

Article

The Question Concerning Technology in Ireland?: Art, Decoloniality and Speculations of an Irish Cosmotechnics

EL Putnam 

Department of Media Studies, Maynooth University, W23 NPY6 Maynooth, Ireland; el.putnam@mu.ie

Abstract: In this article, the process of speculating an Irish cosmotechnics is instigated by taking a decolonial approach to technics and technology in Ireland with a focus on three artworks: *Assembly* by Shane Finan, *Interlooping* by EL Putnam, and *Entanglement* by Annex. Each work relates to a different aspect of Irish technological history, from its national beginnings to its current role in global cloud computing networks, engaging with the materialities of technologies with a focus on technologies of communication, agriculture, and digital infrastructures. Countering a colonial narrative of modernist progression, where the implementation of technologies through the cultivation of land and society is put in the service of economic “development”, these three artworks treat technologies with ambivalence, placing emphasis on their material qualities and impacts. This ambivalence, where it is implemented critically yet also functions as the means of producing artistic works, enables what Catherine Walsh refers to as decolonial cracks, introducing a means of working and thinking otherwise with technology in ways that diverge from current practices of coloniality.

Keywords: digital art; Irish art; cosmotechnics; decoloniality; data centres



Citation: Putnam, EL. 2023. The Question Concerning Technology in Ireland?: Art, Decoloniality and Speculations of an Irish Cosmotechnics. *Arts* 12: 92. <https://doi.org/10.3390/arts12030092>

Academic Editor: Paul Dolan

Received: 28 February 2023

Revised: 27 April 2023

Accepted: 28 April 2023

Published: 4 May 2023



Copyright: © 2023 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

In his groundbreaking work, philosopher Yuk Hui challenges a universal philosophy of technology rooted in the Greek myth of Prometheus, and instead proposes that there is a diversity of technics that relate to the cosmologies of situated cultures, or what he refers to as cosmotechnics. The title of the current article is a direct reference to Hui’s book, *The Question Concerning Technology in China: An Essay in Cosmotechnics*, in which he first presents the concept. That title is a play on Martin Heidegger’s influential work regarding the essence of technology, first presented as a lecture in 1953, “Die Frage nach der Technik”, which was later published in a collection of essays, *The Question Concerning Technology and Other Essays*, in 1977. Heidegger (1977) famously argued that the essence of technology is not technological, that is, it is not about the objects themselves, but is *Ge-stell* or enframing. Heidegger argues that modern technology enframes the world as standing reserve, making it quantifiable and exploitable. Hui draws from the work of Heidegger, though highlights how his philosophy is rooted in Greek thought that underpins Western philosophy. Instead, Hui focuses on technology in China, instigated by the general lacuna around the philosophy of technology in this context and to highlight how philosophies of technology rooted in European thought cannot be simply transposed into the Chinese context. As he notes: “if one admits that there are multiple natures, is it possible to think of multiple technics, which are different from each other not simply functionally and aesthetically, but also ontologically and cosmologically?” (Hui 2016, p. xiii). In this article, I instigate the process of speculating on the possibilities of Irish cosmotechnics by taking a decolonial approach to technics and technology in Ireland with a focus on three artworks: *Assembly* by Shane Finan, my livestreamed performance *Interlooping*, and *Entanglement* by ANNEX. Each work relates to a different aspect of Irish technological history, from its national beginnings to its current role in global cloud computing networks, engaging with the materialities of technologies with a focus on technologies of communication, agriculture, and digital

infrastructures. Here, the technological sublime, or what exceeds human comprehension, is made tangible. Countering a colonial narrative of modernist progression, where the implementation of technologies through the cultivation of land and society is put in the service of economic “development”, these three works treat technologies with ambivalence, placing emphasis on their material qualities and impacts. This ambivalence, where the use of technologies is critiqued yet also functions as the means of producing artistic works, enables what Catherine Walsh (Mignolo and Walsh 2018) refers to as decolonial cracks, enabling a means of working and thinking otherwise with technologies that diverge from current practices of coloniality. Through this process, I instigate speculations of an Irish cosmotronics, arguing that by accounting for the localities of Irish technics could lead to novel means of engaging with technologies in response to critiques and concerns posed in the discussed works.

Context: The British Colonisation of Ireland and Its Legacies

Ireland, as Irish historian Jane Ohlmeyer (2018) observes, was the first colony of England, with the island first conquered by the Normans during the 12th century. From the 16th century onwards, England carved Ireland into a plantation system in order to accommodate their growing economy dependent on the Atlantic Ocean (Cleary 2002), including the transatlantic trade of enslaved Africans (Rodgers 2007). At that time, Ireland experienced an “exceptionally violent and hugely accelerated process of colonial modernisation in which every sense of the indigenous society was almost wholly transformed” (Cleary 2002, p. 112). This history of colonisation is significant as it influenced the material formation of the island’s technological and geographic milieu. It did not just involve economic dominance, but caused the erasure of indigenous cultures and beliefs, including the near eradication of the Irish language (Hindley 2012). The majority colonised population provided an agrarian work force and were subjected to various political and legal restrictions “designed to secure the privileges of the immigrant settler communities” (Cleary 2002, p. 113). The implementation of an estate system, which included major deforestation of the island (Shokouhi 2019), primed Ireland to support England’s mercantile economy, though later impeded it for 19th century capitalist industrialisation as a “largely peasant society” (Nairn 1981, p. 12). As Eoin Flannery states: “the vexed issue in an Irish context is that Ireland’s enforced insertion into imperial modernity under a British colonial regime, contradictorily, preceded any process of domestic modernisation” (2009, p. 10). In other words, Ireland was dependent economically and politically on Great Britain with its society shaped through these influences. Subsequently, there was no massive surge in industrial production in the 18th and 19th centuries, meaning that Ireland is considered a “newly industrialising country [. . .] bearing marked similarities to the development trajectory of East Asian and Latin American countries” (Kirby 2002, p. 11).

Ireland, moreover, did not experience modernity in the same way as England or other parts of Europe, which form the foundation of what is deemed Western modernity, despite currently being part of the European Union. By Western modernity, I am referring to what Walter Mignolo (2011) defines as the predominant ontology of Western thought that emerged during the European Renaissance and was expanded globally through colonialism, currently underpinning hegemonic notions of progress and development. Instead, modernity in an Irish context is tied to its colonisation and decolonisation, at times posited in tension with tradition, or as Colin Graham states: “at the meeting point of the particular, ambiguous colonial circumstances of Ireland and Irishness [. . .] the teleological anti-colonialism of Irish nationalism is cross-hatched with an archaism and a western modernising drive” (Graham 2001, p. 24). As I will discuss further below in my analysis of *Interlooping*, the formation of an anti-colonial Irish national identity was characterised by rejections of imperial modernity through the embrace of pastoral Catholic idealism (Hanafin 2001). Such attitudes were later dismissed for revisionist, liberal modernity (Comerford 1988). Currently, there is a political and economic embrace of neoliberalism, which contributed to Ireland’s rapid economic development in the late 20th and early 21st

centuries, referred to as the Celtic Tiger (Kirby 2002) that went bust in 2008. As a former settled colony that was later united with Britain to form the United Kingdom, experiencing the massive trauma of the 19th-century famine exacerbated by British free market ideology and policies of food export (Kinealy 2002) that further dispossessed the island (Kelly 2018), and then becoming an independent nation in the early 20th century that experienced rapid economic growth then bust at the start of the 21st century, Ireland continues its dependent state in its current status as a tax-haven for many multinational tech corporations. Here, the materiality of technologies is implicated in the development of the nation and society, with impact on the cultivation of the Irish landscape, including the current rush of building data centres.

2. *Assembly*: Decolonisation and the Irish Civil War

Ireland achieved independence in 1922, though this was followed by a Civil War from June 1922 to April 1923. Shane Finan's interactive installation *Assembly* engages with this contentious period of Irish history. The project is based on the archive of the Jackie Clarke collection, who was an early 20th-century collector of Irish historical material. Finan draws from the reproducible communication technologies of that time—newspaper, leaflets, and autograph books—which capture fragmented stories pushed to the side lines of the period's history. Utilising digital technologies, including printed material from an AI text generator, microprocessors and RFID sensors, generative animations, and projected video, Finan has created a multilayered engagement with Ireland's history (Figure 1).

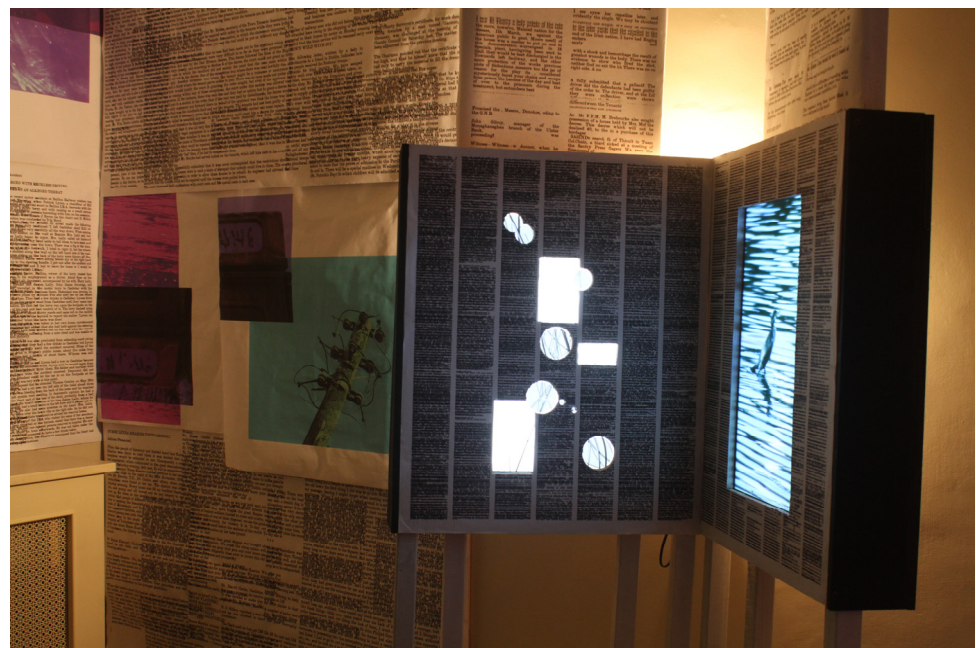


Figure 1. Shane Finan, *Assembly*, 2022. Reproduced with permission from the artist.

Entering *Assembly* when installed in the Memory Room at the Jackie Clark Collection in Ballina, Co. Mayo, the sheer mass of content is immediately apparent. Moving closer to the text, instead of words becoming clearer, it is evident that layers of print overlap. There is a presence of text, but here language is not legible. According to the Oxford English Dictionary, a palimpsest is “a parchment or other writing surface on which the original text has been effaced or partially erased, and then overwritten by another” (Oxford English Dictionary 2022). There is an obliteration through overwriting, as text overlays text, producing a “multilayered record” (Oxford English Dictionary 2022). The text here includes stories that Finan found within the print materials of the Clark archive along with text generated from an AI based on the collection. Here, words take on a quality of the object similar to the archive itself that contains more text than can be read in a

lifetime. This accumulation of analogue data housed in the Clark collection, however, seems minuscule when considering how in 2010, then Google CEO Eric Schmidt stated: “From the dawn of civilization to 2003, five exabytes of data were created. The same amount was created in the last two days” (Halliday 2010). Finan draws explicit connections between the communication networks of the early 20th-century to present-day digital technologies. As part of the project, Finan created a local network using Raspberry Pis and Arduinos. Near the entrance of the installation there is a small table with autograph books that viewers are encouraged to pick up and write their own stories. In the back of each notebook, there is an RFID sensor, which is used in contactless credit cards. Once the book is raised, requiring physical engagement from the viewer to lift the book, the projected video in the room changes (Figure 2). This interactive quality implicates the viewer directly in the network of the installation, influencing the playback of history. There is an overwhelming accumulation of information present in the work, though Finan’s installation makes evident how the accumulation of information does not necessarily equate a better understanding of the past, which in this context is the contested history of the Civil War in Ireland, or enable it to be more legible.



Figure 2. Shane Finan, *Assembly*, 2022. Reproduced with permission from the artist.

2.1. Making Sense

Historians generally describe the Irish Civil War as being fought over divisions regarding the Anglo–Irish Treaty that was signed with the British government at the end of the war of independence. A national army of the provisional Irish government, bolstered by the British, were in support of the treaty. The nationalist opponents, led by the Irish Republican Army, rejected the treaty, arguing that it did not grant Irish independence (Kissane 2005, p. 1). However, Bill Kissane and others observe how it is challenging to reduce the war to such a simplistic historical explanation. Irish historian Diarmaid Ferriter notes how “in reality the war was never as clear cut as either side pretended or came to believe” (Ferriter 2021, p. 2). This ambiguity around the conflict has not reduced its impact or legacy, and it is a quality that Finan embraces in his work. *Assembly* is an artwork that presents stories, but not in a manner that elucidates history or “makes sense” in the terms of leading to a logical truth. Rather Finan, “makes sense” (with sense understood as sensory) through the cultivation of an aesthetic encounter that is affective, comprised of the many voices found in print as well as generated through an AI that produces stories based on the text within the archive. Physicist and philosopher Karen Barad challenges the emphasis on reflection as the trope for knowing—as in text represents and reflects similar to a mirror,

shining truth back to us. Instead, drawing from Donna Haraway, they propose the physical phenomenon of diffraction as a metaphor that draws attention to “patterns of difference” (Barad 2007, p. 71). They describe diffraction as a material phenomenon particular to waves and occurs when waves overlap, bend, and spread when meeting some sort of barrier, gap or obstruction, creating patterns of difference. These patterns of difference, which are physical phenomena, also provide a significant metaphorical model as “diffractions are attuned to difference—differences that our knowledge-making practices make and the effects they have on the world” (Barad 2007, p. 72). As Barad emphasises, and as Haraway also argues throughout her work, processes of knowledge-production are not objective observations, but actively influence the phenomenon being measured through material entanglements and intra-actions. Philosopher Roisin Lally (2022) describes how diffraction, crudely defined, enables multiple times to exist simultaneously. Barad, as a philosopher and theoretical physicist, challenges linear notions of time, but instead time is being and the world is its memory meaning that time is physical, material, radical and political. *Assembly* provides a diffraction of history using technologies of communication as it draws attention to—rather than clarifies—content, technological use, and communication networks. In addition, through the visual form of the palimpsest, the layering of text from various sources along with text generated through machine learning, this field of time becomes spatial within the room, surrounding the viewer physically with these stories.

2.2. The Materiality of Decolonisation

Finan’s work engages with the historical moment of the Irish Civil War—a significant phase of Ireland’s decolonisation from the United Kingdom. Finan also utilises communication technologies, both from the 1920s in his use of archival material and present digital technologies, drawing attention to the materiality of networks through his artistic repurposing. This attention to networks is not just in terms of content, such as including text from print media that is then interpreted by an AI text generator and then distorted through processes of re-printing, but also in how *Assembly* was created. This intertwining of the analogue with digital—the 1920s with the present—point to a broader intertwining of Ireland with its colonial and decolonial past. I highlight these qualities as they point to the decolonial qualities of Finan’s project, which not only centres on a time of decolonisation, but his use of technologies through the work provides an alternative way of thinking that relates to what Mignolo and Walsh (2018) refer to as decoloniality. Mignolo emphasises how coloniality, or the darker side of modernity, and decoloniality differ from colonisation and decolonisation. Colonisation refers to the process of dominating a territory, settling the land, and the extraction of its resources while allegiance remains to the “mother country”, with decolonisation describing the process of colonies forming independent nations (Mignolo and Walsh 2018, pp. 116 and 121). That is, these terms relate specifically to territories. In contrast, coloniality and decoloniality refer to different rationales. Referencing Anibal Quango, who does not use the terms coloniality or decoloniality, Mignolo (Mignolo and Walsh 2018) describes a shift in understanding decolonisation so that it does not just reference the independence of a nation that perpetuates the epistemic paradigms of the coloniser, but refers to another way of thinking. In *Assembly*, the use of technologies to diffract narratives, collapsing history into its engagement with the present, creates obfuscation that draws attention to relations. Rather than using technologies in order to elucidate history and communication through increased information, which Glissant (1997) describes as a modernist imperative of colonisers, Finan enables such differences to co-exist as palimpsests as he draws relations through his networked communication ecologies.

Ireland, as a former colony but also a nation that is part of Europe, presents an interesting case for decolonial thinking. Ireland’s establishment as an independent nation occurred as part of what Mignolo (Mignolo and Walsh 2018) describes as the second wave of decolonisation, with the first wave including the European French and Glorious revolutions as well as the revolutions in the Americas. During the second wave of decolonisation that took place in the first part of the 20th century, many African and Asian nations gained

independence from the imperial states of Europe. Ireland poses a challenge to a unified understanding of Europe through its decolonisation, undoing the “double bind of the West and the rest” (Graham and Maley 1999). Similar to many of these former colonies, even though decolonisation meant that these nations were no longer under the governmental control of their former colonisers, colonial thinking persisted within the new states (Mignolo and Walsh 2018), thereby facilitating the ongoing influence through neoimperial interventions. Finan’s installation engages with a pivotal moment in the decolonisation of Ireland through his repurposing and adoption of communications technologies. He introduces decolonial cracks into the narrative and creates a space for introducing an Irish cosmotechnics, which I further discuss in relation to the work *Entanglement* by ANNEX below. He takes this complex history and makes it tangible without dissolving differences that were later glossed over in pastoral idealism through the development of Bunreacht na hÉireann, the 1937 Constitution of Ireland (Hanafin 2001). Prior to introducing the idea of an Irish cosmotechnics, however, it is important to further deconstruct modernity in the Irish context, including the perceived duality of tradition versus progress, and point to alternative ontologies.

3. Interlooping: Unravelling Irish Wool

During the late 19th and early 20th centuries, an anti-colonial Irish identity was being constituted in conjunction with political ambitions of national independence, drawing in part from lost traditions, Celtic mysticism, and medieval theocracy (Hanafin 2001). For instance, the practice of Irish indigenous sport was promoted through the creation of the Gaelic Athletic Association (GAA) in 1884 and the foundation of the Gaelic League in 1893 worked to revive the Irish language. In addition, the commercial making and selling of Aran jumpers grew as a cottage industry in the west of Ireland, making the cable knit sweater a recognised product connected with the Irish Free State (Carden 2018). The jumper is more than a garment, however, and has come to capture a certain imagining of pastoral Irishness, grounded in a popularly shared tale about the origin and function of these jumpers. Siún Carden states:

The basic narrative goes like this: a fisherman goes out onto the dangerous Atlantic Ocean, wearing a jumper knitted by his female relations. Trying to earn a living, he is lost at sea. His battered body, once washed ashore, is unrecognizable. His jumper, however, identifies the corpse as belonging to one particular family, who can then claim and bury his body. (Carden 2018, p. 261)

Despite the popularity of this myth, its origin and accuracy are questionable. For the context of this analysis, the significance of the jumper is not so much the authenticity of its origins, but the coinciding of the garment’s commercialisation in conjunction with an Irish national identity and how it encompasses a materialisation of Irish pastoralism. Knitting involves more than just the construction of clothing, but as Joanne Turney argues, there is a nostalgia to knitting that is “embedded with a language of loss and an idealist and rural past”, that combines “‘real’ historical artifacts, myths or other elements pertaining to longevity and a collective belief in that history and those objects/myths/legends” (Turney 2009, p. 49).¹ Moreover, the Aran jumper functions as a material manifestation of certain perceptions of Irishness, which grew increasingly popular and internationally recognisable during the 20th century (Carden 2018). However, despite its affiliation with the Irish countryside, which is home to an extensive sheep farming industry, most present-day Aran jumpers are made with wool imported from the Southern hemisphere. Irish wool is generally too coarse for clothing and tends to be used in carpeting, with many brands purporting to sell Irish wool actually import wool that is spun in Ireland and is not wool from Irish sheep (O’Riordan 2022). Instead, wool is treated as a by-product by sheep farmers, as there is no local wool industry of scale to handle processing.

I engage with this little-known aspect of Irish wool in my 2021 livestreamed performance *Interlooping*. Created during the COVID-19 pandemic as part of the 2021 Age & Opportunity Bealtaine Festival, I start the performance next to a table, covered with a

pile of sheep's wool purchased from a farmer in Co. Meath, Ireland. I am hidden behind this pile of wool that fills the frame, with my presence made known through slow, subtle movements in the wool. The camera is placed close to the table, presenting a tight framing where performance actions intentionally overflow the image. There is a contact microphone attached to the table that captures my motions and I wear a lapel microphone to enhance the sound of my breathing. An echo is added to the sounds through a live reverb effect, giving the space an artificial sense of vastness that contrasts the visual frame packed with wool. The reverb effect also obscures the sound sources, contributing a sense of ambiguity, similar to the ambiguities surrounding the origins of what is marketed as Irish wool. Over the course of twenty minutes, I grapple with the wool, becoming entwined with the amorphous fibrous mass as I attempt to translate the haptic through the visual and sonic affordances of the screen (see Figure 3).



Figure 3. EL Putnam, *Interlooping*, 2021. Reproduced with permission from the artist.

3.1. *Too Rough to Wear*

During the summer of 2020, an image of a receipt went viral on social media. This handwritten receipt from Joyce Wool Merchants in Headford, Co. Galway, a town in the west of Ireland, shows a payment for EUR 17.75 for 355 kg of sheared wool from 245 sheep. As with many other industries at the time, COVID-19 severely impacted the wool industry in Ireland, which, as noted above, is dependent on international export for processing. Such reliance on export meant that with the disruptions of COVID-19, prices plummeted, and many farmers began stockpiling wool until it became cost effective to sell. As one farmer from County Offaly notes:

You just can't sell wool. Well, what do we do with it? We always took it to this guy up in Roscrea, but sure look, what's he going to do with it? Like, there's no market for it. That is one of the things that the COVID thing has impacted because there's no market. It used to go to China, like we have no way of washing wool here in this country. It always has to go to Bradford in England to get all the stains out of it, when it goes into your woolly jumper or whatever it goes into. (as quoted in [McCabe et al. 2020](#))

That summer I purchased wool from a farmer who I met through a Facebook group that formed in response to the ongoing crisis in the wool trade. I cleaned and dyed it using

turmeric and beetroot, though remnants still held the colours dyed by the farmer to indicate the flock. This is the wool that I incorporated into the performance *Interlooping*.

There is a paradox in the material: a tension between bounty and excess, accumulation and worthlessness, that is endowed through its market value(less)ness. Wool is a symbol of quaint Irishness and rural romanticism through its presentation of the Aran jumper and images of pastures with grazing sheep, but also a refuse product of the sheep industry that becomes a nuisance once the ecologies of trade breakdown. As a physical and symbolic material, it highlights fractures within Ireland's agricultural milieu, an intersection of technology and geography that is material and relational. The engagement with the raw wool, rather than wool carefully crafted into the recognised form of the Aran jumper, also brings attention to Irish technologies of making. As noted, despite its popularity as a garment representing "Irishness", the Aran jumper has only gained prominence internationally as an Irish product in the 20th century. The development of the cottage industry in the 19th and 20th centuries were part of a broader process of technological and economic development in the region tied to nation formation. The growth of the industry and the use of foreign wool, as well as the export of Irish wool and the lack of island-based processing facilities, point to the jumper and Irish sheep farming as being the result of modern, globalised technological systems of trade. Moreover, the perceived indigenous ontologies of Irish wool are illusions in material and technological terms.

3.2. *Gesturing towards Alternative Ontologies*

Within *Interlooping*, there is a breakdown of the binary of traditionalism versus globalised modernity, as both are present in the technologies of Irish wool and knitting. In contrast to the perpetuation of modernity through economic development, Arturo Escobar (2018) proposes that it is possible to change design processes to accommodate cultural and political autonomy, providing decolonial alternatives to beliefs in progress that are ultimately unsustainable. Escobar bases his thinking of designing for a pluriverse in the acknowledgement that there are multiple ontologies; ontologies that have been eradicated through centuries of colonisation and the expansion of Western modernity, or what Escobar defines as a "one-world ontology" (Escobar 2018, p. 4). For him, it is vital to develop design processes that are not just based on functionality and extraction of profit—a mindset of modernity that is not sustainable—but highlight the "relational dimension of life" (Escobar 2018, p. 8). Notably, Escobar focuses his research on the "struggles of indigenous, Afrodescendent, peasant, and marginalised urban groups in Latin America" (Escobar 2018, p. 7) who are experiencing the consequences of extractive economies of neoliberal capitalism. However, he does not limit the need for pluriversal design, or what he refers to as ontological design, to these contexts. Ontological design is "a means to think about, and contribute to, the transition from the hegemony of modernity's one-world ontology to a pluriverse of socionatural configurations; in this context, designs for the pluriverse becomes a tool for reimagining and reconstructing local worlds" (Escobar 2018, p. 29), and in Ireland, there are alternative ontologies present. In his work, Irish writer and documentary-maker Manchán Magan (2022) traces an alternative ontology through the Irish language and mythological framing of the island's geography. His intent is to use the insights gleaned from these (re)imaginings of the landscape to "better understand the instincts and outlooks that still inform the Irish psyche today" while cultivating a more sustainable means of engaging with the earth at a pivotal moment in the current climate crisis (Magan 2022, p. 6). Magan juxtaposes his work to a certain obsession with economic prosperity in Ireland that he describes as a reaction to its tumultuous past, which British colonisation, stating how "only in traumatized countries would the state decide that maximizing profits and maintaining industrial growth should take precedence" as emphasis needs to be placed on "copper-fastening our own position in the world and amassing resources so that we can be saved from ever having to endure such troubles again" (Magan 2022, p. 105). Such a description encapsulates hegemonic economic attitudes, which are present within the agricultural practices of sheep farming that created the surplus of wool used in *Interlooping*.

Here, dependence on the global economy meant that there is no localised infrastructure to handle the processing of wool, as export proved to be cheaper and easier. Despite the success of such networks in bringing Ireland economic prosperity, recent crises have revealed how such structures are not sustainable. My use of Irish wool in this context results from a breakdown of international trade, indicating an inadequacy of universal technics. Escobar's proposals for ontological design for a pluriverse offers an alternative to the predominant obsession with industrial growth, which is relevant for considering an Irish cosmotechinics.

In *Interlooping* there is a further intersecting of the local with the global. The stockpiled wool of Ireland's sheep trade—the result of a global trade network disrupted through COVID-19—is intermingled with the global telecommunications networks of livestreaming. *Interlooping* was streamed over vMixcall through YouTube (owned by Google) and Facebook, both of which have data centres in Ireland. While the disruption of the wool trade lead to an over accumulation of wool at Irish farms through lack of demand, demand for livestreamed video increased exponentially during COVID-19. The physical wool produced in Ireland becomes obsolete while data centres expand, both encompassing material processes typically out of sight and out of mind. Through the use of live streaming, *Interlooping* points to another growing, extractive industry that is transforming the Irish landscape: the rapid growth of data centres.

4. *Entanglement*: Data Centres, Corporate Coloniality, and Irish Heat

Entanglement was originally created as the Irish pavilion for the 2021 Venice Architectural Biennale. I visited the work when it was presented in Galway, Ireland, as part of the 2022 Galway International Arts Festival. In Galway, the installation is situated within the basement of an unused commercial complex, architectural debris from the rapid rise and fall of the 1990s–2000s Celtic Tiger ([ANNEX 2022](#)). The work is a stack, both literally and figuratively. Screens are mounted within a massive, exposed framework built with server racks as hundreds of ethernet cables weave throughout it, in the towering form of a campfire (see Figure 4). Screens playing video from thermal cameras, including images from a live feed, are presented along with text generated by an AI bot. Fans are dispersed throughout the structure, running periodically, along with *Gutta percha* rubber plants from Indonesia fitted with grow lights. The structure does not only physically allude to the form of a campfire, but was burned, with scorched metal structures and the melted rubber of ethernet cables introducing organic patterns into this “sublime data centre structure” ([ANNEX 2021b](#), p. 89) that was originally built in Dublin before being shipped to its various exhibition sites first in Venice, then Berlin for Transmediale 2022, and finally Galway. The structure exudes pulsating sounds that reverberate through my body, as monitors flash text and images. This towering machinic form palpates in rhythmic beats, similar to a breathing entity, alluding to its hybrid biological and non-biological, living and non-living cognition. *Entanglement* conveys how data centres, artificial intelligence, and telecommunications infrastructures have engineered systems and networks that impact life in all its forms. These qualities are manifest in the phenomenological experience of the work. The complex shape of the structure, with exposed wires and connections, present a physical entanglement, as my body becomes intertwined in the structure visually through live feed thermal camera imagery and proprioceptively as I walk through the form and sound waves move through my flesh. According to the creators, the collective ANNEX that is comprised of Sven Anderson, Alan Butler, David Capener, Donal Lally, Clare Lyster, and Fiona McDermott, *Entanglement* presents a relationship between data infrastructure and architecture, with emphasis on exploring and engaging with the materiality of technologies, including the “human, environmental, and cultural impacts of information and communication technologies” ([ANNEX 2021a](#)).



Figure 4. ANNEX, *Entanglement*, 2021. Reproduced with permission from ANNEX.

4.1. Data Centres and Corporate Coloniality

Since the start of the 21st century, Ireland has become a growing hub for multinational technology corporations, which includes being the European base for Meta, Twitter, Google, Airbnb, and more. Ireland also contains numerous data centres, which are increasingly springing up across its landscape. Data centres tend to be housed in nondescript buildings, or what Donal Lally describes as impenetrable boxes, “blank things doing something quite profound” (ANNEX 2022). Even though data centres are vital to current telecommunications systems, especially cloud computing, the physical architecture and material infrastructures that make the ubiquity of our digital lives possible are hidden and opaque. With *Entanglement*, ANNEX attempts to make such processes tangible, making the seeming immateriality of digital computers concrete and perceptible. While ANNEX are not the only ones to draw attention to the materiality of digital technologies (Parikka 2015; Crawford 2021), they highlight the impact that these technologies have on Ireland in the present landscape, making connections with the island’s historical role in networked communication. In addition, the attention to the data centre as a material entanglement of infrastructures functions as corporate coloniality through activity from transnational tech corporations, many of which are based in Silicon Valley. As such, while the formal period of colonisation within Ireland ceased a century ago, there remains a corporate coloniality, with physical impacts on Irish geography and society. Couldry and Mejias (2019) argue that there is a new era of colonialism, a data colonialism that involves the capture, control, and extraction of human life through the quantification of everyday relations as data for a growing Cloud Empire, which is their name for the totalising vision of the technological industries being perpetuated globally as development. This process includes novel forms of extraction through emerging technologies, but also, as ANNEX emphasises with *Entanglement*, more traditional forms of domination, including the appropriation of land and natural resources.

At the time of writing, there are over 70 data centres located in Ireland, including Google data centres in Dublin, with ambitions to grow with eight under construction and plans to develop 30 more (Shearer 2022). The primary header for Google’s website about their Irish data centres simply states, “Cooling with Air” (Google n.d.). This phrase of “Cooling with Air” references concerns around sustainability, as the webpage describes later how its “advanced air cooling system [. . .] takes advantage of Ireland’s weather to keep our servers running smoothly” (Google n.d.), thereby decreasing energy needs. The webpage goes on to state how the company chose Dublin due to its “right combination of energy infrastructure, developable land, and available workforce for the data centre”,

emphasising how it employed local building and construction workforce to develop the data centre ([Google n.d.](#)).

What is not mentioned on the webpage is that Ireland has provided significant tax reliefs and incentives (or tax avoidance) for attracting US tech companies such as Google, which is referred to as the “double Irish.” When combined with a “Dutch sandwich”, another legal tax avoidance strategy, it enabled Google to reduce taxes by billions ([Lowder 2011](#)). The double Irish means that a US based corporation sets up a subsidiary in Ireland, then relocates to a tax-free nation such as Bermuda. The corporation then sets up a second subsidiary in Ireland. Due to the nuances of international tax treaties, this arrangement enables the corporation to be treated as a dual resident of Ireland and Bermuda, bypassing US tax laws, while taking advantage of the benefits of not having to pay tax when transferring money within the European Union ([Lowder 2011](#); [Loomis 2012](#)). While this loophole has been officially closed, Ireland continues to provide relief for foreign tech companies with its low corporate tax of 12.5% (to be increased to 15%), that can be potentially be cut in half to 6.25% with a “knowledge development box” tax relief ([Revenue 2022](#)). Such initiatives have enabled Ireland to grow as a destination for tech companies, though with many paying little tax on their profits meaning that the tangible returns to the nation are relatively minimal with over twenty major US tech corporations, including Apple, Google, Etsy, Meta, Amazon, and Twitter, reaping billions in profits ([Taylor 2021](#); [Weckler 2017](#)). As ANNEX member Donal Lally observes, the data centre territorialises the landscape, though with these centres requiring relatively little human workers to function, “they are unlikely to change local residents’ economic futures” ([Lally 2021](#), p. 212). As such, these practices perpetuate a mentality of coloniality within the present-day neoliberal context. Ireland’s geographic location at the “western fringe of Europe” has made it a significant strategic site for global telecommunications ([ANNEX 2021b](#), p. 10), where the development of such networks has been and continues to be entangled in the imperial practices of significant shapers of societies, whether the political forces of nations or the corporate giants of the tech industries in today’s data colonialism. These developments are not without their material costs, as data centres use a massive amount of resources to function, which ANNEX highlights throughout the work and the accompanying materials: “the cloud is not an ethereal and abstract space but has distinct material and environmental footprints that compel us to re-evaluate the utopian fantasy of digital communication and to reflect on how we live together through data infrastructure, today and into the future” ([ANNEX 2021b](#), p. 12). The drain that data centres pose on existing Irish resources are not just noted within scholarly literature ([Brodie 2020](#)), but have entered mainstream media ([Carroll 2020](#); [McGee 2021](#); [Ryan-Christensen 2022](#); [Healy 2022](#)). Focus here tends to be faced on energy consumption, specifically electricity usage, which ANNEX emphasises is only one strand of this entangled assemblage ([ANNEX 2022](#)).

ANNEX writes how “by bringing the physical infrastructure around data under the spotlight, it might reframe how we understand the exponential growth of global data and to raise awareness of the spatial presence of data and its corresponding environmental impact” ([ANNEX 2021b](#), p. 10). The work also highlights the entanglement of telecommunications networks with colonialism, which includes the laying of the first transatlantic telecommunications cable from Valentia Island, “a sparsely populated, rural wilderness of the south-west coast of Ireland” ([ANNEX 2021b](#), p. 10). This cable stretched from the small island in County Kerry to Heart’s Content, Newfoundland. Chris Morash describes how this telegraph cable captured imaginations in the United States, Canada, and England (with Ireland part of the United Kingdom at that time) as it “generated its own rich symbolic narrative, a complex matrix of significance that pushed the meaning of the new technology well beyond simply facilitating trade or enabling better international relations” ([Morash 2021](#), p. 175). Morash also points out how just prior to this technological achievement taking place, Valentia Island was ravaged by the Great Famine in Ireland: “in the decade before 1851, Valentia itself lost almost thirty percent of its population; across the bay, on the Dingle Peninsula, there were zones where the figure was above fifty percent” ([Morash](#)

2021, p. 182). The horrors of the famine, which decimated the Irish population through death and emigration, creates a cognitive dissonance in relation to the narratives of modern, technological progress. Morash refers to this history as the “dark mirror image of the telegraph’s ‘triumph over time and space’” (Morash 2021, p. 183), which echoes Mignolo’s (2011; Mignolo and Walsh 2018) description of coloniality as the darker side of Western modernity. At that time, telegraphists came from England to Valentia Island, with many remaining with their families to become “permanent residents, integrating into life on the island” (Kelly 2021, p. 189). Ireland now celebrates this accomplishment, with the Valentia Transatlantic Cable station having put in a bid to become a UNESCO World Heritage site. However, the inclusion of this history within *Entanglement* through the incorporation of sections of the cable and Valentia slate into benches around the structure, and my emphasis on it as an instance of modernity and colonialism, makes evident how this legacy continues with the darker side of neoliberalism through corporate coloniality. Specifically, through the practices of US technological corporations whose data centres and other technological infrastructures are continuing to transform the Irish landscape into the “backstage landscapes of globalisation” (ANNEX 2021b).

4.2. Towards an Irish Cosmotechnics

This attention to decoloniality and the continuation of corporate coloniality in Ireland that is evident in *Entanglement* brings me to the question that underpins this analysis: is there an Irish cosmotechnics? I raise this question since current thinking around technology in Ireland leans, especially in industry, political, and other predominant discourses, towards an adoption of a largely libertarian mythos of technology perpetuated by Silicon Valley that emphasises progressive optimism (Turner 2010) and the ideologies grounding data colonialism (Couldry and Mejias 2019). ANNEX member Fiona McDermott alludes to these qualities in a discussion of *Entanglement* when she describes an interest in the “larger narratives around technology” and the importance of questioning these, especially with the acceleration of technological development and building necessary infrastructures (ANNEX 2022). The trajectory of tech companies is to just “ramp it up”, where there is not only the perpetuation of modernist progress that Mignolo, Walsh, Escobar, and others critique, but it is accelerated exponentially. McDermott emphasises the significance of “dismantling those narratives.” *Entanglement* instigates this process through its multifaceted conceptual and aesthetic qualities. David Capener (ANNEX 2022) highlights the longer history of telecommunications present in Ireland with the transatlantic telegraph cable discussed above. *Entanglement* also engages with a more ancient form of social communication—the campfire.

Fire is the first technics (Hui 2020). The human capacity to create and manage fire is one of the earliest significant technological developments, appearing within various mythologies. For instance, the Greek myth of Prometheus—the titan god who was punished for bringing fire to humans thereby instigating civilisation—is commonly touted as an originary myth of technology (Stiegler 1998). Yuk Hui notes that this myth is particular to societies rooted in Greek philosophy, specifically Western European cultures, meaning that it does not comprise a universal cosmology of technology: “in assuming a universal Prometheism, one assumes that all cultures arise from *technē*, which is originally Greek” (Hui 2016, p. 14). Therefore, Hui emphasises the need to acknowledge how different mythologies around the globe present different origins of technics, as “scientific and technical thinking emerges under cosmological conditions that are expressed in the relations between humans and their milieus, which are never static”, (Hui 2016, p. 18) or what he defines as cosmotechnics. This provides an alternative to acting as if “there is one kind of technics and technology”, which in turn means these are presumed to function the same across cultures and “hence must be explained in the same terms” (Hui 2016, p. 4). Such a proposal provides an approach for considering a plurality of technics, which is consistent with other threads in decolonial thought including Escobar’s definition of ontological difference as the pluriverse (Escobar 2018).

As I have reiterated throughout this essay, Ireland poses an intriguing case for decolonial thinking and considering cosmotechnics. It is both a former colony of the British Empire and it is currently part of Europe, influenced by Western European thought yet also having its own indigenous cosmologies. My turn to cosmotechnics here is not to propose a romanticised version of Irish thinking towards technology; a sort of unifying myth to counter the evils of modernity as constituted through foreign corporate coloniality and data colonialism. Rather, to propose that there is an Irish cosmotechnics is consistent with ANNEX's intentions of *Entanglement*—to challenge the unifying, hegemonic narrative surrounding technology as inevitable progress, which is not only perpetuated by the giants of the Cloud Empire, but is influencing political and economic policies to attract these corporations to Ireland, including substantial tax breaks noted above, who are transforming the landscape and social relations in significant ways that have yet to be fully known. Irish philosopher Richard Kearney points to the possibilities of engaging with myth while warning against the risks when he states: “at best, myth invites us to reimagine our past in a way which challenges the present status quo and opens up alternative possibilities of thinking. At worst, it provides a community with a strait-jacket of fixed identity, drawing a *cordon sanitaire* around this identity which excludes dialogue with all that is other than itself” (Kearney 1997, p. 97). The latter occurred in Ireland in the early decades of its decolonisation, including the period between the Civil War and 1937 when the Irish Free State became the Republic of Ireland, through the cultivation of an anti-colonial, romanticised traditionalism. At the time, there was a celebration of a pre-colonial Gaelic past wrapped in theocratic and teleological nationalism combined with replications of colonial infrastructures throughout the nation, perpetuating modernist ontology ablaze in a more “traditional” form. To propose an Irish cosmotechnics is meant to introduce difference to hegemonic discourse and structures. As Hui notes: “what needs to be reinvented is not specific technology that could be more ecological or efficient, but rather a new way of thinking technology in its totality and its diversity” (Hui 2020, p. 112). Cosmotechnics, Hui emphasises, is not about outer space, but instead the local: “each culture has its own cosmology, which is the product of its geography and the imagination of its people” (Hui 2020, p. 41). Cosmotechnics throws a spanner into modernist illusions of inevitable progression and even within the seeming unified block of Europe, there is a pluriverse of technics. Making this shift invites approaches to technology and technics that do not just centre the reduction in costs and maximisation of profits as incentives for action, as is the current neoliberal ethos of technology promoted through data colonialism. Here, the ambivalence of ANNEX's engagement with technology is significant, as it makes use of the technologies that it critiques, preventing *Entanglement* from falling into the traps of romantic idealism. Rather, *Entanglement* functions as an example of what Kearney refers to as “thinking *otherwise*” (Kearney 1997, p. 81).

To return to the form of the fire—ANNEX emphasises how the campfire is a primitive technology and means of social communication, which has its own roots in Irish history and legend. Clare Lyster mentions this point in a Slack thread from the group, describing how the bonfire is “a pyro-technic form associated with pagan festivals such as Bealtaine” (ANNEX 2021b, p. 83). Bealtaine is one of Ireland's ancient quarter day festivals, celebrated during early May and marking the beginning of summer.² This pagan ritual has been reinvigorated in the 21st century with the Fire Festival at the hill of Uisneach, a site of long spiritual and political significance at the centre of Ireland (Magan 2022; Armao 2023). According to the Dinnseanchas (early Irish lore of notable places first passed down orally and later transcribed by Medieval monks), the hill of Uisneach is where a druid named Mide lit the first fire in Ireland: “and the fire spread throughout the whole of Erin, and for seven years was it ablaze. Additionally, from that fire were kindled every chief fire and every chief hearth in Ireland” (quoted in Magan 2022). The fire is not just paying reference to the present-day bonfires of Bealtaine, but there is a cosmological connection to Ireland's prototypical flame. Thus, *Entanglement* creates space for an Irish cosmotechnics entwined within the nation's current status as a prime site for data centre development

through corporate coloniality. There is not one technics but many. The hill of Uisneach is also believed to be the site of the mythical fifth province of Ireland—Ireland currently consists of four provinces, but the Irish word for province (*coiced*) means fifth. However, Kearney argues that this fifth province is not geographic, but it is an imagined state: “The fifth province can be imagined and reimagined; but it cannot be occupied. In the fifth province, it is always a question of thinking *otherwise*” (Kearney 1997, p. 81). Moreover, I propose that an Irish cosmotechnics is a means of thinking technics otherwise. It is a means of developing a practice of technology and implementation of technical infrastructures that engages with the localities of Ireland in relation and in response to predominate discourse in a manner that is attuned to materialities and could benefit the island as a whole by being more in tune with its geological and social ecologies, creating a more sustainable present and future.

5. Conclusions

Hui considers the relationship between art and technology in regard to cosmotechnics, asking “how the perspective of art can allow us to rethink technology” (Hui 2020, p. 209). Art has always depended on technology as a medium, with technology not just meaning digital technologies but involves any technical object external to the human body, such as the brush and pigment in painting. However, Hui (2020) argues that art also has the capacity to enable us to think of technology differently, not just taking it as standard or universal tools of production. This includes disrupting universal thinking regarding technology, making room for the locality of cosmotechnics—a decolonial pluriverse of practices.

In all three works discussed, art uses technology, but also reframes the use of technology. As such, there is ambivalence in how technologies are used, where technologies are vital to produce artworks, but these works also draw critical attention to these technologies and their impacts. Ambivalence is key here to prevent the absolute rejection of other technical practices and avert the romanticisation of Irishness and Celtic mythology in the considerations of an Irish cosmotechnics. Rather, *Assembly*, *Interlooping*, and *Entanglement* are specific to the Irish context of their development, creating decolonial cracks that invite techno-diversity. In the above analysis, I bring together different aspects of Ireland’s decolonisation and ongoing corporate coloniality, including its formation as an independent nation and the accompanying Civil War, the embrace of Irish tradition that perpetuates rather than opposes modernist “one-world” ontology, and today’s rush to transform Ireland into a landscape of data centres as the cloud is grounded in the materiality of the Island’s geographic and social ecologies. I focus on these moments to make evident how the catastrophic unveilings of technological failings are supported through “structures of unsustainability that maintain the dominant ontology of devastation” (Escobar 2018, p. 33). Taking this approach occupies what Kearney refers to as the imagined state of the fifth province, or a means of thinking *otherwise*. Art becomes a means of doing so through ambivalent engagement with technologies that makes space for the co-existence of relational difference. At the same time, art introduces differencing into technology and technics, introducing cracks into one-world ontologies, including what I start to speculate is an Irish cosmotechnics.

Funding: This research received no external funding.

Data Availability Statement: No new data were created or analyzed in this study. Data sharing is not applicable to this article.

Conflicts of Interest: The author declares no conflict of interest.

Notes

- ¹ I would like to thank Kate Antosik-Parsons for drawing this to my attention. Her analysis of Irish artist Pauline Cummin’s 1985 *Inis t’Oirr/Aran Dance* presents a deconstruction of the jumper as representative of Irishness in conjunction with traditional perceptions of gender (Antosik-Parsons 2012).

- ² The quarter festivals include Imbloc or Ormelg (February 1), Bealtaine (May 1), Lughnasa or Lammas (August 1), and Samain (November 1). These festivals have roots in Irish mythology (Dames 2000) while also corresponding to different stages of harvest (Magan 2022).

References

- ANNEX. 2021a. Entanglement. 2021. Available online: <https://entanglement.annex.ie/Pavilion> (accessed on 16 January 2023).
- ANNEX. 2021b. *States of Entanglement: Data in the Irish Landscape*. New York and Barcelona: Actar Publishers.
- ANNEX. 2022. Entanglement: A Conversation with ANNEX Interview by EL Putnam. Available online: <https://www.youtube.com/watch?v=emJ-IBOTjyY> (accessed on 16 January 2023).
- Antosik-Parsons, Kate. 2012. Remembering and Forgetting: Memory and Gender in Contemporary Irish Time-Based Art. Ph.D. thesis, University College Dublin, Dublin, Ireland.
- Armao, Frédéric. 2023. *Uisneach or the Center of Ireland*. Studies for the International Society for Cultural History. New York: Routledge.
- Barad, Karen. 2007. *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Durham and London: Duke University Press.
- Brodie, Patrick. 2020. Climate Extraction and Supply Chains of Data. *Media, Culture & Society* 42: 1095–114. [CrossRef]
- Carden, Siún. 2018. The Aran Jumper. In *Design Roots: Culturally Significant Designs, Product, and Practices*. Edited by Stuart Walker, Martyn Evans, Tom Cassidy, Jeyon Jung and Amy Twigger Holroyd. London, Oxford and New York: Bloomsbury Academic, pp. 67–78.
- Carroll, Rory. 2020. Why Irish Data Centre Boom Is Complicating Climate Efforts. *The Guardian*, January 6, sec. Environment. Available online: <https://www.theguardian.com/environment/2020/jan/06/why-irish-data-centre-boom-complicating-climate-efforts> (accessed on 21 February 2023).
- Cleary, Joe. 2002. Misplaced Ideas? Locating and Dislocating Ireland in Colonial and Postcolonial Studies. In *Marxism, Modernity and Postcolonial Studies*. Edited by Crystal Bartolovich and Neil Lazarus. Cambridge, UK: Cambridge University Press, pp. 101–24.
- Comerford, Richard Vincent. 1988. 'Political Myths in Ireland'. In *Irishness in a Changing Society*. Edited by The Princess Grace Irish Library. Gerrards Cross: Colin Smythe.
- Couldry, Nick, and Ulises Ali Mejias. 2019. *The Costs of Connection: How Data Is Colonizing Human Life and Appropriating It for Capitalism*. Stanford, CA: Stanford University Press.
- Crawford, Kate. 2021. *Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence*. New Haven: Yale University Press.
- Dames, Michael. 2000. *Ireland: A Sacred Journey*. Shaftesbury and Boston: Element Books.
- Escobar, Arturo. 2018. *Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds*. New Ecologies for the Twenty-First Century. Durham: Duke University Press.
- Ferrieter, Diarmaid. 2021. *Between Two Hells: The Irish Civil War*. London: Profile Books Ltd.
- Glissant, Édouard. 1997. *Poetics of Relation*. Translated by Betsy Wing. Ann Arbor: University of Minnesota Press.
- Google. n.d. Dublin, Ireland—Data Centers. Google Data Centers. Available online: <https://www.google.com/about/datacenters/locations/dublin/> (accessed on 14 February 2023).
- Graham, Colin. 2001. *Deconstructing Ireland: Identity, Theory, Culture*. Edinburgh: Edinburgh University Press.
- Graham, Colin, and Willy Maley. 1999. Introduction: Irish Studies and Postcolonial Theory. *Irish Studies Review* 7: 149–52. [CrossRef]
- Halliday, Josh. 2010. Guardian Activate 2010: Live Coverage. *The Guardian*, July 1, sec. Media. Available online: <http://www.theguardian.com/media/pda/2010/jun/30/guardian-activate-summit-2010-liveblog> (accessed on 12 January 2023).
- Hanafin, Patrick. 2001. *Constituting Identity: Political Identity Formation and the Constitution in Post-Independence Ireland*. Aldershot and Burlington: Ashgate/Dartmouth.
- Healy, Catherine. 2022. "We Have to Think Hard about Prioritisation": The Environmental Impact of Ireland's Data Centres. *The Journal.ie*. February 27. Available online: <https://www.thejournal.ie/data-centres-2-5693974-Feb2022/> (accessed on 21 February 2023).
- Heidegger, Martin. 1977. *The Question Concerning Technology and Other Essays*. Translated by William Lovitt. New York: Harper Perennial.
- Hindley, Reg. 2012. *The Death of the Irish Language: A Qualified Obituary*, 2nd ed. London: Routledge.
- Hui, Yuk. 2016. *The Question Concerning Technology in China: An Essay in Cosmotronics*. Falmouth: Urbanomic Media Ltd.
- Hui, Yuk. 2020. *Art and Cosmotronics*. Minneapolis, MN: E-Flux Books.
- Kearney, Richard. 1997. *Postnationalist Ireland: Politics, Culture, Philosophy*. London: Routledge.
- Kelly, Merlo. 2021. Landing States: Valentia Island Cable Station and Sites. In *States of Entanglement: Data in the Irish Landscape*. Edited by ANNEX. New York and Barcelona: Actar Publishers, p. 189.
- Kelly, Niamh Ann. 2018. *Imaging the Great Irish Famine: Representing Dispossession in Visual Culture*. London and New York: I.B. Tauris & Co., Ltd.
- Kinealy, Christine. 2002. *The Great Irish Famine: Impact, Ideology, and Rebellion*. British History in Perspective. Houndmills, Hampshire and New York: Palgrave.
- Kirby, Peadar. 2002. *The Celtic Tiger in Distress: Growth with Inequality in Ireland*. International Political Economy Series; Houndmills, Basingstoke, Hampshire: Palgrave Macmillan.
- Kissane, Bill. 2005. *The Politics of the Irish Civil War*. Oxford and New York: Oxford University Press.

- Lally, Donal. 2021. Weedy States: The Cybernetic Wilderness of Data Centres. In *States of Entanglement: Data in the Irish Landscape*. Edited by ANNEX. New York and Barcelona: Actar Publishers.
- Lally, Roisín. 2022. Reimagining a World for Tomorrow and an Onto-Epistemological Ethics of Remembering. Moore Institute, University of Galway. November 7. Available online: <https://mooreinstitute.ie/event/reimagining-a-world-for-tomorrow-and-an-onto-epistemological-ethics-of-remembering/> (accessed on 16 January 2023).
- Loomis, Stephen C. 2012. The Double Irish Sandwich: Reforming Overseas Tax Havens. *St. Mary's Law Journal* 43: 825–53.
- Lowder, J. Bryan. 2011. The Double Irish and the Dutch Sandwich. *Slate*. April 14. Available online: <https://slate.com/news-and-politics/2011/04/tax-day-2011-the-double-irish-and-the-dutch-sandwich-a-field-guide-to-exotic-tax-dodges.html> (accessed on 14 February 2023).
- Magan, Manchán. 2022. *Listen to the Land Speak*. Dublin, Ireland: Gill Books.
- McCabe, Seán, Tate Donnelly, and Ciara McFadden. 2020. Stories of the Pandemic: The Impact of COVID-19 on Food Producers in Ireland. TASC: Think-Tank for Action on Social Change. Available online: https://www.tasc.ie/assets/files/pdf/stories_pandemic_food_producers_f.pdf (accessed on 10 January 2023).
- McGee, Harry. 2021. Data Centres Could Use 70% of Ireland's Electricity by 2030, Committee to Hear. *The Irish Times*, September 28. Available online: <https://www.irishtimes.com/news/politics/data-centres-could-use-70-of-ireland-s-electricity-by-2030-committee-to-hear-1.4685589> (accessed on 21 February 2023).
- Mignolo, Walter D. 2011. *The Darker Side of Western Modernity: Global Futures, Decolonial Options*. Durham, NC: Duke University Press.
- Mignolo, Walter, and Catherine E. Walsh. 2018. *On Decoloniality: Concepts, Analytics, Praxis*. On Decoloniality. Durham: Duke University Press.
- Morash, Chris. 2021. Displaced States: The Imagined Annihilation of Time and Space. In *States of Entanglement: Data in the Irish Landscape*. Edited by ANNEX. New York and Barcelona: Actar Publishers, pp. 175–85.
- Nairn, Tom. 1981. *The Break-Up of Britain: Crisis and Neonationalism*, 2nd expanded ed. London: NLB and Verso Editions.
- O'Riordan, Ellen. 2022. Future of Irish Wool May Be in Insulation Rather than Aran Jumpers. *The Irish Times*. September 26. Available online: <https://www.irishtimes.com/business/farming-food/2022/09/26/future-of-irish-wool-may-be-in-insulation-rather-than-aran-jumpers/> (accessed on 5 January 2023).
- Ohlmeyer, Jane. 2018. Introduction: Ireland in the Early Modern World. In *The Cambridge History of Ireland: Volume 2: 1550–730*. Edited by Jane Ohlmeyer. The Cambridge History of Ireland. Cambridge: Cambridge University Press, vol. 2, pp. 1–20. [CrossRef]
- Oxford English Dictionary. 2022. Palimpsest, n. and Adj. In *Oxford English Dictionary Online*. Oxford: Oxford University Press.
- Parikka, Jussi. 2015. *A Geology of Media*, 1st ed. Minneapolis and London: University of Minnesota Press.
- Revenue. 2022. Knowledge Development Box (KDB). July 6. Available online: <https://www.revenue.ie/en/companies-and-charities/reliefs-and-exemptions/knowledge-development-box-kdb/index.aspx> (accessed on 14 February 2023).
- Rodgers, Nini. 2007. *Ireland, Slavery and Anti-Slavery: 1612–865*. Hampshire and New York: Palgrave Macmillan.
- Ryan-Christensen, Aoife. 2022. The Rise and Rise of Data Centres in Ireland, August. Available online: <https://www.rte.ie/brainstorm/2022/0815/1315804-data-centres-ireland-electricity-energy-resources-climate-change/> (accessed on 21 February 2023).
- Shearer, Ian. 2022. What Now for Data Centres in Ireland? *Silicon Republic*. October 28. Available online: <https://www.siliconrepublic.com/enterprise/data-centres-ireland-energy-sustainability> (accessed on 14 February 2023).
- Shokouhi, Marjan. 2019. Despirited Forests, Deforested Landscapes: The Historical Loss of Irish Woodlands. *Études Irlandaises* 44: 17–30. [CrossRef]
- Stiegler, Bernard. 1998. *Technics and Time: The Fault of Epimetheus*. Translated by Richard Beardsworth. Stanford, CA: Stanford University Press, vol. 1.
- Taylor, Charlie. 2021. Google Used “Double-Irish” to Shift \$75.4bn in Profits out of Ireland. *The Irish Times*, April 17. Available online: <https://www.irishtimes.com/business/technology/google-used-double-irish-to-shift-75-4bn-in-profits-out-of-ireland-1.4540519> (accessed on 14 February 2023).
- Turner, Fred. 2010. *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism*. Chicago: University of Chicago Press.
- Turney, Joanne. 2009. *The Culture of Knitting*. Oxford and New York: Berg.
- Weckler, Adrian. 2017. Facebook Paid Just €30m Tax in Ireland despite Earning €12bn. *Independent*. November 29. Available online: <https://www.independent.ie/business/technology/facebook-paid-just-30m-tax-in-ireland-despite-earning-12bn-36362527.html> (accessed on 14 February 2023).

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.