Invisible Belfast: Flat Ontologies and Remediations of the Post-Conflict City

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In February 2016, BBC Radio 4 broadcast *Invisible Belfast*, a slightly left-field radio documentary in which a young American student starts reading a novel, and ends up lost in the pages of the book and in the city itself.[1] This concept of an invisible, explorable Belfast existing parallel to the city we see, was drawn most recently from an indie game produced half a decade before, titled *[in]visible belfast*. In this game, players had to solve mysterious puzzles that were spread across multiple internet platforms and across the city itself, drawing players into the historical and imaginative interstices of the city. To trace the lineage further back, the game had its roots in the book *The Star Factory* (1997), written by Belfast poet and novelist Ciaran Carson; this is a labyrinthine text which purports, in so many ways, the idea of an invisible city underneath the one that is seen; an invisible city which might become visible through playful exploration. Carson's novel is characterised by a narrative of interconnectedness, gesturing continuously at portals between worlds, the text littered with associative links that the reader might follow at will.[2] In this chapter, we (the designers of the game) examine the remediations of the indie game and the radio documentary relative to Carson's novel, paying close attention to what each new medial interpretation of what we refer to as the "invisible Belfast concept" constrains and affords, or how each remediation shapes what it is possible to perform within its context. Form arrives not only via the page, screen, interaction or soundwave, but also in the implicit social forms that underlie any formal expression; with this in mind, we investigate what these processes of remediation might express about the social and political processes at work in Belfast's history.[3] We trace the media genealogy of the invisible Belfast concept as it is presented in the novel, the game and the radio documentary, arguing that Belfast's complex history, including the roles of various media in its conflicts, propels medial adaptations that engage flat ontologies and object-oriented modes of performance.

We have adopted the lens of *flat ontology* to make sense of this evolution, both as a way of interpreting the form that each text imposes on Belfast, and as a way of linking this to broader political contexts that have shaped the history of the city. *Flat ontology*, also known as *object-oriented philosophy* (as coined by Graham Harman in 1999) and *object-oriented ontology* or OOO (as adapted and developed by Levi Bryant and Ian Bogost), is a way of conceiving the world from a non-anthropocentric ontological position, or in other words rejecting the now-standard Kantian privileging of human existence over that of other, nonhuman things.[4] philosophers argue, in a view diverging from a Kantian construction of reality, that objects *do* materially exist independently of human cognition, and thus should be considered equal to humans, ontologically speaking. A key

component of OOO is a foregrounding of the fundamental relationality between human and non-human stuff, a fundamental acceptance of the vast networks of systemic physical and biological relationships governing all objects, in all environments. If we think of our reality in this highly systemic way, we can also usefully speculate about the lives of objects (from a tin of soup to a transport network), not anthropomorphically (positing the object experiences the world like a human does) but rather by trying to imagine the world as the object lives it.[5] This has a certain politics attached: by repositioning our way of thinking about human experience, OOO entails an ecological rather than hierarchical way of reading reality, in which everything is network-relational. In this kind of construction, individualism and indeed tribalism become hard to justify; humans and objects are all made of, and subject to, the same basic materials and physical processes. Applying OOO, boundaries defining self and other become intensely provisional and temporary, even meaningless, even invisible.

In prescribing a method for object-oriented literary criticism, Harman prescribes the following:

> [W]hile many of the literary methods recommended by object-oriented criticism might already exist, here I would like to propose one that has probably never been tried on as vast a scale as I would recommend. Namely, the critic might try to show how each text resists internal holism by attempting various modifications of these texts and seeing what happens. Instead of just writing about *Moby-Dick*, why not try shortening it to various degrees in order to discover the point at which it ceases to sound like *Moby-Dick*? Why not imagine it lengthened even further, or told by a third-person narrator rather than by Ishmael, or involving a cruise in the opposite direction around the globe? Why not consider a scenario under which *Pride and Prejudice* were set in upscale Parisian neighborhoods rather than rural England—could such a text plausibly still be *Pride and Prejudice*? Why not imagine that a letter by Shelley was actually written by Nietzsche, and consider the resulting consequences and lack of consequences?

Harman's recommendation is taken from his 2012 essay "The Well-Wrought Broken Hammer: Object-Oriented Literary Criticism" which builds from Heidegger's "broken hammer", the idea that the moment an object breaks is the moment it becomes visible to us. This is salient to the aesthetics of the ARG, which depends upon "breaking" and otherwise misusing a variety of platforms and technologies, on the parts of designers and players, in order to make an alternate reality visible. The above is more or less what we were up to when we designed the game, without necessarily articulating it as such, but driven by the same principles of "breaking" and remaking the given text and to make its mechanisms and configurations more visible by doing so.

Bogost has also argued for methods of reading texts in a way that applies the principles of a flat ontological view, treating the text as a configurative system composed of units, discrete nodes which both belong to bigger configurations (as a subway car belongs to a transport network) and

also contain their own configurations (as a subway car contains systems of mechanical parts).[6] These are units or objects at different scales. A text, by this model, becomes a system or "an arrangement of discrete, interlocking units" that produce meaning through their performance within a particular arrangement. This performance-by-arrangement is not unlike the procedure involved in a chemical reaction, or in T.S. Eliot's *objective correlative*, which is itself a sort of poetic algorithm.[7] In this chapter we apply a configural reading to each of these texts, examining how their arrangements play out in time and space.[8] Starting with Carson's novel, we analyse the texts to illuminate the non-hierarchical, ecological processes at work in the environments of Belfast that each text performs. These alternate layers of the city are textual, digital, material and sonic, and include fictions as well as the real, lived experience of the city itself. We would posit that this kind of reading suits Carson's original, a text that is thoroughly anti-romantic and non-anthropocentric, that takes a complex view on realities in which humans and other materials are inextricably entwined, and where things must be considered at a variety of vast and tiny scales.[9]

Postmodern Novel: *The Star Factory*

Carson's novel is actually a sort of anti-novel, a spatially-organised treatment of Belfast in thirty-two parts, that reads more like a magical-realist travelogue or a series of object lessons than a straightforward novel.[10] Each section is named to link it to a space located within the city, but rarely does the narrative stay bounded in that location; instead, Carson uses the material details of each space as springboards to exploring hidden worlds within its cracks. *The Star Factory* borrows in many ways from Italo Calvino's *Invisible Cities* (1972), and indeed without constraints of word count and time we might have begun this genealogy there or even further back; in Calvino's book as in Carson's, the city appears each time through a different lens of memory or imagination, and each time manifests characteristics which are distinct and divergent from what came before, suggesting a universe of possibilities within a single city.[11] As such, the city is a system of interconnected humans, objects and environments, connected always by the medium of narrative. The urban space, like the human mind, is

> inhabited by constellations of such crucial points, whose stars are transformed or regurgitated into patterns of the everyday. A kitchen interior, for example, is a suitable location, wherein its panoply of objects … become hooks on which to hang the items of the story; the room becomes a virtual embodiment of many stories.[12]

Belfast is thus composed of units—a kitchen, an object within a kitchen—which hang together in an (external) system of narrative, and at the same time contain (internal) worlds: the narrative interior of the kitchen, the narrative interior of any object in the kitchen. In the passage here, Carson reflexively describes a method of storytelling whereby a cloud-like narrative contains countless possible alternate or alternating planes, accessible by links: in this passage, the object-hooks that suspend different units of story. The larger structure of the novel suggests that the chosen sites of Belfast serve too as narrative "hooks" upon which the narrative is suspended in space, often in the form of objects.

Carson is known for an almost obsessive attachment to objects, and his novels and poetry often give close-up views of objects, identifying with them rather intimately: "Stamps bristle with tiny numbers, minute letters, diminutive leaves and eyes. They are graphic cellular tissue. All this swarms about and, like lower animals, live on even when mutilated."[13] Objects are involved in the inextricable mesh of things moving with us, inside us, around us, and through us, while we also equally live with, in, around, and through them. As objects are imbued with humanness, the human is imbued with object-ness: DNA, tissue and swarms, disembodied, robotic, explosive, deeply material. Material is likewise as capable of knowing us as we are of knowing it: the stamp, "salivated on by thousands of tongues," records "vast spectral demographics of deoxyribonucleic acid chromosome."[14] The living record created through this interchange between objects and humans is both map and an ever-changing structure, its dynamics deepened by the infinite unfolding or burrowing away that becomes possible by engaging specifically with the object. Following the narrative through the cracks in materiality, "There are holes within holes" as you chase this story or that one down a warrenous pathway, "an intestine maze of chambers, ante-rooms and corridors."[15]

Resistant to totalisation, *The Star Factory* rejects any novelistic imperative to present a model of social unity (a model which anyone living in Northern Ireland knows is a fiction).[16] The text generates instead a fractal and multiple version of the city, precluding as it does the tidy boundaries of linear logic, and any insistence upon linear causality. Instead, the shape of the text is ecologically networked, demonstrating how "forms grapple with themselves … blossoming from two dimensions into a thought-bubble cycloidal realm … nebulous as cloudscapes."[17] The city is an environment of correspondences that "seethe everywhere."[18] This materiality manifests in Carson's obsessive catalogues of objects—"tulips, train tickets, electric torches, books of matches, postcards, phonographs, ball-point pens."[19] Carson generates inventories that are also living and personal, where every unique material thing, the "ordinary furnishings" that make up the non-human panorama, has a history of its own, a world contained, following the OOO imperative of reading an entire world "within a device."[20] At the same time, Carson's objects repeat fractally, with a single

type or version of an object appearing across the text, and then scattered through his whole body of prose and poetry, in many facets, again and again. The objects degrade, evolve, indicating their systemic nature, where even the most complete object is yet a fragment or phase, belonging to a larger configuration.[21] These fragments or versions of repeating objects also become associative links to countless other places, in and out of the text. These objects include bombs, pens, scarves, an airplane on a blue sky, a vase of flowers, a Dresden vase, a constellation of stars, a map of Belfast streets, a van containing a bomb, rusting mechanical parts—the list could go on. Appearing in numerous and composite forms, they gesture toward a sense of infinite relational networks, a flat ontological approach to the universe.

As a result, the very shape of The Star Factory has an embedded politics, which is flat rather than hierarchical. This politics is both avoidant and alternative, disrupting the sovereignty of the top-down view and likewise circumventing the myth of forward-progress that characterises colonizing discourse.[22] As a configuration or system, The Star Factory gestures at infinite connectivity, infinite relativity, infinite provisionality; there are no identity politics concerning objective forms, and all things are more or less equal. Critics have often described Carson's politics as resistant to spatial domination, with Neal Alexander characterising his orienteering of the cityscape as implying "a utopian spatial politics," a Benjaminian resistance to surveillance and paramilitary terror through the forging of alternative routes.[23] This alternate-route resistance ultimately produces a game-like quality in that we orienteer the text as much as we read it, mentally following Carson's links each time they appear, tuning in to the ever-expanding network-environment of Belfast that the text subtly communicates. And while the reader moves forward through the text, this does not always mean they move chronologically or alphanumerically through the pages; the linearity of storyline is replaced with an accumulating network of story-bits, or story-units, rendering an environment or storysystem, through which the text's/reader's journey is as circuitous as the operations of a natural ecosystem, with a rhythm almost as visceral.

Indie Game: *[in]visible belfast*

In *The Star Factory* Carson poses a reality comprising numerous dynamic relationships among humans, nonhumans and their environments, casting the city as a theatre of systems.[24] As game designers, we were inspired to offer more points of entry into this theatre of systems by reimagining some of its structures within the context of a *playable* system: a game. Thus *[in]visible belfast* arrived as an indie alternate reality game, or ARG, that remediated the central concept of Carson's novel as we interpreted it: an adventure through the "collapsing city" of Belfast, poised between layers of

reality, its architecture posing a virtual labyrinth, and its object-laden landscape generating obstacles and interventions of many kinds.[25] The game lasted six weeks, and invited players to join a protagonist named Ana in exploring a complex, almost ecological, narrative version of the city, as she sought out the mysterious entity known only as "[in]visible belfast." To help them on their way, players were provided with resources: a central website that provided an online base and a place for player to supply answers to puzzles; cryptic messages posed on various social media from a dark antagonist identifiable only by the moniker "[in]visible belfast"; clues that could be gleaned from character blogs and social media accounts; occasional emails delivering puzzles or tasks; and *The Star Factory*. To give an example of how units of the game played through, at the top of the first email received by players was the logo for *[in]visible belfast*, and the torn and unlabeled corner of page 47 of *The Star Factory* with sections redacted. In the redacted material on the page, Carson references the origins of Belfast, naming the year 666 AD. This is significant to the clue delivered in the email:

> *This city is marked with a number, and from this number it grew. This is the start of our tale, as it was the beginning of the city. This number will unlock the door to the maze.*

To progress, players had to identify the book, find page 47 in a normal copy, read the text, connect it with the clue above, and enter the number 666 into the entry form on the main hub website.[26] With the *[in]visible belfast* game, we wanted to recreate the experience of the city as a system of interconnected units, and this reconception of the novel as a game was in part an argument for the post-digital temperament of Carson's cloud-like narrative—its constant associative linking, its countless possible alternative routes, its infinite unfolding that is both playful and networked in the post-digital sense.[27]

In contemporary convergence culture, every story becomes a possible storyworld and everything becomes potential fodder for new modes of access; new methods, Henry Jenkins writes, build consciously "on what has come before, … offering new points of entry"—our impulse was perhaps characteristic of this.[28] Games are especially well suited to this kind of project, able to remix fragments and segments of existing narrative, to make them into rich, experiential environments.[29] Our game environment was composite, a multiplatform combination of the actual Belfast, with players exploring and using various locations in the city itself, and a Carsonian, virtual version of the city, that we rendered using both his text and our added narrative frame. Recurring themes and images from the novel were woven through the story as recurring and repeating motifs and clues; we tried to stay true to the spirit of Carson's original text, but to translate its concept to the real city, in real time. This required us to attempt to depict many Belfasts, on many different scales, from the micro and specific (highly personal histories of the city, for example, as produced in web forum

discussions) to the macro view of the city-as-process, continually historically and politically reconfiguring itself, composed of and by information.[30] The city is, explicitly for Carson, a signal-processing environment; he describes, for example, Belfast Central Library as emitting "radio-beacon light-rays", and the Vatican a hub that "picks up the music of the spheres, broadcasting it *urbi et orbi* [to city and world]."[31] The city "broadcasts itself" in bits, such that "everything in the city, everything in the world, everything in the known universe, could be expressed … Such a system lends itself to all possible forms of graphic, phonetic, and optical expression."[32] This is also what we wanted to capture and remediate, and indeed what we felt was invited by the text itself: a new way of expressing the invisible city.

The game text, like that of the novel, was networked rather than linear, constructed as a responsive system of connected puzzle chains; as designers of a responsive ARG, much of our time was spent lurking in forums and watched the chatter of the players, which allowed us to develop each next phase of the game informed by how players reacted to and solved the previous set of clues.[33] Its narrative was driven by a refusal, again like that of the novel, of "metaphysical assumptions about causality in favour of observing linkages between objects, bodies and discourses."[34] We used the ARG form to produce a form that was also a process of unfolding (or burrowing away) across multiple online platforms, where each new segment of the game provided a new, cumulative contribution to the big picture: an opaque number clue given online leads to an address in the actual city; going there, the player discovers it is the headquarters of a secret society; researching this society online, the players sees they are putting on an event in town, the nature of which is unclear; attending this event, the player experiences a live performance which is a Belfast take on the Greek myth of the "Seven Sisters" (or Pleiades) star cluster, which is a theme of part of Carson's novel; going to this section of the novel, they discover another clue; and so on.[35]

A player base of less than two hundred worked collectively to pool individual knowledge and resources, keeping track of the sum of known quantities on spaces they designed and maintained. This included two collectively produced player wikis, maps, images of real-space artefacts for sharing, and a massive amount of Belfast history as unearthed through collective research online and off. Game puzzles and artefacts utilized a combination of media including email, websites, social media messages, videos, radio broadcasts, street graffiti, dead drops (USB drives embedded in the fabric of the city, sealed into gaps in walls) and live performances. The classic trope of the ARG genre of games is the "This is not a game" aesthetic, enforced by a constant blurring of boundaries between the game world and the real world, disguising its own mediation.[36] This blurring creates a text without delineated edges, that has players assisting designers in building an alternate version of reality which takes shape in real time, and often in real space. The resulting alternate reality—for

which the ARG genre is named—exists entirely within a transmedia web of interconnected media artefacts, which are linked in complex ways to each other and to the real world, producing a multiplatform textual ecology which players must learn to navigate. As in Carson's Belfast "there are holes within holes", coherences rendered with blocks of (responsive) narrative.[37] The game's aesthetic, like that of Carson's novel, was vaguely *noir*, driven by the sense that players were being "watched, overheard, recorded", that the "deeper you drill down, the more secrets emerge, all of which can seem at any moment to be the key", and where "the main protagonists are wont to disappear at any time"[38] Game players became escapists from the real city into the virtual, renegotiating known and administered versions of Belfast, deepening their comprehension of its complexity as they do so.

The ARG form could be described as ontologically flattened, defined by a rhizomatic, network-shaped narrative and also by the interactions of units (players, designers, environment). The infinite-unfolding/infinite-burrowing dynamic that compels players "down the rabbit-hole" also makes it relatively straightforward to integrate objects into the fabric of the game narrative. Physical artefacts or objects have been central within the ARG genre, from jars of honey which were sent to journalists as part of the promotion for *I Love Bees* (2004) to mobile phones hidden in birthday cakes in *Why So Serious* (2007). Physical objects are valuable in these contexts partly because they are a limited resource, which generates knowledge-sharing and collective efforts within the game. Physical artefacts also garner attention, having a certain archaic-space cache in the otherwise vastly virtual world of gaming, and tend to focus forum conversation around, for example, their canonicity within the game, and their relationship to the reality that has been constructed.[39] *[in]visible belfast* delivered information via virtual spaces, but we frequently used physical objects and points in real space to focus attention: an altered ex-library copy of *The Star Factory*; a network of entryways in North Belfast; a configuration of streets around the Falls Road; a gravestone in Milltown Cemetery.[40] The sprawling shape of the narrative that results is the precise opposite of the "well-wrought urn" of the traditional arts, existing instead as a live/living process that is neither exhaustive (there are so many possibilities of where the game might have gone, which it did not, making these equally present and absent—it is an insistently incomplete form) nor principal (the ARG form does not purport to be the only means of access to its content, built by definition out of composite materials and infinite borrowings). This kind of configuration reflects the infinite connectivity, infinite relativity, and infinite provisionality to which Carson's novel gestures, rendering Belfast as a systemic unit in the Bogostian sense, the city a node that comprises numerous systems and also helps to compose others. The ARG could enact what Carson's text suggests: an active web of narrative interdependencies, an object-loaded network, an urban space with multiple interactive levels of

operation. With *[in]visible belfast* we tried to evoke, not just a system, but a complex system, reflective of the emergent dynamics of collectivity in player engagement and informational flows, and the complex history of Belfast.[41]

But remediation of Carson's concept from novel to ARG involved adjustments to the affordances and constraints of the multiplatform space and the dynamics of interactivity. The ARG format has an embedded ethos aligned with that of flat ontology as well as what we might interpret as the embedded politics of *The Star Factory*; the novel, and the game, are resistant to totalisation, to conventional modes of imposing authoritative control, opting instead for something more organic.[42] As in the game, the novel invites the reader to piece the city together herself, from the fragments of an exploded urban consciousness, and thus cultivates a kind of ownership—even for someone who has never been to Belfast—borne out of narrative traversal. To compare this with the broader field of gaming: when the purpose of play is diversion and fun rather than linear progression, games become a sort of flat-ontological approach to problem-solving.[43] As Tim Morton has written, a "profound political act would be to choose [an] aesthetic construct … that doesn't require smoothness and distance and coolness" but rather insists on the interconnectedness (and thus the lived intimacy) of complex worlds seeping across conceptual boundaries and into our everyday lives.[44] Diversionary world-making, the principle activity of the ARG as well as the activity that distinguishes it from other kinds of games, requires players to use critical and aesthetic strategies that reframe "tropes of landscape, map-making, taxonomic imaginaries and the privilege of mimetic representation."[45] In *[in]visible belfast*, as players became accustomed to operating within Belfast-as-process, these tropes were overwritten by a sense of moving through and (re)constructing deeper time a more complex history. This process-aesthetics renders complexity through, on micro-levels, the complex historical positioning of individual objects; on macro-levels, the pullulating nature of the city, its bigger "formations, explosions and reformations," the nature of which are not, in the end, particular to Northern Ireland, but are endemic everywhere.[46] Concerned with big networks and big concepts, the ethos of the ARG genre is concerned with interdependency and the value of thinking in systems and collectively—making it radically liberal as a form. Not surprisingly, many ARGs are self-consciously staged and performed, like *[in]visible belfast*, in conflicted spaces or around difficult subjects.[47] The ARG is finally a form that is dynamic rather than didactic, eschewing authority in favour of empathy; in *[in]visible belfast*, for example, the only authority figure is the antagonist, and it is the players' relationship to the protagonist that drives the narrative forward.[48] This "forward" is not linear or competitive, but collective and diffused, where players are compelled through a murky space with only provisional boundaries—for example, the space of multi-layered Belfast—which comes to stand in for the troubled concept of territory more broadly.[49]

BBC Radio Documentary: *Invisible Belfast*

BBC radio producer Conor Garrett approached us in 2015 with the aim of developing the *[in]visible belfast* concept into a documentary for BBC Radio 4. His hope was to achieve the feel of the game, even if listeners couldn't interact in the same way; in this production, *Invisible Belfast* became a story of a student from America (renamed Danielle) searching the city for the author of a mysterious note found in a library copy of *The Star Factory* repeating some of the same plot points found in the ARG. Danielle's search takes her on a circuitous route through the city, where she meets actual people from Belfast and is told real stories about their lives in the city. Eventually she ultimately locates the source of the mysterious note, but, as in Carson's novel and in our game, in the end as much as left hidden as is revealed. In the radio version Carson and game designer Danielle Barrios-O'Neill play themselves, so to speak; and in this version passages from the novel are overlaid and intermingle with the framing narrative.[50] While very different from the game (and the novel) in its format, the radio version does indeed capture the feel of what preceded it, providing another entry point into the concept of the invisible city of Belfast.

As a listened-to piece, the documentary has intimacy and immediacy that are unique to its format, and audio/radio have particular affordances that suit a flat-ontological experience. While it is definitely not interactive, it approaches a simulation of the listener being on a journey with the protagonist, "between the adjuncts and intervening avenues of Belfast and Carson's narrative."[51] Audio performances also have a unique capacity to create psychological, imagined and invisible spaces that are mysterious and loaded with potentiality, and can make associational leaps with relative ease. At one point in the *Invisible Belfast* documentary, a brick salvager on the Shankill Road describes how Belfast brick was salvaged from demolished houses in the 1970s; this merges into a passage from *The Star Factory* on the art of bricklaying; this merges into a conversation Danielle is having with Professor Eamonn Hughes about the history of destruction and rebuilding that has shaped practically every corner of the city, giving the lie to the phrase "safe as houses"; these weave and overlap, drawing these aural worlds into a single, ambilocated imaginative space.[52] At the same time, audible signals, rather than demarcating a space, gesture toward a plethora of possibilities; radio drama affords a degree of ontological looseness, where aural cues, and language can make questionable claims—you don't need anything but sound effects to build a world, but at the same time you never know whether that world is there or not—a feature that resonates with the uncertainty of both Carson's text and the "This is Not a Game" aesthetic of the ARG.[53] In this there is an ontological verdancy, a fertile and sometimes haunting space where uncertainty is the main

principle.[54] It might even be said that sound has the ability to amplify ontological gaps, and thus to disrupt the politics of static states by invoking an alternate reality that is fluid, murky, and fluctuating.

At the same time, audio drama is intimate. Whereas a game that migrates and spreads across multiple interfaces on the internet might be alienating for some, a single audio experience that takes place in less than an hour, arriving directly into the ears or into the private space of one's car, is likely to be more effective at drawing some listeners in. Richard Berry and others have explored how audio producers, particularly within the rise of podcast culture, have developed an intimacy-driven aesthetics, by which the closeness of the medium (sometimes literally reverberating in the body) and its ability to mimic close, intimate speech, become its defining qualities.[55] This aesthetic was famously exemplified by the "radically intimate" style of Sarah Koenig of the *Serial* podcast, and reflects not only the technical capacities of the medium but also the sense of community that surrounded first radio, then podcasts. While radio was historically both reflective and formative of the imagined communities of the national and national, radio's offspring (not excluding BBC iPlayer, where *Invisible Belfast* is still available) extend these communities according to networks of shared interest, irrespective of location.[56] This multi-located positioning of the digital radio broadcast plays well against the hyperlocal-and-yet-universal Belfast constructed in both Carson's novel and the *[in]visible belfast* game, making the concept accessible not just via a new medium, but according to new cultural and social formations.

Sound also has the ability to problematize bodily boundaries, another concern of both the book and the game. While reading is visual (distancing and objectifying), hearing has a reputation for being felt and lived, *in time*; we don't feel vision as we feel sound, and while sight relies on external physical stimuli, sound has broader sensual parameters, linked more closely with touch.'[57] For McLuhan the ear

> is hyperesthetic compared to the neutral eye'; the auditory sense is delicate, sensitive, involved: '[i]f we sit and talk in a dark room, words suddenly acquire new meanings and different textures. … All those gestural qualities that the printed page strips from language come back in the dark, and on the radio.

And because the auditory experience happens in time, it can produce a more intense, seemingly *living* experience than movements across web platforms might. This makes it possible for the auditory medium to evoke a pervasive, almost physical presence of any aspect of the storyworld. This pervasiveness is effective in communicating the concept of the invisible city, humming just under the surface of what is seen. Aural forms have the capacity to express the permeability of the body by other forces, because sound itself permeates the body in noticeable ways. There is an irony inherent in these micro-local instantiations of Belfast, as the city is also strange and global—arriving

via global digital radio—even as it permeates the physical body. This models versions of reality that are contingent upon the embeddedness of the body in systems, and lack of clear bounds between the self-as-object and the surrounding environment.

An intimate "web of kinship" that is evoked by the friendly, social and intimate form of radio might also tap into certain tribal sensitivities, simulating a sort of exclusive involvement specific to this medium. [58] The effect is no less powerful for the piece being broadcast by the BBC, a cornerstone of British national identity; in the case of the *Invisible Belfast* documentary, the production is both Northern Irish and British, subject to the institutional standards and norms of the larger BBC network while actively pursuing a picture of Belfast that is local and realistic, if overlaid with a fiction (and the documentary was broadcast on both BBC Radio 4 and Radio Ulster in 2016). The remediation of an indie game to a radio programme on a major national network presents a certain matrix of problems around institutionalization: the ways in which "institutions preserve forms" that may or may not suit the original concept.[59] Contemporary gaming, after all, emerges of digital platforms and is shaped by the politics of the internet, which are often purported to be post-national, post-genre, subverting and often rejecting the cultural forms that came before, including print and radio.[60] This is directly at odds with Carson's novel, which is itself subversive to the politics of print and to national formations, which would appear to make the game a push in the "right" direction—and might suggest that a turn to national radio might be a step in the wrong one. But things are not so simple, of course. Radio indeed has a checkered past in Northern Ireland, as it for decades functioned within the news media more broadly as one channel by which to stir up reactions, and to track and reproduce sectarian conflict on the ground.[61] The politics of radio in Ireland's history have been continuous with tribal identification and division, a fact that complicates its ability to, even in the era of digital radio, render a "flat" political landscape: the politics are embedded in the paternalistic power of the BBC name itself.[62] But the gaming industry, too, is shaped and governed by dominant political forces in national and global contexts; and the games that result, even when they manifest formally or philosophically subversive elements, also often serve the interests of major corporations, with ARGs as no exception.[63] Furthermore, approaching the problematics of post-colonization with an indie game is undoubtedly less risky with an indie game than with a major radio network production: indie games, after all, go largely under the radar of public opinion; not so with anything broadcast on the BBC, which boasts a quarter of a million listeners weekly.[64]

The question is really whether any of the formal entry points (novel, game, documentary) are able to express the ethos of the concept they reference. If the game intended to simulate a system, perhaps the audio version provides a way of "tuning in" to the same system. In the radio version,

various planes of sound impinge upon each other over the course of the piece, creating a listening experience that is more complex than usual: as voices overlap with other voices, and as passages of the novel interrupt and emerge from dialogue, the listener is engaged in a noise-sifting project that is not unlike what one experiences when wandering through an urban space: noticing patterns, sifting data from static. We can guess that this effect would be amplified if a listener was listening on a mobile device while moving through an actual city. The narrative of the radio documentary has a clear beginning, middle and end, making it more linear than either the novel or the game; within its limited half-hour time frame, it can't represent as many layers or links to other places and realities, though it can gesture to them. But despite this limitation it is extremely effective at recreating the broad aesthetic of the novel's traversal of Belfast sites, with its real histories and concrete details; Garrett's interviews with real people helped to achieve this. The real stories embedded in the fictional narrative are also very effective at communicating that this project, if entertaining, is a serious one as well.[65] But what is most markedly missing from the audio version is the otherworldliness of the city's layers: "I cannot help but see", Carson writes, "bits of Belfast everywhere. Berlin, Warsaw, Tallinn, New York, to name some, have Belfast aspects [. . .]"[66]

It's possible that a game (even a serious one) is not likely to be taken as seriously as a radio broadcast (even a partly fictional one), despite how many games take on serious subjects, especially the growing field of serious games.[67] In *Newsgames* (2010), Bogost, Ferrari and Schweizer discuss the ways in which controversy and games interact, and the degree to which games can be seen to represent serious or "newsworthy" events. They argue that, as performances of historical, newsworthy and serious subjects extend to the interactive space in more playable formats, this will also encourage "new modes of *thinking* about news in addition to new modes of production"— modes which are more active and involved.[68] At least superficially, the radio version of *Invisible Belfast* may be able to address the lack of seriousness that some, rightly or wrongly, attribute to gaming in these contexts. The radio format, or more accurately, the public's expectations of the radio format, can possibly afford a level of gravitas and worthiness, and even social realism, that the taken-lightly field of gaming might not obviously afford.[69] The problem is that the invisible belfast concept up to this point has engaged a necessary degree of playfulness, having a speculative nature, and critiquing the format of news media as much as anything.[70] The radio version attempts to balance this by including both the fictional frame and real interviews. However, these are easy to tell apart, making this analogue to Carson's original design less effective, as we end up with competing realisms—one speculative, one based on real city Belfast stories—that never converge.[71]

Elements of flat ontology feature in all three versions of the invisible belfast concept, with varying degrees of success. What the radio version backpedals on, and indeed must do in order to appeal more broadly, is the view of Belfast as always-already post-apocalyptic, formed (like everything) of endless constructions, explosions, dissolutions, and reconstructions. Belfast cannot be "homey" in the conventional sense and also uncanny in the OOO sense, and the radio version opts more for the former, doubtless influenced by the norms and conventions of BBC radio production and a particular understanding of its audiences. This more "homey" version of Belfast precludes an ontological wilderness to a large degree. The game, by contrast, is involved in a deep mapping of the many possible realities of the city, reflecting the spatial turn of representation in the humanities, and equally linked to expanded applications of informatics to the literary text.[72] That is, the game was intended to be a move toward the democratization of knowledge, the flattening of epistemologies and ontologies, in line with Carson's own post-political project. It was always more concerned with void (uncertainty and verdancy) than delineations of any kind. The same cannot necessarily be said of the BBC documentary, nor is it likely that a listener would be able to fully divorce the content from the powerful institution of the BBC, which, relative to the political conflict in Northern Ireland, is not a historically neutral voice.[73] As Bill Rolston has pointed out, those whose lives are the content of the city's history "may speak or be spoken to, but the framing is still in the hands of the programme-makers." This is truest of the BBC version of the concept, and the least true in the case of the indie game, where players had active roles in creating the narrative, and were encouraged to investigate the histories of the many Belfasts on their own terms. This suggests that the game, though it had the smallest audience of all three versions, had the most potential as a model for transformational post-conflict art. Yet the radio version still serves as a captivating and productive entry point to the storysystem; its reach was comparatively massive, and its development was informed by much the same ethos despite constraints on the format.

While the complexity expressed in these texts is uniquely of Belfast, it is also microcosmic of global crises and transformations. These texts, and the shared concept, represent a new position for Irish art to inhabit, where its composite and unique post-boom, postcolonial, post-conflict matrix of conditions has become a sort of precedent for the broader contemporary imagination rather than anomalous within it. This can be expressed in valuable ways across a variety of media, which are, in modern convergence culture, interlinked. The remediated evolution of the concept discussed here is intensely post-digital: advances in technology allow us to visualize and model our networked political and creative situations more accurately, and to develop artworks which operate on similar principles. In turn we're able to unfurl revealing forms of contingency and precarity that always existed. Belfast, Ireland, or indeed any "home" in this context becomes a vulnerable space without simple

boundaries, and without easy distinctions between self and other within that space—a fact sure to be as much a source of fear as of wonder. Reading Irish art through flat ontologies and object-oriented politics is one method of favouring wonder over fear in this context, a movement against the violent politics of, as Morton puts it, "trying to fit a form over everything all at once."[74] Unconvinced of boundaries, flat ontologies are deeply post-national; OOO's problematizing of the illusion of boundary is promising with regard to the larger project of imagining a future matrix of possibilities for the arts in Ireland, and beyond.

[1] *Invisible Belfast*, radio documentary, produced by Conor Garrett (2016; Belfast: BBC Radio 4). Available on BBC iPlayer at time of publication at http://www.bbc.co.uk/programmes/b06z4w86. Danielle Barrios-O'Neill and Alan Hook, *[in]visible belfast,* digital game/ARG, produced by Barrios-O'Neill and Hook (2011; Belfast: Ulster University).

[2] Danielle Barrios, "Ciaran Carson's Belfast: Redrafting the Destroyed Native Space," *Nordic Irish Studies* (2011): 15-33. We have previously written about the way the [in]visible belfast game was constructed, from an educational perspective; see Danielle Barrios-O'Neill and Alan Hook, "Jumping between the layers: alternate reality games and literature" in *Using games to enhance learning and teaching: a beginner's guide* (London: Routledge, 2012).

[3] For more on how forms influence what it is possible to say in a given context, see Carole Levine, *Forms: Whole, Rhythm, Hierarchy, Network* (Princeton, NJ: Princeton University Press, 2015), p 15-22.

[4] Graham Harman, "Object-oriented philosophy" in *Towards Speculative Realism: Essays and Lectures* (2010): 93-104. Levi Bryant, *The Democracy of Objects*. (Ann Arbor, MI: Open Humanities Press, 2013). Ian Bogost, *Alien Phenomenology, or, What it's Like to be a Thing* (Minneapolis, MN: University of Minnesota Press, 2012).

[5] Bogost, 2012, p. 6.

[6] Ian Bogost, *Unit Operations: An Approach to Video Game Criticism* (Cambridge, MA: MIT Press, 2008).

[7] Eliot's objective correlative was a concept he developed to describe a particular method by which the poet can produce an affect in the reader, through precise design of the poem and attention to how it performs as a sequence of cues. Eliot describes this as

> a set of objects, a situation, a chain of events which shall be the formula of that particular emotion; such that when the external facts, which must terminate in sensory experience, are given, the emotion is immediately evoked.

T.S. Eliot, "Hamlet and His Problems" in *The Sacred Wood: Essays on Poetry and Criticism* (1920): 95-103.

[8] Bogost, 2006, p ix. Bogost does a reading of the film *The Terminal* and argues that the film "invites" the viewer to perform a configural analysis, to understand the film as a system. (p 19) The same could easily be said of Carson's novel. For more on object-oriented modes of criticism, see Graham Harman, "The Well-Wrought Broken Hammer: Object-Oriented Literary Criticism," *New Literary History* 43, no. 2 (2012): 183-203.

[9] This approach is informed by the first author's previous research on complexity in Carson's fiction. See Danielle Barrios-O'Neill, "Chaotics and the Post-digital in Ciarán Carson's *Exchange Place*," *Textual Practice* 31, no. 7 (2017): 1417-1434.

[10] For more on the interaction of spatial politics and digital modes in Carson's work, see Barrios, 2011.

[11] Italo Calvino, *Invisible Cities* (Boston, MA: Houghton Mifflin Harcourt, 1978). For Carson's own ideas about Calvino and his representation of urban space, see Ciaran Carson, "Self-contained Images and the Invisible Cities of Tokyo" in *The Japanese Effect in Contemporary Irish Poetry* (London: Palgrave Macmillan UK, 2012), pp. 65-80.

[12] Ciaran Carson, *The Star Factory* (London: Granta, 1998), pp. 66-7.

[13] Carson, *TSF*, pp. 30-1. This language is adopted from *Selected Writings by Walter Benjamin* and is mentioned again in Carson's novel *The Pen Friend* (2009), p 188.

[14] Carson, *Exchange Place* [electronic edition] (Belfast: Blackstaff Press, 2012), loc. 2065.

[15] Carson, *TSF*, p. 70; pp. 131-2.

[16] Terry Eagleton has argued influentially that an enclosing form can produce a "mythical unity" by which the form of the text evokes or mirrors a model of social unity. Eagleton, *Myths of power: a Marxist study of the Brontës* (New York: Springer, 2005).

[17] Carson, *TSF*, p. 37.

[18] Caron, *EP*, loc. 58.

[19] Carson, *TSF*, p. 13.

[20] Bogost, 2012, p. 9.

[21] Barrios-O'Neill, 2017.

[22] Tim Morton has gone into some detail regarding the politics of OOO as they resist/reject imperialist and linear realities. See for example Morton, *Realist Magic: Objects, Ontology, Causality* (Ann Arbor, MI: Open Humanities Press, 2013), p. 17-19.

[23] Neal Alexander, "Deviations from the known route: writing and walking in Ciaran Carson's Belfast" in *Irish Studies Review 16*, no. 1 (2008): p. 41. Jonathan Stainer gives an interesting view on Carson's depictions of "alternatives to exclusionary sociospatial identities" (Stainer, "The possibility of nonsectarian futures: emerging disruptive identities of place in the Belfast of Ciaran Carson's The Star Factory" in *Environment and Planning D: Society and Space* 23, no. 3 (2005): p. 380. See also Temple Cone's description of Carson's urban space as a "panopticon whose structure is in perpetual flux" that functions, among other things, as a way to manage "multiple maps simultaneously without committing to a particular one." Cone, "Knowing the Street Map by Foot: Ciaran Carson's *Belfast Confetti*," *New Hibernia Review 10*, no. 3 (2006): p. 380.

[24] I have written elsewhere how Carson's text frequently "goes beyond the poststructural and beyond the postmodern, by casting texts and human beings as highly dynamic systems, paradoxically aware of our own chaotic structures. This situation is only possible in conversation with the world of communication networks." Barrios-O'Neill, 2017, pp. 1429-1430.

[25] Patricia Horton, "From romantic to postmodern: imagining the real in the work of Ciaran Carson," *The Canadian Journal of Irish Studies 25*, no. 1/2 (1999): 342.

[26] The game actually had multiple entry points (or "rabbit holes"). In another, a teaser video was shared on social media in which the protagonist is searching for a book on the Pleiades constellation in the University library, and stumbles across a copy of *The Star Factory* with a note in the back, which is, eerily, addressed to her. A third entry point came in the form of an interview on BBC *Arts Extra*, in which the protagonist explained what she found, and asked the public for help in solving the mystery. *Arts Extra*, radio programme, hosted by Mary-Louise Muir (2011; Belfast: BBC Radio Ulster). Barrios-O'Neill and Hook, 2011.

[27] I borrow from Kolarevic and others in using 'post-digital' to refer to the present era in which digital technologies become increasingly ubiquitous, transparent, and seamlessly integrated into many spheres of life. Branko Kolarevic, 'Post-Digital Architecture: Towards Integrative Design' in *Proceedings from the First International Conference on Critical-Digital* (Cambridge, USA: Harvard University School of Design, 2006).

[28] Henry Jenkins, *Convergence Culture: Where Old and New Media Collide* [electronic edition] (New York: NYU Press), loc 2035.

[29] OOO is a form of *speculative realism*, a loose grouping of philosophical approaches that reject Kantian parameters of reality, which are contingent on human cognition alone. Other approaches in this group include eliminative nihilism, cyber-vitalism, and speculative materialism. For more on this, see Graham Harman, *Towards speculative realism: Essays and lectures* (New Alresford, UK: John Hunt Publishing, 2010). Bogost has argued that speculative realism is perhaps best achieved by games. 2012, p 5.

[30] Our protagonist was new to the city, but had a deep personal family history which was entangled in the cities past through her father. Ana is the (invented) daughter of one of Carson's friends featured in *The Star Factory* novel and helped us compound the complex world-building which slipped in and out of Belfast as a city, and the pages of Carson's novel. Barrios-O'Neill and Hook, 2011.

[31] Carson, *TSF*, p 176; p 219.

[32] Carson, *EP*, loc. 171.

[33] Cite someone on how ARGs are put together—maybe our earlier chapter.

[34] Levine, p 113.

[35] A *transmedia narrative* unfolds across multiple media platforms, with each new text making a distinctive and valuable contribution to the whole. Jenkins, loc. 2048.

[36] Author Alan Hook has written elsewhere about the blurring of the edges of fictions in ARG and other media forms, and about "This is not a game" (TINAG) as a defining trope of ARGs as a genre. The term was first coined by the Cloudmakers, the players in the first documented ARG *The Beast* (2001). The TINAG aesthetic is

key to the construction of ARGs, and also requires the fiction to seep into the world outside the text, producing a form whose boundaries are always a negotiation. Hook, 2017, pp. 56-77.

[37] This approach to writing has also been compared to the writing of music, and story*beats* in the writing of the ARG *Conspiracy for Good,* where the narrative and puzzles became repeatable and interchangeable units in a wider system. Stenros, Holopainen, Waern, Montola, and Ollila. *Narrative Friction in Alternate Reality Games: Design Insights from Conspiracy For Good* (University of Tampere, 2011), p 2.

[38] Jenkins, *Convergence Culture*, loc 2117. Carson, *TSF*, p. 70.

[39] For more on this, see Josephine Reid, "Design for coincidence: incorporating real world artifacts in location based games" in *Proceedings of the 3rd international conference on Digital Interactive Media in Entertainment and Arts* (ACM, 2008): pp. 18-25.

[40] Barrios-O'Neill & Hook, *[in]visible belfast*, 2011.

[41] Bogost links systems theory and OOO using the "unit" concept, which "finds precedent in systems theory and complexity theory, including applications in biology, cybernetics, chemical engineering, computer science, social theory, and the myriad other domains that seek to explain phenomena as the emergent effects of the autonomous actions of interrelating parts of a system." (2012, p. 25)

[42] Patrick Jagoda, Melissa Gilliam, Peter McDonald, and Ashlyn Sparrow, "From Alternate to Alternative Reality: Games as Cultural Probes" in *Alternate Reality Games and the Cusp of Digital Gameplay 5* (2017): pp. 31-55. Barrios-O'Neill & Hook, 2012.

[43] Morton discusses play as an ecological approach to political problems in *Dark Ecology*. 2016, p. 115.

[44] Tim Morton, *Hyperobjects: Philosophy and Ecology after the End of the World* [electronic edition] (Minneapolis, MN: University of Minnesota Press, 2013), loc. 1837.

[45] T. J. Demos, Basia Irland, Beverly Naidus, Ruth Little, Wallace Heim, David Haley, Tim Collins, Reiko Goto, Krista Genevieve Lynes, *Elemental: An Arts and Ecology Reader* (Plymouth, UK: Cornerhouse Publications/Gaia Project Press, 2016): p. 116.

[46] Morton's brand of OOO is all for a post-apocalyptic reading of the present, positing that "the end of the world has already happened" and we're living in its aftermath. Morton, 2010, p. 98.

[47] Examples are *World Without Oil* (2008); *EVOKE* (2010); *The Source* (2013). For discussions of these, see for example Patrick Jagoda, Melissa Gilliam, Peter McDonald, and Christopher Russell, "Worlding through play: alternate reality games, large-scale learning, and *The Source*", *American Journal of Play* 8, no. 1 (2015); Mary J. Dondlinger and Julie K. McLeod, "Solving real world problems with alternate reality gaming: Student experiences in the global village playground capstone course design", *Interdisciplinary Journal of Problem-Based Learning* 9, no. 2 (2015); Martijn JL Kors, Gabriele Ferri, Erik D. Van der Spek, Cas Ketel, and Ben AM Schouten, "A Breathtaking Journey: On the Design of an Empathy-Arousing Mixed-Reality Game" in *Proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play* (ACM, 2016).

[48] Barrios-O'Neill & Hook, *[in]visible belfast*, 2011.

[49] Without a defined 'win state', and their focus on narrative over competitive play, it could be argued that ARGs have what Bogost has termed a *rhetoric of failure*. This allows players a larger space for reflection on the meaning in the text by the players and leaves an openness to its reading. This has been used as a design strategy extensively in 'persuasive games' so to not give the player a 'right answer' or 'preferred outcome'. This is important when dealing with contested spaces, with complex politics such as Belfast. Bogost, Ferrari and Schweizer, 2010, p. 11.

[50] *Invisible Belfast*, 2016.

[51] Text from the BBC website description of the programme. The full description:

> We all like to get lost in a book - but when Danielle, an American visitor to Belfast, stumbles upon a mysterious handwritten note in a 2nd hand copy of Ciaran Carson's novel The Star Factory - she finds herself on a labyrinthine journey through his prose and through the hidden side-roads and alleyways of the city.
>
> As she searches for the elusive Irish author and poet, it soon becomes clear that there's much more to Belfast than meets the eye. This is a city that regenerates itself through layers of history and memory where the main protagonists are want to disappear at any time.
>
> Between the adjuncts and intervening avenues of Belfast and Carson's narrative, Danielle realises she can't read the city like a book as it will always exceed the confines of the pages...

Invisible Belfast, 2016. Accessed at http://www.bbc.co.uk/programmes/b06z4w86 on 31 December 2017. Bogost, Ferrari and Schweizer argue that radio can simulate network experience (p. 7).

[52] *Invisible Belfast*, 2016.

[53] Erik Barnouw, *Handbook of Radio Writing* (London: Little, Brown & Company, 1947). Richard Hand and Mary Traynor have also remarked on how 'There is a peculiar dichotomy in audio drama between its *constraints* and it *limitlessness'*, where it has the potential to 'realise anything.' Aural media can represent almost any object or space without the budgetary implications of producing effects in film or television, for example, where objects must be visually present. Still, the format demands producers find ways to communicate the environment without constantly describing it, which is a special challenge in itself. *The Radio Drama Handbook: Audio Drama in Context and Practice* (London: Continuum, 2011): pp. 103, 105.

[54] Matt Tierney argues that *void aesthetics*, by keeping 'the future open, uncommunicated, and undetermined,' disruptive elements to flourish in the text; like Morton's dark ecology, this gives formal description to how complexity plays out in artworks, evangelizing the gaps in representation that direct the need-to-know impulse down a path that pursues paradox and allows for uncertainty. Tierney, *What Lies Between: Void Aesthetics and Postwar Post-Politics* (London: Rowman & Littlefield International 2014), p. 10.

[55] Richard Berry, "Will the iPod kill the radio star? Profiling podcasting as radio", *Convergence* 12, no. 2 (2006): 148.

[56] Podcasts come with a sense of community inbuilt, as we choose which podcasts to download based on personal interests. Richard Berry, "Part of the establishment: Reflecting on 10 years of podcasting as an audio medium", *Convergence* 22, no. 6 (2016): 666.

[57] Murray R. Schafer, 'I Have Never Seen a Sound' in *Journal of the Canadian Acoustical Association*, Vol 37, No 3 (2009).

[58] Marshall McLuhan writes that the radio 'gives privacy,' while producing what he calls 'the tight tribal bond of the world of the common market, of song, and of resonance. Radio,' he wrote in 1967, 'restores tribal sensitivity and exclusive involvement in the web of kinship.' Marshall McLuhan and Quentin Fiore, "The medium is the massage," *New York* 123 (1967): p 303.

[59] Levine, p. 60.

[60] Benedict Anderson's *Imagined Communities*, widely considered the most important book on nationalism to date, examines the role of global media in the formation and spread of nationalism, where the nation is "imagined as a community, because, regardless of the actual inequality and exploitation that may prevail in each, the nation is always conceived as a deep, horizontal comradeship" (p. 7). Conceptual and geographic bounds of comradeship meanwhile are determined according to the preferences of a privileged few, via media which provide singular, fixed points of view (again, the novel and the newspaper, although television now serves the same purpose in an arguably amplified way). For Anderson, the newspaper in particular provided "the technical means for 're-presenting' the kind of imagined community that is the nation, normalising logics of regional and ideological division, serial progress in narrative structures around war campaigns, the standardisation of maps and place names. (p 7) This new suite of conceptual tools combined with a fantasy of comradery made it possible, "over the past two centuries, for so many millions of people, not so much to kill, as willingly to die" for the "limited imaginings" of a coherent national identity. Benedict Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (London, UK: Verso Books, 2006).

[61] Bill Rolston, *The Media and Northern Ireland: Covering the Troubles* (London: Springer, 1991), p. 34. The role of radio in stoking conflict has been well documented in Rwanda, Bosnia and elsewhere; as a result, "the modernization and professionalization of the media are often essential elements of reconstruction in war-torn societies." Bill Rolston, "Facing reality: The media, the past and conflict transformation in Northern Ireland." *Crime, media, culture* 3, no. 3 (2007), p. 344.

[62] Radio arrived in Ireland alongside the Irish Free State, with the first attempted radio broadcast during the 1916 Easter Rising. Christopher Morash, *A History of the Media in Ireland* (Cambridge, UK: Cambridge University Press, 2009).

[63] Games like *I Love Bees* and *Why So Serious?* were produced as promotional tools for multimedia corporations, rather than as standalone projects, and these large-budget ARGs tend to define the genre to some extent.

[64] Peter Horrocks, "A quarter of a million tuning in," BBC Global News online (25 June 2013). Accessed at http://www.bbc.co.uk/news/blogs-the-editors-23032145 on 31 December 2017.

[65] Back to intimacy: Authors discuss This American Life and public radio, and the "human" element of documentary in the context of interaction and audio etc. Look at this in relation to Conor's doc. (p 77) (Bogost,

Ferrari and Schweizer, 2010). Conor garrett has also worked on the Listening Project, which has a comparable infusion of "the real" in its aesthetic.

[66] Carson, TSF, p 20.

[67] *Serious games* are a growing category of games that take on real social issues, often with the goal of cultivating real-world impacts. Bypassing the simplistic fallacy of games you can win, serious games often attempt to avoid the reductiveness of "winning" or "losing" and present reality in more cyclical and systemic ways. Serious games often seek to obfuscate differentiation between the realm of the real and the game-world, allowing the problematics of the real world to become a kind of immersive experience. Michael Zyda, "From Visual Simulation to Virtual Reality to Games" in *Computer* 38.9 (2005), p. 25-32.

[68] Bogost, Ferrari and Schweizer, 2010, p 80.

[69] Bogost, Ferrari and Schweizer, 2010, p 63.

[70] Carson was particularly critical of the news with his volume of poetry titled *Breaking News*, which plays with (and "breaks") its formal logics. Barrios, 2011, p 16-19.

[71] Bogost, 2012.

[72] I borrow "deep mapping" from Selina Springett, who examines this practice of as a consciously performative act connected with the "flattening" of knowledge systems. See Springett, "Going Deeper or Flatter: Connecting Deep Mapping, Flat Ontologies and the Democratizing of Knowledge" in *Humanities* 4, no. 4 (2015).

[73] Tierney, 2015.

[74] Morton, 2016, p 150.