to redefine it, redeploy it, and also to betray it' (Latour 1999, p. 81). In this article, we argue that physical mobile devices and in-game objects act as mediators, which redefine and redeploy aspects of the digital and physical worlds into each other's worlds. They both allow and restrict interaction between distinct spaces through human players of *Pokémon GO*.

Dwelling in *Pokémon GO*

Phenomenologist Merleau-Ponty (2012, p. 147) argues that the body is 'our means for having a world'. Taken in this way, the body can be seen as a medium through which the world is experienced, and in which experience of the world occurs, a position also supported by Evans (2015). Yet merely describing the body as a means of being located in the world does not draw near to what Heidegger intends to mean by either his compound term '*being-in*' or *dwelling*. Dwelling is a more deliberate act, which Evans (2015, p. 61) describes as 'attunement to the world that allows for a poetic revealing of place'. This 'attunement to the world' is dependent upon attunement to objects and things nearby, and also to one's willingness or interest to turn attention to those objects, and draws attention to the relationship between the body and the location in which it resides. The various goals of *Pokémon GO* (described above) require players to pay attention to the spawning of Pokémon nearby, and to locate and access the in-game structures of gyms and Pokéstops. In this sense, they are attuned to the world.

Ingold (1993, p. 52) extends the notion of dwelling beyond the human body to the world, noting that 'landscape is constituted as an enduring record of – and testimony to

– the lives and works of past generations who have dwelt within it, and in so doing, have left there something of themselves’. Within *Pokémon GO*, players view themselves as avatars that move along a map, which mimics the features of the physical world around them. Real landscape elements such as streets, waterways and other features are represented in *Pokémon GO* through mapping data drawn primarily from Google Maps. This is combined with the location-specific data from *Ingress*, which marks out digital play spaces of Pokéstops and gyms. The players’ digital extension of themselves, their avatar, tracks their own movement at walking pace – or runs when the player’s body moves above a certain speed limit, as when they are in a moving vehicle. This induces a sense of entangled digital-physical embodiment, in which a player is manifested in both the physical world and the digital world of the game. Low (2009, p. 22) notes that ‘place and space are always embodied. Their materiality can be metaphoric and discursive, as well as physically located, and thus carried about’. The avatar’s movement within a world that repeats the observable patterns of the player’s own – albeit mixed with additional elements such as Pokémon – introduces a dual embodiment in which the digital and the physical are inextricably linked. Such embodiment is an element of orientation towards the world, which underpins dwelling, in that both player and avatar are dually oriented in relation to the space around them – either in the physical world or in a map. In Heideggerian terms, orientation (looking) is necessarily toward external phenomena, which are both made and known in the act of orientation itself. Thus orientation becomes a mode of ‘independent dwelling together with beings in the world’ (Heidegger, 1996, p. 59). Therefore, our understanding of relational orientation toward the world is a mode of *dwelling-in-the-world*.

The essential notion of dwelling that we describe here is a dwelling-in-the-world dependent upon digital media in general, and the technologies employed in the making and using of *Pokémon GO* specifically. Moores (in Couldry and McCarthy, 2004, p. 32) argues that ‘place, and experiences of being-in-place, can be pluralized in and by electronically mediated communication’. In making this argument, Moores draws upon Scannell’s suggestion that place can be ‘doubled’, allowing media users to be in multiple places simultaneously. Although his examples are drawn from media used for communication at a distance (television broadcasts, internet forums, mobile telephones), it is our contention that media can account also for places where a user is physically present. For example, Evans (2015) argues that individuals can understand place as an orientation of the self to place as mapped by fellow users of location-based social network sites. The effect of this orientation is to bring together digital and physical manifestations of the same place, allowing a doubling of place upon itself rather than conjoining distant places. Similarly, Gordon and de Souza e Silva (2011, p. 1) observe that a city ‘contains annotations and connections, information and orientations from a network of people and devices that extend well beyond what is [visible]’. This doubling process facilitates the sense of dwelling we detect in *Pokémon GO*.

Given the required movement through space already described, the playing of *Pokémon GO* is an act that occurs almost necessarily in public, by which we mean with other people. Both Heidegger and Foucault suggest the daily lived experience of interaction with others as a way of being and, importantly, as a way of asserting

existence. In *Being and Time*, Heidegger (1996, p. 339) argues that ‘Everydayness is a way to be – to which, of course, public manifestness belongs’. Everyday presence, then, exerts itself in ‘the being-with-one-another of publicness’ (1996, p. 339). In other words, it is a way of being that can only exist in relation with others. Foucault (cited in Elden, 2001, p. 116) also understands space/place as a relational concern: ‘This problem of the human site [*l’emplacement humain*] is ... that of knowing what relations of proximity, what type of storage, circulation, mapping [*reperage*] and classification of human elements should be adopted in a given situation’. Elden (2001, p. 119) notes that, ‘Foucault understands both physical and mental conceptions of space to be merely parts of a greater whole, abstractions from the more fundamental level of the lived experience.’ Moores (2012) extends this point to argue that everyday media are part of an ‘at-homeness’, or a way of knowing the places in which we dwell through frequent interaction. In the case of players of *Pokémon GO*, such interaction occurs both with those other players and non-players with whom we are co-present in the physical world, but also with the objects and features of the digital landscape, which manifests in the handheld mobile device.

The physical proximity of being-with-others generates a deeper sense of being-in-the-world, or dwelling. The game developers, Niantic, have indicated that they believe the success of *Ingress* was in part due to the social aspect of gameplay. Niantic global product marketing lead Archit Bhargava says:

What ended up happening [in *Ingress*] in small towns and smaller cities was that people would meet other people in the world while playing *Ingress*, and friendships started emerging and that social aspect became the biggest thing. (quoted in Tran, 2016)

Denyer Simmons (2016) supports this, noting that because *Pokémon GO* requires users to physically explore their local environments, for some users it became a catalyst for positive bodily and social experiences in which they otherwise had been unlikely to participate.

Another component of the digital-physical entanglement we are describing in *Pokémon GO* is the simplified real-world map on which gameplay takes place. The map-space of *Pokémon GO* is generated primarily from Google Maps data and encompasses the avatar of the player and most of the objects we discuss below. This map fulfils a desire to provide ‘a way of exploring the real world by playing on it’ as described by Barros and Togelius (2015, p. 1489). Hjorth and Richardson (2017, p. 6) describe *Pokémon GO* in the context of the critical cartography movement, by which they mean ‘the idea that we shape maps and our geo-cultural terrain as much as they shape us’. They take the engagement with space offered by *Pokémon GO* as one of the ways in which place is performed.

A key design feature of the simplified real-world map in *Pokémon GO* is that it has a restricted horizon regarding how far the user can see and interact with the map while remaining stationary. This is one way in which game physically requires users to explore beyond the map’s horizon by moving geographically in the real world in order to play. We argue that this enables users to emulate what Ingold (2011, p. 32) calls

wayfaring, the idea that human lives are led 'not inside places but through, around and from them, and to places elsewhere'. *Pokémon GO* not only allows users to venture beyond what can be seen from a given vantage point, but actively encourages them to do so.

In their simplest sense, maps are the oldest form of augmented reality technology, and as Keogh (2017) notes, the augmented reality technology used in *Pokémon Go* is nothing new: 'AR has existed and been played with for decades by both marketing and artistic types.' The foundational GPS technology and Google Maps data Niantic used for *Ingress* and then for *Pokémon GO* are not new. A cartographic map or the Google Maps application allow users to plan and plot journeys from place A to place B, from any one geographical point on Earth to another, giving users an idea what places they might encounter along the way and how long the journey might take. Ingold argues that lives never exclusively play out in place A or place B but also on the journey from one place to another. Mapping and planning a journey will not account for the unpredictability of taking the journey itself (Ingold, 2007, 2011). The edge of the map in *Pokémon GO* map restricts what users can predict to find or experience beyond it and so encourages users to find out. It is not a boundary but it is what Heidegger (in Ingold, 2011, p. 31) would call a horizon – 'not that at which something stops but ... that at which something begins presencing'.

The ontology of objects in *Pokémon GO*

There are two categories of objects of interest in this article, both of which directly entangle the physical and digital worlds. The first are mediator objects such as the mobile phone device, carried in the hand and used to access the *Pokémon GO* game application, and the wrist-worn *Pokémon GO Plus*, an ancillary device sold by Nintendo that provides a limited engagement with the game without screen-based representational spaces. The second category comprises in-game objects or locations that have corresponding real-world manifestations. These are known as 'gyms' and 'Pokéstops', and are central to use of the game. Other in-game objects, such as *Pokémon* themselves, 'berries', and Pokéballs (used to catch the creatures), do not have physical world correspondences, and are therefore excluded from the focus of this article.

The objects of interest in this article facilitate the sense of dwelling examined above. The actor-network theory (ANT) perspective suggests that both human and nonhuman *actants*¹ form relational networks. Within those networks, Harman (2009, p. 19) argues that the latent potential of any participant (an actant) is only realised when it assembles allies: 'The more connected an actant is, the more real; the less connected, the less real.' Within the network, any given actant may wield more influence than others, but only thanks to its success in attracting allies and not because of any a priori positioning. Further, allies may be 'enticed away from their representative in order to tip the balance' (Latour, 1987, p. 85). Thus players of *Pokémon GO*, our network originators, assemble their allies. These allies consist of a mobile phone device, the digital game space, and the places around players, among other objects. Evans (2015, p. 9, emphasis in original) contends that 'by drawing

objects into care (that is, by treating them with concern and as entities rather than mere extension) the thing orients people towards the world'. That is, it is only from within the space created by the relational network between all things (beings/actants) that we can be oriented toward those beings in any case. From a positioning within the network, and within which they have assembled a series of allies, players thus orient themselves and their objects towards the world.

Physical mediator objects

The physical movement through space as part of gameplay that is enforced by *Pokémon GO* is facilitated primarily by two real-world objects – the mobile phone and the Pokémon GO Plus (hereafter, the Plus). These devices allow entanglement between digital and physical to move beyond screen-based representational spaces. We read the operation of these devices in two ways. First, they are mediators in that they operate as gateways connecting the two worlds, allowing them to interact with each other, and players to move simultaneously in both. Second, these devices offer an opportunity to consider what Thrift (2008, p. 2) calls 'non-representational theory', meaning 'the geography of what happens'. This is contrasted with that which is simply captured, created and represented in media.

Mediators are translatory objects. Translation is a term that 'refers to all the displacements through other actors whose mediation is indispensable for any action to occur' (Latour, 1999, p. 311). That is, it is only through the direct linking and translating of physical movement to digital movement that the *Pokémon GO* application can operate at all. The operation of this translation hinges upon the ability of the mobile phone and the Plus to link together two manifestations of the player: their physical body in the physical world and their digital avatar inside the gamespace. These are linked in the sense in which movement in the physical world translates into movement through the virtual map upon which *Pokémon GO* gameplay occurs. Although the mobile phone is in once sense a richer link, in that it generates detailed imagery upon its screen, the Plus incorporates haptic elements through various combinations of vibration signalling particular events (see Niantic, n.d.a).

In addition to movement, the mediator devices have distinct relationships with the human body, sometimes because they recede from view altogether. In this sense, they can be considered analogous to Heidegger's (1996) description of tool-being. Evans (2015, p. 69), following Heidegger, notes that, 'While the hammer is being used by me as an embodied entity ... the object itself is not the focus of my attention during the activity.' Instead, the digital space which exists within the mobile phone is the focus for the player, allowing the device itself to withdraw from conscious consideration. Within the digital space, Pokémon, Pokéstops and gyms are all common and accepted features, but since they do not exist in the physical world, the player must use the device to access them.

In addition to allowing access to the gameworld by way of the installed *Pokémon GO* application, mobile phones allow users to practise what Pink and Hjorth (2012, p. 153) refer to as 'emplaced cartographies', being 'new types of emplaced visibility and geospatial sociality' linked to the emergence of location-aware technologies. One of the notable and widely discussed aspects of *Pokémon GO* at its release was the

ability to take photographs of Pokémon digitally overlaid upon real locations using the camera feature of a modern smartphone (see Figure 2). This feature has been widely referred to as augmented reality even though ‘reality ... is already augmented’ (Sicart, 2017, p. 31). Thus the mobile phone is implicated in both the representational and non-representational aspects of the game. In practice, however, players (including the authors) have found that the clumsy movement of Pokémon upon the augmented reality field (as opposed to the fully digital space in which they can also be viewed) inhibits the playability of the game.



Figure 2: An Ursaring digitally overlaid on a real-world location

In-game fictional objects

Howell (1979, p. 170) describes the nature of fictional objects in more precise terms than we have yet managed in this paper, proposing that they are ‘nonactual-objects-involving renderings of our fiction-describing claims’. That is, the objects about which we are concerned in this article do not exist in a material form, only within the rendering or understanding of the fictional world of the broad Pokémon franchise and, more specifically, within *Pokémon GO*. They exist also for players of the game, whose interaction with and use of these objects is, in effect, a rendering of them (notwithstanding the computational rendering performed by the mobile phone device and the associated technical infrastructure). Crittenden (1991, pp. 7–8) further supports this view, noting that reference to *any* object ‘is always within a context, and the objects denoted there must have been introduced into that context’. Thus the status of

objects within *Pokémon GO* is that they are fictional, but able to be accessed by players because of the contextual envelope of the game, as per Crittenden's position.

Each of the in-game fictional objects considered in this article has certain defined characteristics or properties which it carries throughout the game, and which allow it to perform certain actions. This is consistent with the view that these remain fictional but accessible objects. Crittenden (1991, p. 40) notes that all objects must have 'associated criteria of identity and enumeration and are bearers of properties, thus making them possible subjects of true/false (warranted/unwarranted) claims'. These claims can be demonstrated by many of the examples we have given so far: Pokéstops are linked to real-world locations; Pokémon *do not* exist outside of the gamespace; and so on.

One fictional item that acts a mediator between the *Pokémon GO* game space and the physical world in which the player resides is the gym. Gyms have long occupied an important place within the sprawling transmedia Pokémon franchise. They are in-world locations in which characters or players encounter other significant characters and battle powerful Pokémon for training and experience. For example, in the long-running *Pokémon* television series (1997–), both of the original travelling companions of main character Ash have significant associations with family gyms, and Ash first met Brock at the Pewter Gym. In most Pokémon media, gyms are linked to a particular Pokémon type. In *Pokémon GO*, gyms 'can be found at real locations in the world' (Niantic, n.d.b) and can host any type of Pokémon. They are distinctive in-game structures that appear in the colours of whichever of three in-game teams presently occupies them. Players can assign Pokémon to gyms and gain ten in-game coins for keeping those Pokémon there for a defined period of time (currently every 21 hours).² To capture a gym from an opposing team, players must defeat all Pokémon resident there.

Gyms are of interest here because they correspond to real-world locations which have been selected from among Niantic's pool of *Ingress* data. All gyms feature a photograph and a short description of the location, often citing its historical or cultural importance. Thus they intimately entangle the digital and physical layers of the world together. These are primarily representational spaces, which means they seek to introduce a perceptually accurate recreation of the physical space to the digital game. In providing the opportunity for users to access new information about the locations around them, gyms further the potential for mediated dwelling.

Like gyms, Pokéstops are in-game markers of real world locations which include a photograph and brief information on the location. Unlike gyms, however, Pokéstops do not have clear antecedents in earlier Pokémon media. In *Pokémon GO*, they are more numerous than gyms. Pokéstops activate when players are nearby, and they can be selected by players on a mobile phone screen. Once selected, players swipe their fingers rapidly across the screen to 'spin' the stop, which then produces a small collection of in-game items such as Pokémon eggs, healing potions, the Pokéballs used to catch Pokémon, and berries that have differing effects on the various Pokémon that players encounter.

The entanglement between digital and physical produced by gyms and Pokéstops is not the only way in which dwelling takes place. Like other location-aware mobile phone applications and games, *Pokémon GO* offers an opportunity to investigate how 'relationships between the materialities and digital environments of place, embodied

experience and sociological phenomena converge' (Pink & Hjorth, 2012, p. 153). The entanglement we describe requires players to be physically proximate to the real-world locations of in-game features and fictional objects. Although interaction takes place between players and objects rather than primarily with other players, these are nonetheless social spaces that are shaped by the other players. This is especially the case for gyms, wherein the condition of the object as found by any given player depends upon the earlier interactions of other players.

A further in-game object worth distinguishing briefly is the coins players can collect for certain actions (such as holding gyms for a defined period of time). These can be traded for other objects such as avatar customisations, 'incubators' for eggs gained during the game (which hatch Pokémon), or increased object or Pokémon storage. In addition to being earned for in-game actions, they are able to be purchased for real-world currency through the Google Play store or Apple App Store. These coins are therefore the main source of Niantic's income from the game, and their presence establishes it as a paragon of the 'freemium' model of mobile games, which are free to download and play but require purchases to progress (Ramirez, 2015). These coins are also mediators. They broker a distinction between one world and the other in a similar way to that of the mobile phone.

Conclusion

There remains a need for detailed ethnographic investigation of the extent to which players themselves experience the sense of embodied dwelling we describe as possible in *Pokémon GO*. Nonetheless, it is clear that the multiple ways in which this application entangles digital and physical worlds complicate existing notions of dwelling. It invites us to consider anew the presence of digital objects in a game space where they not only have corresponding physical locations but actually require players to visit those locations in order to play the game. In addition, we note that both the mobile phone and the Plus are physical objects that allow access to the digital game space. They do this by linking together the location of the player's body with that of a digital avatar. These objects are related to, but unlike, the fictional objects that exist wholly within the confines of the game but that nonetheless present opportunities for interaction to the player. Although we accept the existing mediation or augmentation of the world, *Pokémon GO*'s popularity and unique modes of entangling the two types of world-space require reappraisal of the nature of place as experienced through movement, and the role of mediator or translatory objects in this entangling. It is possible to locate a sense of dwelling – or *turning-toward* – place that may be enriched by layered digital objects and maps such as those found in *Pokémon GO*.

Notes

- ¹ Actant/actor – from Latour (1987, p. 84): 'whoever and whatever is represented'; and 'something that acts or to which activity is granted by others' (1998, cited in Mitew, 2014, p. 14).
- ² The method of gaining coins from gyms, as well as other features of the structures, was altered in a July 2017 update to the game. The authors judge that this update does not materially impact our argument here, so we have maintained the detail of gym function to reflect the status quo at the time the paper was presented to ANZCA 2017.

References

- Barros, G.A.B. & Togelius, J. (2015). Balanced civilization map generation based on Open Data. In *Proceedings of 2015 IEEE Congress on Evolutionary Computation (CEC)*, pp. 1482–1489, <http://doi.org/10.1109/CEC.2015.7257063>.
- Couldry, N. & McCarthy, A. (2004). *MediaSpace: Place, Scale and Culture in a Media Age*. London: Routledge.
- Crittenden, C. (1991). *Unreality: The Metaphysics of Fictional Objects*. Ithaca, NY: Cornell University Press.
- Denyer-Simmons, H. (2016). Pokémon GO and placemaking: Positive side effects of using augmented reality applications. *Journal of Visual and Media Anthropology*, 2(1), 55–63.
- de Souza e Silva, A. (2017). Pokémon Go as an HRG: Mobility, sociability, and surveillance in hybrid spaces. *Mobile Media & Communication*, 5(1), 20–3.
- Elden, S. (2001). *Mapping the Present: Heidegger, Foucault and the Project of a Spatial History*. London: Continuum.
- Evans, L. (2015). *Locative Social Media: Place in the Digital Age*. Basingstoke: Palgrave Macmillan.
- Giddings, S. (2017). Pokémon Go as distributed imagination. *Mobile Media & Communication*, 5(1), 59–62.
- Gordon, E. & de Souza e Silva, A. (2011). *Net Locality: Why Location Matters in a Networked World*. Chichester: Wiley-Blackwell.
- Harman, G. (2009). *Prince of Networks: Bruno Latour and Metaphysics*. Melbourne: re.press.
- Heidegger, M. (1996). *Being and Time* (J. Stambaugh, trans.). Albany, NY: State University of New York Press.
- Hjorth, L. & Richardson, I. (2017). Pokémon GO: Mobile media play, place-making, and the digital wayfarer. *Mobile Media & Communication*, 5(1), 3–14.
- Howell, R. (1979). Fictional objects: How they are and how they aren't. *Poetics*, 8, 129–77.
- Ingold, T. (1993). The temporality of the landscape. *World Archaeology*, 25(2), 152–174. <http://doi.org/10.1080/00438243.1993.9980235>
- (2007). *Lines: A Brief History*. London: Routledge.
- (2011). Against space: Place, movement, knowledge. In P. Kirby (ed.), *Boundless Worlds: An Anthropological Approach to Movement*. New York: Berghahn Books.
- Jin, D.Y. (2017). Critical interpretation of the Pokémon GO phenomenon: The intensification of new capitalism and free labor. *Mobile Media & Communication*, 5(1), 55–8.
- Keogh, B. (2017). Pokémon Go, the novelty of nostalgia, and the ubiquity of the smartphone. *Mobile Media & Communication*, 5(1), 1–4.
- Latour, B. (1987). *Science in Action*. Milton Keynes: Open University Press.
- (1993). *We Have Never Been Modern*. Hertfordshire: Harvester Wheatsheaf.

- (1999). *Pandora's Hope: Essays on the Reality of Science Studies*. Cambridge, MA: Harvard University Press.
- (2005). *Reassembling the Social: An Introduction to Actor-Network Theory*. London: Oxford University Press.
- Licoppe, C. (2017). From Mogi to *Pokémon GO*: Continuities and change in location-aware collection games. *Mobile Media & Communication*, 5(1), 24–9.
- Low, S.M. (2009). Towards an anthropological theory of space and place. *Semiotica*, 175, <https://www.degruyter.com/view/j/semi.2009.2009.issue-175/semi.2009.041/semi.2009.041.xml>.
- Merleau-Ponty, M. (2012). *Phenomenology of Perception* (D.A. Landes, trans.). London: Routledge.
- Mitew, T. (2014). Do objects dream of an internet of things? *The Fibreculture Journal*, 23, 3–26.
- Moores, S. (2012). *Media, Place and Mobility*. Basingstoke: Palgrave Macmillan.
- Niantic. (n.d.a). Teams and gyms, <http://www.pokemongo.com/en-us/teams-gyms>.
- (n.d.b). *Pokémon GO Plus*, <http://www.pokemongo.com/en-us/pokemon-go-plus>.
- Pink, S. & Hjorth, L. (2012). Emplaced cartographies: Reconceptualising camera phone practices in an age of locative media. *Media International Australia*, 145, 145–55.
- Ramirez, F. (2015). Affect and social value in freemium games. In T. Leaver & M. Willson (eds), *Social, Casual and Mobile Games*. London: Bloomsbury.
- Sicart, M. (2017). Reality has always been augmented: Play and the promises of *Pokémon GO*. *Mobile Media & Communication*, 5(1), 30–3.
- Time* (1999). The ultimate game freak. *Time Magazine*, 22 November, <http://content.time.com/time/magazine/article/0,9171,2040095,00.html>.
- Thrift, N. (2008). *Non-representational Theory: Space, Politics, Affect*. London: Routledge.
- Tran, E. (2016). Like no-one ever was. *Gamespot*, <https://www.gamespot.com/articles/pokemon-go-devs-still-exploring-multiplayer-say-pl/1100-6441610>.