transtechnology research

reader 2021-22

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Contents

Foreword to Reader 2021 - 22

Hannah Drayson

Collected in this issue of the *Transtechnology Research Reader* are the papers that resulted from the two seminar series that took place in 2020-2021 and 2021-2022. A month into the first series, the UK was entering a second national COVID 19 lockdown. As a consequence all of the seminars listed in this reader took place over video call, as did the planning for them, subsequent research group update sessions, and the editorial process required to produced this volume. In the present academic session (2022/23) we have moved to a mixed-modality delivery with a mixture of in-person only "wash up' sessions, hybrid seminar and update meetings, and in-person summer schools. As we moved back into in-person meetings we been taking care to regularly attend to the nature of our engagement and interaction as a community of thinkers, the role of physical presence, and the particular textures of our exchange as we move between modes. This may change how we capture the work of the year and there is a feeling in the group that this could be the last reader in this format- at least for a while- as new format ideas start to sprout, apparently stimulated by the novelty of in-person meetings.

It is perhaps worth noting how this current reader relates to the wholly online mode that we were obliged to follow between 2020 and 2022. Both series continued the story from previous years with a concern for knowledge (mainly scientific) and representation, taking the materiality of print as a theme and kicking-off point. The first 2020-21 series, titled *Vesalius at the Printers: Perception, Representation, and Vocabularies,* took inspiration from Dr Agi Haines' doctoral research into speculative design and the body, and her writings on Vesalius' co-emergent innovations in anatomical science and print media. The second series, *Drawing Things Together: chance encounters on the dissecting-table*, moved this focus forward using a classic Latour (1985) paper that reflected on print, inscription, colonialism and the mobility of knowledge. It is certainly sad to note Latour's passing a few months

ago, given the debt to his thought that we hold and the influence that pervades so much of the thinking that we have been inspired by in Transtechnology Research. In both of these series, we were faced with a marked shift in our material manifestation as a group as we reflected on these topics, which perhaps, while rarely commented on directly, might be inferred from the implicit concerns of these work that follows.

The first three essays in this volume, by Karen Squire, Lucinda Guy and Johara Bellali, offer three perspectives on how we can work with Latour's concepts around inscription, in particular the immutable mobile explored in the 2021-22 series. The following three papers, by Eric Pan, Sarah Turton, and James Sweeting, are united in their concern with the theme of intangibility. Each showing the concept worked through in a doctoral project at different stage. The final essay, Dr Anna Walker's *Intimate Entanglements: Breathing, listening and touching,* (with a nod, to her artistic practice) carries forward these themes toward the connections and distance which so characterised these online conversations for our group. Her contribution captures how through our ongoing reflection on what was lost and what was gained, we might notice differently from now on.

Transtechnology Research Seminar Series 2020-21

Vesalius at the Printers: Perception, Representation, and Vocabularies. A Scattered Seminar Series.

Last year's seminar series brought considerations of the triad of fiction, image and apparatus to bear on our research process. This year we intend to consider the outcomes of research in relation to its mode of representation. As leitmotif we will take the work of Andreas Vesalius, (1514-1564) frequently referred to as the founder of human anatomy. Whether this title is truly deserved or not– as there were many precedents– Versalilus' research methods and the representation of his ideas that he adopted c.500 years ago relate to much that we do today. He (and others before him) were not content with the orthodox accounts of the object of study and examined the methods and protocols that underpinned those accounts. He asked new questions and, against the grain of the times he became physically involved with the practice of dissection and came to different models of how we might talk about the body as a series of nested systems that were coextensive with other ideas about how the world might be understood. While Vesalius may not have been the only anatomist, he has remained a point of reference in any history of the idea. The relevance of his work to our own research is the degree to which the way that he captured the insights of his practice contributed not only to their dissemination and acceptance but also, (and perhaps the most interesting question) how much the mode of representation contributed to the kinds of knowledge that he valued. In short what is the productive correlation between research methods and the representation of research findings.

The virtues and constraints of academic publishing conventions have been widely discussed and critiqued. Of particular interest to us in the past has been how vocabularies form around topics that build an intellectual and (epistemic) solidarity (Rorty, 1989). While Latour (1987) picks this up and invites us to think about knowledge and the communities of production in science, the degree to which

this critique has rehearsed the mantra of the artistic Avant Gard for the past 500 years is a less well trodden path. Vesalius presents an interesting case of this in the way that his knowledge claims were codified in woodcuts and other forms of print; media that reinforce the underpinning assumptions of human anatomy, health and its reflection in other knowledge structures. The way which Versalius' work was presented was instrumental in its adoption in science for a number of reasons; representing innovations in format and distribution as well as in their fundamental approach to the (messy) body as source of empirical knowledge. The example of Versalius' work offers a thematic frame for considering the ways in which innovations in research communication do not only influence the uptake of ideas, but their fundamental form. As researchers in creative disciplines, the questions of the relation between the knowledge that we are producing and its consistency with the representations that we use to share those insights effectively has already raised many discussions that we will seek to explore in the series as our provisional titles below show.

Format: A Scattered Seminar Series:

We will begin on the assumption that for 20/21 the seminar series will comprise online meetings using video links. As in many of our previous series, in this year Transtechnology Research registered researchers will be using the seminar series sessions to present work emerging from the research questions of their projects to address the themes of the seminar series. In addition to this we will use video links to extend the programme with sessions with the Transtechnology Research alumni cohort with topic-led conversations.

In support of these dialogues this year we are keeping an online bibliography of the discussions to document the materials that are mentioned, recommended, or discussed.

14 October 2020
Dr Agi Haines, Dr Hannah Drayson, Prof. dr. Michael Punt. ***Vesalius at the Printers: A Speculative Design Perspective.***

11 November 2020
Lucinda Guy. *A Cuckoo in the Wood and an Anatomy of a Radio Station.*

This seminar introduces two approaches to thinking about the work of the Skylark project. The first section, A Cuckoo in the Wood – recording, reproducing and representing birds and trees in sound takes an expanded definition of 'record' to include musical imitation and scoring, mimicking and repetition as well as sound recording with analogue or digital devices, to explore how we listen, remember and recreate encounters with birds and trees, how we take apart and put back together the elements of experiences. In sound recording we can see a tradition of breaking things into parts to better understand and communicate their qualities, offering a sense of objectivity where the recording omits the presence of the person recording. This seminar will use the motif of looking down into woodland in early spring, the artist hears a cuckoo call, a sound that easily carries a mile or more. To the mind's ear, it is distinct, musical clear. But recorded on a microphone, it is easily lost in the wider place – the white noise of the trees, the roaring of wind; the artist's own breath and movement. Even before mechanical sound recording technologies became available, other recording techniques that aimed communicate the experience of hearing natural sounds such as bird song would use an instrument like a flute to mimic the cuckoo's two-tone voice, performing in a similar way to using a highly directional microphone to filter out other sound. The cuckoo is known for being an imposter – a brood parasite (RSPB) who lays her eggs in the nest of another. Its song is also a musical imposter: a tonal melody, amongst the atonal environment. The second section of the presentation will take the launch of Skylark FM as a case study, to dissect the experience of broadcasting and listening to a new radio station, into its legislative, social, technical and economic components. A transmitter in a landscape, like the cuckoo in the wood, demonstrates the need for signal to emerge from noise and the many ways in which separation and filtration allow for a radio station to conform to legal requirements, and reach its audience.

9 December 2020
Stephanie Moran. ***Dog Muscles, Luminosity and Chromatic Experience: a Speculative Octopoid Aesthetics.***

This seminar investigates what may or may not be continuous from one (nonhuman) body to another (human) body, in order to address the problem of how to mediate mollusc phenomenal worlds through storytelling practices. In posthuman ethics, there is much recent discussion of relations to and representations of other animals. These offer frameworks for human-nonhuman relations, often based on the idea that humans need to transform themselves and their ways of living and being in the world.

Vesalius' depiction of a dog's muscle and a monkey's bone in a human body suggests a species overlap, projection or adaptation. This seminar considers how Vesalius' dog muscle might offer a means of analysing fictional phenomenal worlds of octopuses. It reads this in relation to Graham Harman's 'weird formalism', a theory based on the idea that the relationship between viewer and artwork theatrically constitute a new, third object. It then uses these ideas to examines octopus-based experiences of light and colour depicted in the storyworlds of science fiction novel Children of Ruin (Tchaikovsky, 2019) and immersive art installation Altered Ways of Being (Burton Nitta, 2020).

Suggested Reading: Introduction pp.1-11 and pp.23-29 in, Harman, Graham. (2020) *Art and Objects*, Cambridge: Polity Press.

6 January 2021
Linan Zhang. ***The Liberal Ironist's Approach to Clinical Knowledge Sharing.***

Last year's seminar series, I explored Foucault's account of how power has shaped our contemporary account of subjectivity. He admitted the contingency of our selected final vocabulary; yet his power structure argument limits our ability to propose an alternative to the society we have now. In this seminar, I wish to introduce Richard Rorty's liberal

ironism as an alternative perspective and discuss its application to knowledge sharing.

Liberal ironism opens a way of facilitating the interactions between individuals and social groups. Liberal ironists have the spirit of a poet, with a sense of the contingency of the language that is currently used and have a profound understanding of concepts such as the 'truth', 'philosophy', 'moral', and 'conscience' that are vastly distinct from that of liberal metaphysicians'. To be 'commonsensical' is its biggest enemy – it means to take for granted that statements formulated in these final vocabularies are sufficient to describe and judge beliefs, actions, and lives of those who employ an alternative set of final vocabularies. Although liberal ironists' goal is not to justify a reason to care about suffering, their sense of human solidarity makes sure they notice sufferings and humiliations when they occur.

This seminar explores the potential application of liberal ironist theory to knowledge sharing. By identifying the non-ironist 'common sense' which was taken for granted by both of the sharing parties, I suggest that acknowledging and being aware of these pre-assumptions would facilitate knowledge sharing; such aim can be achieved by adopting a liberal ironist's mind set.

3 February 2021
Karen Squire. ***Reconsidering the print-matrix as a co-conspirator in the production of knowledge.***

This is the story of how the demands, the restrictions, the resistance of the print-matrix helped Vesalius to see anatomy. Or rather how the spick-and-span, readable clarity of anatomy was revealed from out of the grub, grime and visceral mess of the actual human body. So, a dissection of this process, this production, will be performed – an anatomy of the printing of the anatomy– in a sense. I will explore the idea that anatomy is the extracted, abstracted knowledge of the dissected body, a partner, a companion to a more empirical hands-on means of knowing, and in turn, how this extracted-abstracted

knowledge was manipulated, constrained, shaped and produced 'by' the printing process needed to record and disseminate those findings. Further, I propose that these restrictions may have changed the way Vesalius knew how to cut into the body and will consider the idea that what we now think we know about the human body is the result of a collaborative production, an improvised performance with a retrospective script.

I will explore the odd qualities of the print-matrix itself in order to question its traditional, perceived role as an amanuensis of sorts; that is a dutiful inscription device, a faithful scribe; and examine what the innovations and qualities of the Vesalius' woodblocks were which may have given them their minxy, active role in the way he arrived at his anatomy. Through this I would like to start to consider the possibility of the print matrix as copy editor as well as scribe, and then to reflect upon how this could help me think about my methodologies as I potter about the landscape setting fire to gathered matter – what knowledge might the print-matrix help me to dissect and discover?

3 March 2021
Sarah Turton. ***The emptiness of the ground between blue and soul; complementary epistemologies of art and science.***

This presentation examines the medical illustrations of Versalius's 16th Century Fabrica and the 12th century Blue Beryl or Four Tantras – the illustrations for which were created in the 17th C. by Gyatse. It considers how the illustrations in these works can help us to think about transcendental practices through the theme of ascension. The presentation will engage with the practitioner and patient techniques that Blue Beryldescribes in its text and illustrations. These representations of the body and the descriptions of the Buddhist tantra practices include subtle body healing practices. According to Geoffrey Samuel these relate to a level of functioning that is 'quasi –material' and 'intermediate between conventional concepts of body and mind.' The presentation will consider the promises that these texts make about resurrection, healing, rebirth and mastery over death. In

particular it will ask how these texts address the question of what is under the skin? Does scientific reductionism lead to the emptiness all the way down that Middle Way Buddhism proposes? Gaston Bachelard 's idea of 'epistemological blocks' will serve as a frame for this analysis along with his description of the medical-psychiatric technique of Robert Desoille in Air and Dreams as a preparation for 'Ascensional Psychology". According to Bachelard, these blocks are created by certain ways of thinking that prevent the progression of science. Making a case for an epistemological rupture between science and the art, he proposes the need for a complementary epistemology. Rethinking the concept of 'epistemological ruptures' that incorporate old knowledge into new and complementary paradigms can be adapted into new frameworks for thinking about the body.

31 March 2021
Jo Dorothea-Smith. *The Anatomy of Visual Spaces; quantum biology and apparatus.*

What is a molecular account of vision? This is a description based on investigative practices, originating in observation, anatomical dissection and discovery that also integrates knowledge from the non-biological discoveries of physics. This seminar will use the writings of Tom Cornsweet, a psychologist specialising in vison to open a discussion about eyes. It will incorporate conceits of visual spaces and will question the heterogeneousness of seeing. Using retinal scans, images and information from biological research, sharing knowledge that demonstrates the eye is more individual than a fingerprint and that notions of the generalities of seeing can be challenged. These distinct and divergent properties in combination with phenomenal experience make all beings with vision into stakeholders in any account or description of the visual. The second part of the seminar will ask questions about what ideas of the quantum might raise for camera apparatus, its ability to replicate vision and any comparisons to the eye. The camera and the authority bestowed upon it is powerful, has explanatory force and also and specific histories that can be problematic, but it is not an organic visual system. This seminar

will consider the reasons why it is different to the eye. How does the camera operate in relation to the quantum? Is it dynamic in the same way as a being with agency? By highlighting areas of divergence could it be un-coupled by molecular descriptions of vision?

21 April 2021
James Sweeting. ***Hauntology as an inverted future.***

The seminar will be concentrating on the recent statements made by Sony's PlayStation division regarding past digital content no longer being available for its consoles, as well as altered strategies going forwards concerning restrictive creative output. This case study will establish the core in exemplifying the underlying hauntological form that is becoming increasingly present within the videogames industry. Whilst nostalgic elements are also present within the medium, this is comparatively more overt than the strategy employed by certain videogame publishers. In which the industries inability to live up to past expectations at providing the latest high-tech experience is instead replaced by careful management of its past and present content to mask the lack of creative innovation.

Supporting this seminar will be an examination of how the case study supports and is supported by an understanding of hauntology. In that videogames could now be seen as facing similar difficulties as other industrial creative industries. By the time they have matured they become unable to imagine an alternative future, instead, looking towards the past to replace the future. This is separate from the application of nostalgia upon the medium though, which, despite linked, invokes different interpretations.

These recent statements (and subsequent actions) support a hypothesis that the videogames industry has become beholden to its past, counter to the forward-facing persona it has long-established for itself. Yet, there is also self-realisation of this, hence why actions are underway to take control of this, not for creative gain, but as a means of producer control.

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The aim is to highlight the logic of the capitalist strategy behind removing access to digital videogames on past consoles. Potentially enabling Sony in the future to resell new versions of this past digital content when demand has been artificially inflated due to the previous removal of supply. Thus, the artificial manipulation of supply and demand, when combined with Sony's other strategy of focusing on continuing existing Western blockbuster franchises via sequels and remakes, result in a videogame form on its consoles that purposefully is incapable of escaping its past. With minimal attention paid to its future aside from continual profit. Albeit at the cost of creativity, risking the move to a creative cul-de-sac, one which almost killed off the industry four decades ago.

19 May 2021
Laura Welsman. ***Reading between the lines: Operation and Representation in the Diagrammatic and Anatomical.***

I will focus on two examples, the woodblock prints of Andreas Vesalius in De humanis corporis fabrica libri septem (1555) and the acrylic paintings of Paul Laffoley, (1935-2015) in representing metaphysical systems. Observing how both Vesalius and Laffoley utilised the visual arts in order to represent holistic systems, we may be able to recover ways in which arts practice has provided a means of engaging with truth that offer perspectives that lie outside of reductionist codification methods that govern the ways we acquire knowledge. This research speaks particularly of the challenges of bottom up brain modelling methods built on General Systems Theory, as the emergent phenomena that arise from hyper-complex biological systems such as the brain or body cannot be fully accounted for in reductionist models.

Transtechnology Research Seminar Series 2021 - 22

Drawing things together: Chance encounters on the dissecting table.

This year's series continues previous years' concerns with epistemology, contingency and perception. We embark from the idea that what we know is an accident and that different circumstances or different networks might have produced different bodies of knowledge. We consider the foundational observation from science studies that tools such as Versalius' scalpel are one of many actors that produced the science of anatomy and its ability to rationalize, and in the end, think about the body in certain ways.

In this seminar series participants are invited to respond to Bruno Latour's 1985 paper *Visualisation and Cognition: Drawing Things Together* which concerns the craft practices of inscribing and describing that constitute modern scientific knowledge. Latour argues for deflating the grand explanations of modern science and technology by talking about the material and mundane, of 'writing and imaging craftsmanship' which are "so practical, so modest, so pervasive, so close the hands and the eyes that they escape attention." (p.3) Latour's argument that we should look directly at the material where knowledge is produced – taking a Martian view– led us to see that in the case of the biology laboratory, we might say that the laboratory practice itself was that of the "the transformation of rats and chemicals into paper" (pp.3-4).

Here Latour uses the work of artists and the development of systems such as perspective (drawing on Durer) to lay out his notion of immutable mobiles, objects which enable the transport of knowledge between domains, creating networks of information which can be cross referenced through multiple sources brought together to create overarching scientific and bureaucratic systems of knowing. Latour's inscriptions, the results of measurements carried out using many kinds of laboratory instruments are not simply what we might call data, but the results of an homogenising force in the media that allows that

which is not visible to become recorded and fixed in particular and useful ways. As he points out, all of the different facts or inscriptions represented within the same system become comparable. Being able to view them side-by-side allowed early modern scientists to move knowledge forwards by having evidence that was comparable. This knowledge can be drawn on to make arguments and produce facts that, are able to be clarified, checked, made more accurate, or superseded by very different knowledge.

Latour argues that it is the existence of these kinds of objects and forms of inscription that allow certain kinds of rationality to come into being. Far simply shaping perception directly, these immutable mobiles shape what can be known in a more fundamental sense of creating what we understand as rationality itself and enabling us to assemble allies as we argue for the construction of facts generated by our own research practices.

Aside from its great virtue, Latour's text, published in 1985, is not an especially easy read, but it raises a number of contemporary issues. Part of our work may be to update Latours' discussion. There are many ways we might do this. For example, in the sensory realm, we may ask how we can draw his argument beyond the visual paradigm that equates sight with knowledge or reflect on the relational and ecological approaches and critiques of the network that followed the development of the actor-network theory (ANT). We invite each contributor to identify a specific passage from the text to engage with in their presentation.

Latour, Bruno (1985) "Visualisation and Cognition: Drawing Things Together". In, H. Kuklinck (ed) *Knowledge and Society Studies in the Sociology of Culture Past and Present,* Jai Press vol. 5, pp. 1-40.

12th October 2021
Dr. Hannah Drayson. Chaired by Prof. Dr. Michael Punt. ***Pamphlets, Networks and Knowledge Communities: Immutable Mobiles in an Immobile Mutable***
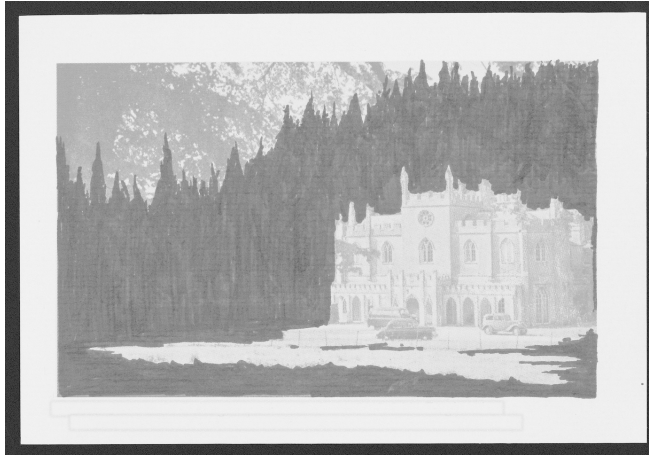
The modest library of Braziers Park contains a collection of pamphlets and ephemera housed in six brown card magazine files. They contain approximately 180 items dating from the last 70 years, since the founding of the School of Integrative Social Research and experimental intentional community at Braziers. Here I present some early thoughts regarding this collection and how it might be considered as a holder of both ideas and of affects. I draw on Bruno Latour's (1985) science studies concept of the "immutable mobile" –a holder of instrumental inscriptions that enables the transport and translation of information between contexts. Particularly concerned with scientific inscriptions, Latour's concept is not a perfect fit for an individual pamphlet, or the collection, but it's development by actor network theory (ANT) scholars (de Laet and Mol, 2000; Law and Singleton, 2004) offers starting points to thinking about these materials and their roles within knowledge-producing communities. For example, paying attention to the physical persistence and mobility of pamphlets as media, or the material and social networks that produced them, quickly leads the discussion beyond common-sense notions of pamphlets as cheap and ephemeral objects. Instead, looking to this collection and its place at Braziers Park reveals the pamphlet

as both ubiquitous and persistent. Calling on Myra Seaman's (2021) work on household manuscripts as "objects of affection" that can be seen to be "part of a community of humans and non-humans", I will suggest that the collection and other pamphlets found and produced at Braziers can be seen as objects engaged in work to maintain the identity of Braziers Park as an institution, one that might itself be called an 'immobile mutable'.

de Laet, Marianne and Mol, Annemarie (2000) "The Zimbabwe Bush Pump: Mechanics of a Fluid Technology". *Social Studies of Science,* Apr., 2000, Vol. 30, No. 2. pp. 225-263.

Latour, Bruno (1985) "Visualisation and Cognition: Drawing Things Together". In, H. Kuklinck (ed) *Knowledge and Society Studies in the Sociology of Culture Past and Present,* Jai Press vol. 5, pp. 1-40.

 Law, John and Singleton, Vicky. (2005) Object Lessons. *Organization*. 12(3):331-355.

Seaman, Myra. (2021) *Objects of affection: The book and the household in late medieval England*. Manchester: Manchester University Press.

10th November 2021
Karen Squire. ***Pulling the Print - Discovering the truth of an inscription***

In this seminar we will start to unpack two connected ideas in Latour's paper Visualisation and Cognition: Drawing things together (1985). Firstly the idea of scientific research processes ending in paper and wasted rats and secondly the role these elements play in making knowledge "more of a fact". We will start to do this through exploring a certain stage in the printing process; the "pulling of a print" as the moment in which knowledge becomes enmeshed with paper. It is at this point in scientific research that ephemeral knowledge becomes solidified – "immutable", and transmittable – "mobile". However I will argue for a more nuanced understanding to this moment and act– and therefore also in the creation of immutable mobiles– than is traditionally ascribed to it in print ontology and perhaps also by

Latour. The discussion builds on a previous seminar that explored how the print-matrix might accumulate knowledge as a co-author and we will use some wood blocks to pull some prints together. We will consider whose voice is being enmeshed upon the page at the pulling of the print, and how and when knowledge occurs as a part of the process. The second part of the discussion will then think about how this might link into ideas around hegemony and landscape. Exploring artistic work that relates closely to this issue such as Helen Frankenthaler's (2000) woodcuts and Michelle Stuart's (1979-81) Earth Rubbings, before returning to Latour and Eisenstein to think through implications, the discussion will reflect upon the notion that the printing press was the greatest agent of social change –might it also have been the greatest agent of reinforcing hegemonic truths? Finally, I will speculate upon the possibility that printmaking might be used to in some way archeologically recover alternate stories from the landscape; "to mobilize space and time differently" (p11); and pick up affective, sensorial traces of those people and processes often overlooked in the production of hegemonic truths, and I will review how my print work may be starting to move towards the creation of counterexamples which challenge the accuracy of the story of the scaping of the land.

5th January 2022
Becalelis Brodskis. *Points, Lines and the Virtual: How Inscriptions Structure Perceptions of Landscape*

Responding to Latour's Visualisation and Cognition: Drawing Things Together
Brodskis 2022

Transtechnology Research Seminar Series 2021-22, available at:https://www.trans-techresearch.net/transtechnology-research-seminar-series-2021-22/

Lammes, Sybille (2017) *Digital mapping interfaces- From immutable mobiles to mutable images.*

Latour, Bruno (2004) *Why Has Critique Run Out of Steam?*

2nd February 2022
Sarah Turton. ***Disrupting Ideologies: The Role of Blue in Images of the Madonna***

This seminar explores the proposition that the use and persistence of the colour blue in transcendental arts across several cultures is ideologically disruptive. Using the example of blue in images of the Madonna, it contributes to an account of the colour's role in transcendental art and creative practices. This seminar will elucidate Bruno Latour's (1985) definitions of the immutable mobile and investigate how and if the image of the Virgin operates as a carrier of dominant ideologies. For Latour, the immutable mobile puts control in the hands of the weakest, creating the very institutions – 'Corporation, State, Productive Forces, Cultures, Imperialisms' (Latour, 1985:27) that come into being and dominate because of them. The discussion will ask whether the image of the Virgin Mary is an immutable mobile; a pictorial language used to win an argument, focussing in particular on the attribute of optical consistency. For Latour, optical consistency is one of the more powerful ways in which immutability is reinforced and mobilisation made possible. The work of Michel Pastoureau (2018) supports through his claim that the function of colour is to reinforce hierarchy through optical, chromatic consistency. In this context, the special connection and relation to transcendence of the Madonna image is indicated by the historical and dominant use of blue for her cloak in the West since the 12th century. Engaging with diverse Madonna images, the discussion will pay attention to alternative readings of the function of the Madonna enabled by attending to the role of blue in these images and "the transtemporal movement and affective resonance of particular texts"

that continue to provoke responses across generations, in order to usefully think of texts as "non human actors" (Felski, 2011: 574). Considering Latour's proposed interventions to combat the immutable mobile, and challenge a conception of the Madonna as immutable, the discussion will focus on Mikhail Bakhtin's (1984) concept of polyphony in conjunction with examples of Renaissance devotion and self-hypnosis.

Bakhtin. Mikhail. (1984), ed., Caryl Emerson, Problems of Dostoevsky's Poetics, *Theory and History of Literature*, vol 8, University of Minnesota.

Elkins, Gary R., R. Lynae Roberts & Lauren Simicich, (2018), 'Mindful Self-Hypnosis for Self-Care: An Integrative Model and Illustrative Case Example', *American Journal of Clinical Hypnosis*, 61:1, pp 45-56

Felski, Rita. (2011), "Context Stinks!", *New Literary History,* Volume 42, Number 4, pp 573-591.

Latour, Bruno. (1985), ed., H.Kuklick 'Visualization and Cognition: Drawing Things Together', *Knowledge and Society Studies in the Sociology of Culture Past and Present,* vol 6, Jai Press, pp 1-40.

Oakley, David. A & Peter W. Halligan. (2009), Hypnotic Suggestion and Cognitive Neuroscience, *Trends in Cognitive Sciences* 13 (6), pp 264-70.

Pastoureau, Michel, (2018), *Blue: The History of a Colour,* Princeton University Press.

2nd March 2022
Lucinda Guy. ***Immutable Mobiles in the Automated Broadcast***

According to Latour (1985) 'the privilege of the printing press comes from its ability to help many innovations act at once'. He lists innovations such as geometry, paper making and coinage. This seminar considers the radio playout system as a similar technology to the press, helping innovations such as microphones, tuning systems, MP3s, to act together to form continuous broadcasts.
However, such songs are also continually in dialogue with one another, due to practices that make them more mutable, such as sampling,

cover versions, and the use of common sounds, rhythms, tempo and words. Across a radio stations output, songs, announcers, adverts etc, form a whole – the sound of the station, which broadcasts non-stop and with a narrow dynamic range.

Emerging radio forms, that sit within sonic arts and experimental music practice, can use automation to exploit mutability further, by use of fragments, such as individual words or notes, and live feeds of audio or data streams, curating, layering and randomizing these elements to reappear in new combinations. This both continues the familiar experience of radio, as a continuous flow of sound, whilst also breaking from tradition of broadcasting recognisable, repeatable and immutable music tracks.

The Skylark FM (Guy, 2021) project is a case study to explore the commonalities and differences between these two radio forms, and how Latour's analysis can support an understanding of the effects they have on listeners and makers.

Guy, Lucinda, (2021), 2021. *Skylark FM*. [Broadcast Artwork]. https://skylark.fm/

Latour, Bruno. (1985), ed., H.Kuklick 'Visualization and Cognition: Drawing Things Together', *Knowledge and Society Studies in the Sociology of Culture Past and Present,* vol 6, Jai Press, pp 1-40.

30th March 2022
Johara Bellali. *A Scenography of the Birthing Room*

This seminar is inspired by Neumann's (2014) work "Theatres of Medicine, Inside and Outside the Hospital" on medical scenography and entangled embodiment and Latour's (1985) staging of a scenography of dramatized inscriptions (p.17). After a brief presentation of the history of how obstetrical knowledge has been created, this seminar will present the choices of records that are made visible, in particular, the inscriptions of fetal monitoring and contractions. It will showcase through two superimposed scenes the assemblages in a reconstructed birthing room in a hospital in Berlin, one set of visible inscriptions that follows a mechanical rhythm and

an invisible assemblage of allies that is not inscribed (Latour, 1985, pp.22-23). The exploration will focus on the historical prerequisites that led to these particular recordings that create obstetrical knowledge and to the habits, behaviours and protocols (Latour, 1985, p.3) that effect the visible and invisible assemblages of obstetrical care. To conclude, I will leave the birthing room in Berlin and enter the School of Medicine at Kings College, London and present three photographs that inscribed a childbirth with the attempt to make visible the non-inscribed through their display in a medical school.

> Excerpt from *Visualisation and Cognition,* Latour, 1985, p.17/18
> Thus, one more inscription, one more trick to enhance contrast, one simple device to decrease background, one coloring procedure, might be enough, all things being equal, to swing the balance of power and turn an incredible statement into a credible one which would then be passed along without further modification. The importance of this cascade of inscriptions may be ignored when studying events in daily life, but it cannot be overestimated when analyzing science and technology. More exactly, it is possible to overestimate the inscription, but not the setting in which the cascade of ever more written and numbered inscriptions is produced. What we are really dealing with is the staging of a scenography in which attention is focused on one set of dramatized inscriptions.

> Excerpt from *Visualisation and Cognition,* Latour, 1985, p.22/23
> A more powerful theory, we submit, is one that with fewer elements and fewer and simpler transformations makes it possible to get at every other theory (past and future). Every time a powerful theory is celebrated it is always possible to rephrase this admiration in terms of the most trivial struggle for power: holding this place allows me to hold all the others (Latour, 1984b : Part 2). This is the problem we have encountered right through this paper: how to assemble many allies in one place.

Neuman, Annja (2014) *Theatres of Medicine, Inside and Outside the Hospital.* Magdalene College, Cambridge. Online at https://www.magd.cam.ac.uk/news/theatres-of-medicine.

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27th April 2022
Stephanie Moran. **Pearl: A Mussels's Perspective**

The Smithsonian's National Museum of Natural History has one of the world's largest freshwater mussel collections – a collection made up largely of the shells of freshwater mussels, gathered by research zoologists, amateur enthusiasts, volunteers and, in at least one case, by an unknown 'little girl'. They are housed in rows of metal archival cabinets, organised by taxonomic classification largely determined according to the shape and features of the shells and, within that, by geographical location where they were found.

If for philosopher Jacques Derrida, archives are about the quest for origins, and for social historian Carolyn Steedman they are about dust, here I argue that they are about human optics. I do this through an account of my attempts to navigate and narrate the Smithsonian's freshwater mussel collection from the perspective of freshwater mussels, during my recent research fellowship. My argument leans on Daston and Galison's account of scientific practices of observation (2007) and J.J. Gibson's ecological approach to visual perception (1979), as well as Wendell Haag's overview of the literature on freshwater mussels in North America (2012). Beginning with this triangulation of theoretical narratives, I present some images and thoughts towards an optical description of this natural history collection and reflect on approaches to object-based archives in general.

Daston and Galison (2007). *Objectivity.*

Derrida, J. (1995) *Archive Fever: A Freudian Impression.*

Gibson, J.J. (1979). *The Ecological Approach to Visual Perception.*

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Steedman, C. (2001). *Dust: The Archive and Cultural History.*

Theo Humphries. ***Ruminations in the Fundemic: Two Recent Lockdown Projects***

Please note that this seminar will make repeated reference to the Coronavirus pandemic and may therefore be troubling/triggering for some.

The seminar will consider two projects that constitute my recent contribution to The Faculty of Minor Disturbances. The first is 'The Olfactor': a rudimentary DIY apparatus that was intended to counter sense deprivation during lockdown, but which turned out to enable sense experimentation too. The second is 'SARS Wars Toys': an artistic response to the global pandemic caused by the virus known as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). SARS Wars Toys reimagines the original Kenner Star Wars action figures, from the 1970s-80s, as distorted and exaggerated caricatures that

have been informed by impressions from broadcast media, social media, institutional guidelines, governmental protocols, everyday conversations, and commonplace observations during this pandemic. In this way they might be considered not so much as action figures, but as reaction figures.

Both projects will be considered through an analytical lens of humour theory, constructed from a widely discussed (but rather problematic) triad of aggression theories, release theories, and incongruity theories, underpinned by a Benign Violation Theory of Humour, and extending to incorporate ideas such as entanglement from new-materialist theory.

The seminar will propose that humour is deployed here as a cognitive lubricant to enable reflection upon the extent to which this viral pandemic has changed everything — change that has spread 'virus-like' in itself.

sarswarstoys.com and @sarswarstoys on Instagram.

Hodder, I., 2012. *Entangled: An Archaeology of the Relationships Between Humans and Things.*

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Digging, Mining, Printing:
The performance of Land-scape

Karen Squire (Transtechnology Research Group,
University of Plymouth)

Abstract

In this paper I will unpack how printmaking practices; which have
traditionally served a role in the colonial conquest and possession
of the material environment in the form of maps and surveys
for instance; might be adapted to allow space for other kinds of
knowledge to be recovered from that environment. I will use Fraser's
writing about the modes of sympathetic magic as an analogy to firstly
explain how the role of printmaking relates to the way the land has
been shaped through the use of print and later to draw out the subtle
methodological changes that I can make to my printmaking practice
that mean an alternative retelling of landscape can be created and
understood. I will draw upon John Locke's writing about landscape
and ownership to explore how touch and labour provide a different
model for owning material place and use the case of Winstanley
and the Diggers as evidence of a folk belief in the veracity of this
idea in order to open up space for the notion of landscape (and by
extension landscape-print) being something that does not have to fit
in with a colonial modus operandi as traditionally understood. I will
situate this thinking alongside Ingold's writing around "Taskscapes"
(Ingold, 1993), Ductus (Ingold 1996) and embodied skill, to help
me to develop a case for thinking of landscape as a process, and later
a performance. This in turn will lead onto reflecting upon Annemarie
Mol's work on Multiplicity (Mol 1999), specifically of how modes
of enactment create different realities and I will use this as a basis on
which to critically consider the process of my proposed performative
re-enactments of landscape.

Sympathetic magic, printmaking and the landscape

In Fraser's now wildly outdated tome on magical and ritual practices "The Golden Bough," he claims that there are two modalities of Sympathetic Magic, firstly that "Homeopathic magic is founded on the association of ideas by similarity," whilst "contagious magic is founded on the association of ideas by contiguity" (Fraser, 1994. P27). A simple illustration of this could be the difference between making a doll-like poppet of someone you wished to harm and sticking pins in it as an act of homeopathic-imitative magic versus retrieving toenail cuttings or hair clippings from that person to work with. The distinction is clear, one form of magic acts through imitating the body you want to affect change upon whilst the other requires contiguity with that body, through using remnants and scraps of that body. It struck me that this explanation of magical workings is analogous to how print has been traditionally operated in an imitative, homeopathic way for the production and dissemination of human knowledge about the land; masses of identical imitations (such as maps, or surveys) of an original, spread far and wide – lending a consistent but also strangely diluted quality to that information.

The purpose behind this enactment of print is clear, firstly it is used to decide upon colonial ownership of an area of land and then secondly to reinforce that ownership through a broad dissemination of printed matter, drowning out voices of dissent through the weight of official paperwork, effectively carving the land up vicariously and making it impossible to contest because of the sheer weight of printed matter. We only have to think of the way that the Middle East was carved up after the first World War, the map set between Sykes and Picot effectively used like a homeopathic poppet for them to vicariously divvy up the material environment. In this sense, homeopathic printmaking is a powerful weapon. In this model of landscaping, the print process is also a slave-like tool to dutifully reproduce representations of a colonial story. What I would like to unpack is the value of reviewing the print process as one of contiguity, inspired by Fraser's contagious-sympathetic magic, and therefore one that might allow, through a chain of direct contact, the transfer of information

from one form into another more enduring, immutable one.

Map signed by Sykes and Picot, enclosed in Paul Cambon's 9 May 1916 letter to Sir Edward Grey

Latour speaks of the need to assemble printed matter together, effectively re-concentrating it, gathering it up to discern a more accurate appreciation of the knowledge from it, he also emphasises another dangerous quality to printed knowledge in that "errors are accurately reproduced and spread with no changes. But corrections are also reproduced fast, cheaply and with no further changes. So, at the end, the accuracy shifts from the medium to the message" (Latour. 1986). "So, at the end" suggests that accuracy is not something that can be arrived at very quickly, from reading only one source and that accuracy might be the consequence of gaining an oversight over a range of knowledges, finding a mean average amongst the inconsistencies. My question is whether print can be used to offer up some alternate knowledges in this spectrum, thus creating a fuller, broader field of knowledges for consideration? The framework through which I would like to view the advantages of exploring the transliterative potential of printmaking is one that could be used to extract the tacit, embodied knowledge of a process and make it explicit so that it might be set alongside that other information within the

same epistemological space. In so doing, we, along with Latour, could consider it as well as other printed matter in an evaluation of what is most right, what is most real.

Digging, Mining, Printing

I have touched upon the fact that in matters of the land, print is usually a tool used for colonial domination, a means of formally bounding physical spaces through a hands-off approach. John Locke wrote of the land in terms of ownership and is widely credited with furthering the property ownership laws that still resonate today, however, he also wrote upon a different form of ownership, one that points to a different way of owning the land and indeed suggests a different modality of owning altogether. Moreover, for the purposes of my argument, this passage summarises a particular type of ownership that has hitherto gone un-printed,

> Through the earth and all the inferior creatures be common to all men, yet every man has a property in his own person; this no body had any right to but himself. The labour of his body and the work of his hands, we may say, are properly his. Whatsoever then he removes out of the state that nature hath provided and left it in, he hath mixed his labour with, and joined to it something that is his own, and thereby makes it his property (Locke, J. 1689 quoted in Hayes, N. 2020)

So what Locke is making apparent is that there is something about working in the land, actually having an interaction between human and non-human that creates a sense of ownership. What I would like to draw out of this is the implication that the implied exchange has an affective quality, and therefore is a model of ownership which goes both ways if we view this through a post-human lens, for, in working with the land, the skilled labourer gives something of himself just as he is extracting from it and so they are owned as much as owning. Someone who took this thinking and lived it out was Gerrard Winstanley who along with others, collectively given the epithet of "Diggers" in 1649, addressed the traditional form of landownership

of commons and patches of wasteland on the edges of manorial properties through occupying them and tilling the soils and growing crops – a radical act of occupation (Tamaz. 2020). Eventually they were evicted, however, there is something in what they did that reveals that, for the people of a more agrarian era, their sense of place and relationship to it were inextricably linked to the process of interacting with the land rather than through a representation on a sheet of paper.

When we apply this thinking to the example of the mining landscape in Cornwall it is possible to discern fragments of that affective, dual ownership in the way miners reflected upon their part of the affective labour-bond through hints found in folktales and local ballads, the fear of a vengeful mine encapsulated in localised, folkloric characters like the knockers and the Bucca for example. However, with our post-human lenses back on we have to acknowledge that these reflections are only telling a part of the tale, that is, from the human perspective, so the question here is how might an affective relationship between, say, a miner and the rockface he is working on, or a bal-maiden (the unmarried women who worked as part of the mine's labour force) and the pile of orestone she is dressing be depicted in such a way that does not privilege the human over the non-human?

Re-enacting land-scape

We are starting to move towards a redefinition of landscape not as a noun, a thing that it quantifiable, mappable, but rather as a verb, as something that is done - in collaboration with the physical material environment. Tim Ingold has encapsulated this idea in his redefinition of landscapes as Taskscapes (Ingold, T 1993) so that the distinction between the process, the doing of landscaping is very apparent. And let us be clear, in mining the land is being scaped, it is being shaped through the act of mining. Therefore, mining is an act of landscape, just as farming, or building are acts of landscape. With our emerging re-definition, even smaller, quieter actions which leave a less monumental physical change upon the land are still acts of landscaping, like the gathering up of firewood or foraging for food. I

believe that these actions are also possessed of that affective exchange of ownerships created in the course of doing and are worthy of being considered alongside other definitions of landscaping. Making a representation of the process of landscape would mean taking tacit, embodied knowledge and making it explicit. What I posit here is that the proposed transliteration of knowledge from one form does not constitute new knowledge so much as taking hidden, buried knowledge and developing the means to excavate it.

At this point I feel that we need to think back to Fraser and his types of Sympathetic Magic. We have examined the similarity between traditional land perceptions, ownership and the Homeopathic use of print but now let us start to explore how a Contiguous approach might help me to solve the issues of transliterating buried knowledge. Contiguity suggests a continuity of touch, a Fraserian example could be using someone's toenails to curse them, the point being that something of their being resides in that matter which the magical practitioner can then work upon to provoke an effect upon the toenail's original owner. Artists like Richard Long and Michelle Stuart could be said to have already used this touch, this contiguous approach to document the material environment, Long in his graphite rubbings transformed into screen-prints in which Long took a pencil frottage rubbing of a piece of slate which was then transformed into a screen print piece.

And Michelle Stuart in her earth rubbings in which she pressed pieces of card directly into the surface of the land, taking an impression from the material landscape. The work of these two artists falls within the realms of an expanded form of print and both speak emphatically to their origin in touch, in contact with the material environment. In both of these examples we are asked to believe that the resulting print possesses some quality of the original source, the land, which is simply not a part of traditional landscape art which tends towards the display of a commissioner's wealth (Hayes, N. 2020). However, what these artists have worked from is the material environment, the non-human part of the equation of landscape whereas what I am interested in is in some way recording the immaterial exchange between the human and

Michelle Stuart, Avebury, Kennett Avenue, Stone Circle, Standing Stone, Wiltshire Down Chalk, England (1979-81)

non-human that is the very act of landscaping, yet which also retains the earthy integrity of the contiguous approach. A pertinent question to ask here is how does one take a contiguous imprint or inscription of an intangible process rather than a thing? My hunch is that the approach will need to involve a re-enactment of the relevant process, in my case mining, by performing the roles inherent to that process. What I propose is that the intangible, affective interaction will have an impact upon the physical recreation, which is more than a mere index of a repeated action, and which just might be conceivable as a trace of the process. Ingold speaks of just this kind of thing when he expounds upon ductus applying the qualities of instantiation to physical skills as well as linguistics.

What is problematic is that the Cornish mines are closed, and the Cornish miners I am interested in are dead, making it necessary for these roles, these skills to be recreated, performed. As a human I propose to play the part of a miner, of a bal-maiden, of a rustic gathering up wood and I nominate to the role of material environment the print matrix. It is necessary to re-enact these actions because what I am trying to trace is something that is happening as opposed to something that happened once. Another point to reflect upon here is the fact that having alluded to the quality of the homeopathic use

of print in acts of landscaping as a colonial tool I will also outwardly be adopting elements of this homeopathic approach here. However, I hope to overcome the subjugation of the print matrix by becoming 'other' myself through various means including ritual and costume. Also, in remembering the two-way affective ownership model put forth by Locke, I hope that the relationship between myself and the print matrix does not merely consist of human author and non-human scribe and that it will be possible to move towards a relationship of co-authorship, one in which we (myself and the print matrix in our various roles) co-own the resulting mark making.

Mol's work on multiplicities details the performative qualities of reality, she speaks of ways of performing anaemia – that is to say the clinical way, the pathophysiological way and the statistical way (Mol. 1998). Her thesis is that each of these physical enactments of anaemia creates a different reality of the condition. I think that there is a parity between enactments of anaemia and enactments of land ownership that I will be able to draw upon in my future workings, and we have seen throughout this paper how enactments can hinge upon a printmaking practice. What I need to fathom as my work progresses is what the implication of re-enactments are when considering multiplicity.

Conclusion

In this paper I have outlined an approach to depicting the landscape by thinking about the landscape as a process of affective interaction rather than a thing or a place. Using thinking around magical practices I have evaluated the roles both myself and the print matrixes I work with might take up in order to make apparent something which might not otherwise leave a trace. Rather than creating and alternative form of map, what I am striving to create in this work is an alternative to mapping which describes an unquantifiable quality of landscape. And like Winstanley and his diggers I intend to reactivate discarded land and make it fruitful once again through a performative process of re-enactment.

A realisation I have arrived at through writing this paper is that I will need to consider if the motive of my working is to reveal some buried knowledge about the landscape or whether this consideration of landscape is a useful homology which allows me to rethink printmaking. By moving away from the traditional roles of printmaker and print matrix am I really trying to distance myself far enough from them so that I might look upon them and unpack, not the quality of the affective exchange between the miner and the rockface but rather that of the printmaker and the matrix? An important question I will need to consider in moving forward is; are the restrictions of the matrix each printmaker meets, moments in an affective correspondence between human and non-human?

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Mutability and Musicality in Commercial and Community Radio Stations

Lucinda Guy (University of Plymouth)

Introduction

The UK's analogue broadcast radio scene, outside of the BBC, encompasses commercial stations and community stations. The focus of my research is the use of automation in their broadcasts, including the widely used "playout systems", the software that organises content and maintains continuous broadcasts on the majority of stations. These mimic the functions of hardware playout systems that came before, where each item, such as a song, announcement, advert or jingle, has its own tape cart. These items come together to form overall programmes, which in turn are part of the overall continuous broadcast of each station. Each programme item can be understood as an inscription, as an 'immutable mobile (Latour, 1985) which can be played in other times and places without being altered, and radio stations as metamedia, which bring together other media from other times and places.

Bruno Latour's paper '*Visualisation and Cognition: Drawing Things Together'* (Latour, 1985) outlines the role of inscriptions in the dissemination of scientific knowledge. For Latour, paper inscriptions, such as graphs, maps, photographs, diagrams, are effective and powerful because of their immutability and mobility, qualities that enable these representations of knowledge and experience to be seen and understood in other locations without fundamentally changing. His understanding of how information spreads and can come to dominate, is also applicable to popular music and other cultural form. About the printing press, Latour says,

> Anything that will accelerate the mobility of the traces that
> a location may obtain about another place, or anything that

will allow these traces to move without transformation from one place to another, will be favoured: geometry, projection, perspective, bookkeeping, paper making, aqua forte, coinage, new ships. The privilege of the printing press comes from its ability to help many innovations to act at once, but it is only one innovation among the many that help to answer this simplest of all questions: how to dominate on a large scale?

In this paper, the radio playout system takes the role of the printing press in the above analysis, by helping other innovations to act at once. I compare two case studies of Devon based radio stations, one commercial, one community, and their use of automation to pull together familiar fragments of content into a seamless whole. Printing presses, and radio playout systems, might be put to the use of large-scale domination, enabling the global spread of English-language music. They might also be put to small-scale ambitions, such as community newsletters, lost cat posters, or a minority language chat show broadcasting to a small town. Though technologies might be associated with a history of imperialism, they can be adopted and re-purposed for other aims.

Context

In 2004 the community radio order was passed by the UK government enabling the implementation of small, independent and not-for-profit radio stations around the UK. The services were defined as locally owned; independent, with each company only permitted to operate one station; accessible to its target community both as listeners and producers; and delivering a number of social gain objectives. These parameters set community radio apart from BBC or commercial radio. There were then several rounds of call outs for licence applications, and currently over 300 stations have been launched on either FM or AM frequencies.

How does a community go about designing and launching a full time radio service? In many cases, one person or a small group will have the passion to drive a project forward. They may have worked in radio

before, or always desired to operate a station. They may be nostalgic for stations they listened to at earlier points in their lives, and feel the best possible station would be one in a familiar style. From the 1960s in the UK young audiences began to form their own radio culture by rejecting the BBCs Reithian values of Inform, Educate and Entertain, and tuned in to commercial Radio Luxembourg, and pirates such as Radio Caroline. These combined popular music with informal presenters that were easier for young people to relate to than the BBC's patronising style. The rise in popularity led the BBC to launch Radio One in the vein of the pirate stations, and to the UK government bringing in commercial radio licences (Lewis and Booth, 1989).

This licensing opportunity led to an abundance of new radio stations throughout the UK. Independent Local Radio, often known as ILR, employed (mostly) men as presenters, was funded by adverts from local companies, and played pop music. These qualities enabled each station to have its own identity within a commercial radio genre, and a name that related to its location, such as 'Plymouth Sound' or 'South Hams Radio'. Over time, these began to consolidate into networks, and these networks to merge into larger ones, with a loss of distinctive local identity. A listener tuning into the frequencies that were once awarded to Plymouth Sound and South Hams Radio would now hear Heart, a brand of Global Media, on each of these, as well as many others.

The changes in commercial radio – from small and independent to large networks - coincided with the growth of community radio. The opportunity to set up a new, small local station has been attractive to those who felt pushed aside by the loss of genuinely local commercial radio. Some community radio practitioners who perceive community radio to be in the tradition of commercial radio, have been known to argue for deregulation, for example removing restrictions on advertising, or the requirement for each company to only operate one station. But the history of ILR's loss of independence indicates that these moves are likely to lead to a similar loss of independence for community radio. The state of commercial radio in the UK now is that nearly all stations are operated by just two companies, Global

and Bauer. Community Radio is protected from a similar fate by restrictions in the community radio order (DCMS, 2005)

UK Commercial radio now encompasses many speech based stations and different genres. However, it is easy to identify one model that dominates the majority of radio stations, both in the UK and elsewhere, which relies heavily on automation to schedule popular music, adverts, news bulletins and station idents. The formats and styles of radio are entwined with its economic models. If a station is solely funded by advertising, it needs to show its advertisers that it is reaching a consistent or growing audience, and that that audience is loyal to that particular channel. The established way of doing this is to maintain a predictable output. Songs are selected by management, and only those with an immediate hook make the playlist. This is installed in a centralised system. Adverts play out at set times, often once every twenty minutes. News bulletins, followed by weather and traffic updates are on the hour. Station idents appear regularly to reinforce the stations identity for listeners. Amongst this order, live presenters may have time to speak – maybe for a few seconds or for a few minutes. One advantage of this formulaic approach is its relationship with playout systems, the automation technologies radio stations use. These evolved hand in hand with the format, consolidating and enabling it. Many older presenters remember using a cartridge based system, which was replaced by software that mimicked the movements of the tape carts.

This model of radio is so ubiquitous it is almost invisible. Someone setting up a radio station from scratch, with a small budget, may assume this is how it will be. They may want to do things 'properly', to sound 'professional'. Others in community radio strongly resist this. Their interests are in celebrating the distinctiveness of community radio, protecting access to citizens to present, produce, operate and own licensed media channels. They celebrate programmes that are knowingly niche and not audience driven, for example minority languages or audio experiments. Rather than taking their historical cues from Independent Local Radio, they look to the stories of

community radio, both licensed and unlicensed, in other countries and the concept of community media as a space for challenging authority, freedom of expression, and including and raising the voices of marginalised people. I have frequently heard (sometimes even heard myself saying) the following kinds of argument against the commercial radio model, and its unsuitability for community radio.:

It is cheap and simple to produce.

It is heavily automated in a way that results in a soulless output, pop tracks, ads, news on the hour.

Its fundamental purpose is not to enrich culture, but to increase profit for shareholders.

It is repetitive and boring and predictable.

The presenters don't choose the music, so they don't really care about music.

It is outdated, and has been superseded by streaming services.

If commercial radio is analysed purely on economic terms, then this argument seems convincing, up to a point. But if all this is the case - and the only case to be made - then the logical conclusion would be that all its listeners are uncultured, unquestioning, idiotic philistines. If however we have faith in humanity, and believe that it is unlikely that a great number of radio listeners are uncultured, unquestioning, idiotic philistines, then this argument falls apart. There must be something else going on.

What kind of argument could be made about commercial radio if it is assumed that people everywhere are enquiring, creative, discerning, idiosyncratic? For whom listening to a commercial, popular music station is a valid choice, and in doing so, listeners adapt their radio experience to wrap around and weave through other, concurrent

experiences, each taking what they need from it. This new, more generous argument could be that the rhythms and patterns of a station have meaning and purpose for listeners. That the sudden bursts of nostalgia as a very familiar song crashes in, cause the right kind of distraction, one that reinforces a sense of self. That this form of radio just works. That it is persistent because in some way it is perfectly in tune with its technology, with radio as a phenomena.

Where, for me, does the soul of radio live, in the many experiences I have had as a listener? In Radio 4's Today Programme, listened to early in the morning whilst cleaning up the kitchen and making coffee, my attention drifting from the words and meanings? In a classical music concert, broadcast live on radio 3? A long, rambling and niche discussion on community radio? In my experiments, and those of my colleagues, producing long form, immersive, collages? In the Co-op supermarket's in store radio station, which in the style of a commercial contemporary music station but where all the ads and announcements relate to items in the shop? What brings all of these experiences together, what unites them? Which of these forms, or which elements of them, exploit the nature of radio listening, are most radiogenic? Could I move away from the kinds of arguments above to understand more about what is needed from radio, and why an apparently cynical approach is so prevalent and pervasive, by listening to just one hour of a typical commercial, popular music based radio station broadcasting in my area, and listening to the same hour of a station I designed and operate, and comparing them not just on economic or social terms, but on their sonic properties.

Background to the Skylark project

My own radio practice emerged from a time of studying music, and observing that when I listened to speech radio, it was akin to listening to music. My attention would drift in and out, the boundaries between one programme segment and another were blurred. The meaning of the spoken words was secondary to the sounds of the voices. These voices blended with the other sounds of

my life. For example, listening to Radio 4s Today Programme whilst cooking created a layered experiences, sounds of running water and a spluttering frying pan crossing over the broadcast voices. My impression was that radio producers planned themed, distinct features to impart specific information and perspectives, whereas as a listener I was allowing the energetic ebb and flow of voices – sometimes angry and fast paced, sometimes calm and reflective, to work as one of the instruments in the symphony of my kitchen. These experiences informed how I wanted to produce radio, as a musical composition, that acknowledged these modes of listening, and that gave space for other sounds in the environment.

This fell around the same time as the inception of the Community Radio order. London's Resonance FM, and other projects in other countries, were demonstrating how to create programmes and stations outside of commercial or BBC models. My children were young at the time, and I envisaged a kind of children's radio format that was a collage of interesting and enticing things – children's voices, stories, music, other sound – with no presenter to mediate them. This lead to a radio series I made for Resonance in 2005, working with my own children and others. Around that time, I imagined a children's radio station, that was an endless playlist of such snippets, rather than scheduled programmes. I came back to this type of idea many times. It began to seem obvious that a radio station didn't necessarily need programmes, but could broadcast a single, continuous and endless piece. Familiar with the licensing process for Community Radio, I began to analyse how this could come about whilst meeting the requirements of a full time licence, and in 2017 I completed an application for an FM licence for Dartmoor communities to operate a station that broadcast in this manner.

One of Ofcom's requirements is that material should contain a large proportion of new, original content, preferably live. Also that the studio should be based within its target community and provide access and training. That the station should deliver social gain objectives, and make a positive contribution to the lives of local residents. These parameters prompted me to design a model where residents and

visitors make sound recordings to submit to a central server, where they are mixed into a continuous sound collage. By having two or more layers at any time, it was highly improbable that any one combination would ever be heard more than once. The library of material would be updated every couple of weeks to increase variety and involvement. The project would also deliver walks, workshops, etc where people could get involved, learn skills and create content. Additionally, it would collate material from existing archives such as traditional music and oral histories, to bring past and present voices together. This station, named after the Skylarks commonly seen hovering above moorland with their distinctive song, reminiscent of electronic music, was awarded a licence on this basis, and went on air in October 2020.

Regulation and dreams

A project that is subject to high levels of state monitoring and regulation inspires certain anxieties in its operators. Complaints can come to media regulator Ofcom (Office of Communications) at any time, and from anonymous sources. These are dealt with same level of scrutiny, regardless of the size of the broadcaster. Though community radio licences stipulate training, inclusion, social gain etc, and these must be adhered to, in reality, the expertise of the Broadcast Licencing team lies in technical and programming considerations[1] rather than the experiences of participants. The fear of a complaint, of hostile ears tuning in and searching for problems, might be heightened in the mind of the radio artist, already feeling like an outsider: female, possibly avant-garde, playing with the boundaries of what radio should be. Operating a community radio station, reliant on volunteer input, and in a rural area can feel like a fragile, spiders web connection with the established protocols and expectations of a broadcast licence. In the process of writing this paper, and of listening to commercial radio services and trying to improve my understanding of them, it became apparent that someone, listening to the broadcasts, was not

1 Technical and programming, because these are the same as for other broadcasters, eg Channel 4, Classic FM, so most of their day to day work is around this.

enchanted or enthralled, but instead looking for mishaps that might be considered by Ofcom to be a licence breach. The stations two transmitters, one installed high up at Hessary Tor, and one on the South side of the moor, near to Holne, are on remote farmland. Since their installation, a range of interesting problems, specific to their rural context have caused disruptions to the radio service and triggered complaints, including ruminants chewing and pulling at power cables, and angry farmers with a 'get off my land' attitude to accessing transmitter sites. Complaints were coming through to Ofcom whenever there was a drop in service, though I tried to mitigate these by informing Ofcom myself as soon as I was aware of a problem, and explaining what steps were being taken.

The feeling of the precariousness of the project, and the sense that out there were people who didn't like it, began to cloud my feelings about how much I wanted to continue to work this way. In a dream one night, a complaint about the nature of Skylark's output had been made to Ofcom. The complainant had found it repetitive, and as a result I had to visit Ofcom's headquarters at Riverside House in London.

This unnamed, dream complainant represented people I have encountered throughout my years working in community radio. To generalise, they are male, and a bit older than me. They are nostalgic for an earlier radio form, the ILR stations of the 70s and 80s. They operate community radio stations, or have had to hand back the licence of their failed community radio stations, that have adopted the business models, formats, and technologies of commercial radio. They are suspicious of women working in media, and suspicious of the arts and progressive ideas. This is not one person, and it is unlikely that any one person has exactly all of these qualities. Instead, it is a radio archetype, embodied in the dream by an unknown figure who I can picture clearly. This archetypal figure had been keeping a log of Skylark's output, and of all its occasional failures of transmission. This was a detailed dossier, with dates and times, and content described with general terms such as 'beats' 'voices' 'tracks' and was written in such a way as to indicate that the same audio was often repeated. At Ofcom's headquarters I found myself prepared to defend the project,

to this character and another person present, who was part of the broadcast licensing team.

I found the strength to do this with great enthusiasm, and to communicate passionately how the sounds of the station were forever re-emerging in new combinations. And how Skylark's output could appear repetitious – for example, sometimes a poem might pop up twice or more in a row – but actually this was always different as it was layered over other material. On the other hand, a traditional pop music station might feel constantly varied, but actually broadcast a fixed inscription, such as The Beatles A Day in the Life, many times. At one point, as I spoke I leapt onto the lap of the complainant figure (does this suggest I found him patriarchal?) so I could speak closely into his face. Then, as he sat in a chair, I stood across the room from him. I held in my hand an accurate, though scaled down, model of his head, that I had made from clay. I positioned this head to look directly at him. It was hollow inside and open at the base. I placed the key of Skylark's studio inside the clay head.

On waking I reflected on the intensity and meanings of this image. Making a model of another person is associated with ritualistic power over that person. It had felt like a moment of bravery and of reclaiming power over my project. If I see the key to the Skylark studio as representing my work, then it is trying to place itself within an often conventional world of radio broadcasting. But also, it is trying to unlock the head – the mind - of this archetypal radio figure. At once, this unlocking is both my radio intervention, offering freedom and escape to him (to radio), and me trying to unlock his mind, thereby to understand, analyse and interpret how they (conventional, commercial style radio makers) think and feel.

Soon afterwards, the following correspondence took place (in waking life)

> Dear Lucinda,
> Thank you for submitting your finance report for 2021 to Ofcom. We have a question relating to your submission, which we have set out below.

Can you please provide a detailed explanation of the following:
1. In your finance report, you reported a figure of 168 hours of original output per week on average, which equates to 24 hours per day of original output. Original output is content which is first produced for, and transmitted by, the station and excludes output that was transmitted elsewhere before. Original output can be live, pre-recorded or voice-tracked. Repeat broadcasts of original output and continuous music with no speech content other than advertisements, station idents and/or outsourced news bulletins (i.e. news bulletins produced by a third party) do not meet Ofcom's definition of original output. **Please confirm that this figure is accurate, or provide an amended figure.**

We would be grateful if you could respond to the above by **28 June 2022**.
 If you have any questions, please do let us know.
 Kind regards,
Ofcom Broadcast Licensing Team

Dear Licensing Team

Thank you for your query
Yes, this is accurate. Skylark has a unique design, as outlined in our original licence application, and broadcasts a continuous, never-repeating, algorithmic composition. This is not broadcast anywhere else.

The process is: we work with Dartmoor communities to make original sound recordings, including oral histories, poetry, field recordings, and musical phrases. There are always at least two recordings playing together, always in new combinations. The listener will never hear the same thing twice. Local residents can submit their own recordings, via our website. We also work in schools and community venues to support people to make original work.
So the broadcast is entirely original material, 24 hours a day, unique to our station, and always new.
 I hope this resolves the issue, I›m happy to talk it through in detail any time.
 Best wishes,
Lucinda

Thank you very much for your response. We have no further questions in relation to your Finance report for 2021.

Many thanks,

Ofcom Broadcasting License Team

Two Radio Case Studies

The dream's image and desire to unlock radio forms, and to find commonalities, was something I had attempted by listening to, and analysing the same hour of output on two stations. Skylark, and Heart. The apparatus of the radio receiver has a levelling effect for listeners of stations of varying budgets. An FM radio listener, tuning between stations will pick up national and local broadcasters, BBC, commercial and community. Small non-profit, volunteer run stations signals sit on the spectrum next to those owned by huge media empires. In some ways these stations are very alike. Each plays a continuous stream of sound, with voices, music etc. Behind the scenes is a paper trail of business models and licensing documents, that illustrate important differences in their legal structures. A listener who picks up Skylark on FM on Dartmoor, which runs a completely unique broadcast of sounds not heard on any other radio station, might then tune in to commercial station Heart South Hams, one of many iterations of the Heart network which all broadcast almost entirely the same output as one another.

Community radio licence documents include 'key commitments' which are finalised between the broadcaster and Ofcom around the time of its launch. In a commercial radio licence, the commitment is to a 'format'.

Annex Part I   Key Commitments

CR102164BA/1

Service name	Skylark
Licence area	Dartmoor National Park (as shown in the licensed coverage map)
Frequency	105.80 MHz

Service name	Skylark
Licence area	Dartmoor National Park (as shown in the licensed coverage map)
Frequency	107.60 MHz

Description of Character of Service

Skylark is a station for all in the Dartmoor National Park area. All broadcast output will form a single, continuous sound piece, made up of local content created by the people of Dartmoor using the sounds of the lives of those who live and work there and the voice of the natural environment. Skylark will reflect all aspects of Dartmoor life and give expression to a wide range of voices and perspectives. The station facilitates community engagement through broadcasting and trains local people.

The service broadcasts:

• Music. The main types of music broadcast over the course of each week are: traditional music, improvised music, locally composed and recorded music, and music created from field recordings and voices.

• Speech. The main types of speech output broadcast over the course of each week are: conversations, oral histories, readings of historic texts and out-of-copyright published works, new poetry, plays, stories, folklore and descriptive texts.

• Over the course of each week programming is broadcast in English, other languages spoken in the local area and animal voices.

• The service provides original output for 24 hours per day.

• The service provides locally produced output for 24 hours per day.

The studio is located within the licensed coverage area.

The service provides a range of community benefits (social gain objectives mandated by statute) for the target community, both on-air and off-air, and in doing so, achieves the following objectives :

• the facilitation of discussion and the expression of opinion,

• the provision (whether by means of programmes included in the service or otherwise) of education or training to individuals not employed by the person providing the service, and

• the better understanding of the particular community and the strengthening of links within it.

Key commitments from Skylark's radio licence (Ofcom, 2020)

Members of the target community contribute to the operation and management of the service.

The service has mechanisms in place to ensure it is accountable to its target community.

[October 2020]

Original output is content which is first produced for, and transmitted by, the station and excludes output that was transmitted elsewhere before. Original output can be live, pre-recorded or voice-tracked. Repeat broadcasts of original output and continuous music with no speech content other than advertisements, station idents and/or outsourced news bulletins (i.e. news bulletins produced by a third party) do not meet Ofcom's definition of original output.

Locally-produced output is content which is made and broadcast from within the station's licensed coverage area. It may include all types of local production including repeats and continuous music, as long as it is created anywhere within the licensed coverage area and is not material that is networked from other stations. Content which is made outside the station's licensed coverage area, but edited and broadcast from within the coverage area, does not meet Ofcom's definition of locally-produced output.

Ofcom

ANALOGUE COMMERCIAL RADIO STATION FORMAT

Service name

HEART

Licence number	AL000252
Licensed area	South Hams
MCA population	81,689
Frequencies	100.5, 101.2, 101.8, 101.9 MHz

Character of Service

A LOCALLY FOCUSED MUSIC AND INFORMATION STATION FOR 25-54 YEAR-OLDS IN THE SOUTH HAMS AREA.	
Service duration	24 hours

Locally-made programming	*Studio location:* Locally-made programming must be produced within the bespoke approved area of South West and West Country.
	Locally-made hours: At least 3 hours a day during daytime weekdays.
	Programme sharing: All programmes may be shared with the Cornwall licence (AL296), the Plymouth licence (AL103), the Exeter & Torbay licence (AL032), the Barnstaple licence (AL149), the Bristol & Bath licence (AL016), the Taunton & Yeovil licence (AL128), the Swindon & Wiltshire licence (AL065) and the Gloucester & Cheltenham licence (AL030), subject to satisfying the character of service requirements.
Local news	At least hourly during daytime weekdays and peak-time weekends. At other times UK-wide, nations and international news should feature.

Definitions

Speech	Excludes advertising, programme/promotional trails & sponsor credits
Peak-time	Weekday breakfast and drive-time, and weekend late breakfast
Daytime	06.00 to 19.00 weekdays and weekends

Notes
This Format should be read in conjunction with Ofcom's published Local-ness Guidelines
Last amended: May 2019

End of document ∎

16:07
01/05/2022

Radio format of Heart (Ofcom, 2019)

Skylark's Key Commitments opens with

> Skylark is a station for all in the Dartmoor National Park area. All broadcast output will form a single, continuous sound piece, made up of local content created by the people of Dartmoor using the sounds of the lives of those who live and work there and the voice of the natural environment. Skylark will reflect all aspects of Dartmoor life and give expression to a wide range of voices and perspectives. The station facilitates community engagement through broadcasting and trains local people.

Heart South Hams format is defined as "a locally focused music and information station for 25-54 year-olds in the South Hams area."

Both these use the word local, to mean very different things. "Trains local people" is unambiguous. People who live and work in the area the station broadcasts to, can receive training. "Local content created by the people of Dartmoor" is also clear in its intent. The station defines itself as being both created by, and broadcasting to, the same group of people. In the case of Heart South Hams, "locally focused" is much more vague. This could mean as little as its broadcasts reaching

the parts of Devon they are licensed to reach. It implies a one way relationship – the station focuses on a local area. When I listened in depth to a sample hour of this station, I observed several adverts for Devon based businesses, though the majority were for national brands, and several Devon related news stories, though not specific to the South Hams area. The station is an example of how once independent commercial radio stations, who would each have operated a studio in their licence area, have become consolidated, in this example it previously operated as "South Hams Radio". 2

Looking at licensing documents, company registrations, annual reports informs us of the social and economic models of these stations. Attentive listening to them informs us of their sonic qualities, and effects of these on audiences.

Automated Broadcasts

It is not just the proximity of these two stations that makes them candidates for comparison, but the extent to which they use automated processes to curate and maintain their output. Automation in the context of my research describes situations where technologies have replaced a task formally done by human decision making and carried out by human hands.

Early in the story of radio's development, two concepts became inseparable. The use of radio waves to carry signals for entertainment and information to mass audiences. And a continuous, unbroken stream of sound, made of discernible segments. As radio moved away from the practice of switching off overnight, station managers sought ways to maintain broadcasts without the need for constant staff presence at a studio. Software currently used in radio studios has its

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2 South Hams Radio Ltd is now listed on Companies House as "a subsidiary of Global Media & Entertainment Ltd". It was originally incorporated in Kingsbridge, South Hams Devon in 1997. The registered office changed , via Swindon and then Bristol, to 30 Leicester Square in 2009, which is the address of the parent company. Its CEO, Stephen Gabriel Miron, is a director of 80 companies, many of which are also subsidiaries of Global. All of the companies original directors, serving between 1997 and 2008, were Devon residents.

origins in the hardware adopted in previous decades.

A 1970s promotional video (Anon, YouTube, 2022) glorifies the 903E playout system produced by the US based Schafer company, with a case study of Perth station 6KY in 1976. The video opens with the words 'the way radio was', the image of a microphone, and the deliberate, nostalgic affectation of lines moving down the screen, soon followed by "the way radio is in this century" celebrating the replacement of the microphone (that facilitated live speech) as the central technology of the studio, to the adoption of a complex seeming, wall of technologies, with the human operator in its service, though of course, both examples refer to the 20th Century. On the left of the 2nd image are slots for hundreds of tape carts. Each of these is a magnetic tape, with one element, such as a song, an announcement, a station ident or an advertisement.

It is this model – of radio content being individual elements brought into a whole – that I'm looking at in the two case studies. Latour's analysis of the printing press can be paraphrased to describe the playout system

> Anything that will accelerate the mobility of the traces that a location may obtain about another place, or anything that will allow these traces to move without transformation from one place to another, will be favoured: musical genre, equal temperament, beats per minute, verse-chorus song formats, MP3s, microphones, voiceovers. The privilege of the radio playout system comes from its ability to help many innovations act at once.

Certain protocols that are followed in the creation of each element of radio content enables them to come together and make continued sense for the listener, rather than many disparate elements clashing and forming an unreadable chaos. "You have to invent objects" says Latour (1985), "which have the properties of being mobile but also immutable, presentable, readable and combinable with one another". He identifies the inscriptions of scientific knowledge as immutable mobiles, that are "possible to superimpose" and able to "merge" and easy to copy, without fundamentally changing. Popular music, station idents, news bulletins, the kinds of materials that in the 1970s would have each had their own tape cart, can be similarly regarded as immutable mobiles, with the expectation that as they reappear in a station's schedule they will be familiar to listeners. In common with Latour's inscriptions, these pieces of audio are designed to layer and merge whilst maintaining their own identities. Practices in popular music such as cover versions, sampling and mixing, increase the mutability of these materials, whilst exploiting audiences' familiarity with them.

Parallel hours of radio

On Sunday 27th February 2022 I listened to the output of Heart, which broadcasts on 100.5 FM over Totnes. I chose just one hour as I wanted to pay close attention to a small amount of content, and compare it with the same hour of output on Skylark. This was the first hour of a three hour programme. "Heart's Feel Good Weekend with Zoe Hardmann." It can be reasonably assumed that the broadcast I tune into is simulcast on all 99 of Heart's FM frequencies around the UK, with some regional variation in news and adverts.

The title "Feel Good" instructs the listener of how they should respond to the radio content, and sets the weekend apart from weekdays. Heart uses 'Feel Good Weekend' to define a total of 18 hours of content on Saturdays and Sundays, divided into three hour blocks, with a presenter hosting each block.

The hour is further divided into short segments, the majority of which would have been lined up in advance on the station's playout software. These could be categorised and broken down as: 14 music tracks, which take up 67% of the hour; three segments of eight adverts each, which fill 19%; six occurrences of Zoe Hardmann's voice which take up 8%; one news and weather bulletin for 2% of the hour; numerous station idents and jingles that come to around 4%. However, these divisions are slippery. Station idents and presenter's interjections appear over the ends of tracks, this is made easy by music producers who frequently avoid vocals at the beginnings and ends of songs, allowing other sounds to be mixed in. Across the hour, a steady rhythm is established, with adverts at 20 minute intervals, and station idents popping up approximately every three minutes, i.e. between each song. Broken down minute by minute, the types of content are approximately like this:

Though these forms – adverts, songs – are familiar ones and easy to recognise, there are not clear lines as one moves to the next. Rhythmic music is almost continuous for the entire hour. It flows through everything, moving between foreground and background, sitting behind a newsreaders voice or accompanying an advert. There is a sense of unrelenting pace to it all, that serves to draw all these objects into one sound. Each piece of content moves to the next with no rests or pauses, either overlapping or leaping from one idea to the next. The transitions between music tracks often use the stations "sting" – the word "Heart" enthusiastically called out – to pull things together. Human voice is also a constant presence made up of singers, newsreaders, presenters, voiceovers and rappers.

As well as the station's name, Heart's "sting" uses a scratching sound reminiscent of a DJ pulling the needle backwards across a vinyl groove. This has a strong association with disruption, and it serves here to make the sudden jumps from one track to another more acceptable in the mind of a listener who is familiar with dance music culture, such as those indicated in the station format as being "25 to 54 year olds".

SPECTRAL ANALYSIS

presenter 210 Hz

news 208 Hz

ident 91 Hz

advert 254 Hz

music 117 Hz
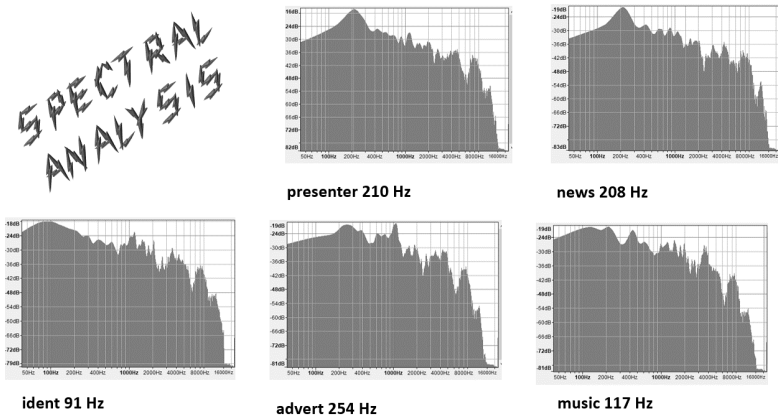
As well as rhythmic and vocal consistency, spectral analyses3 of samples of different programme segments show the limited range of frequencies. Each reading provides a similar shaped curve, with bass registers favoured. Under each of these I've identified the most dominate frequency in each extract.

Another way to represent these frequencies is to round them up or down to conventional musical notes, here shown with a bass clef. One might imagine these played on a cello, bassoon or other low sounding instrument.

| presenter | news | ident | advert | music |

It is not coincidental that similar frequencies dominate and reoccur in this style of radio. This is radio designed for busy lives and busy spaces. It needs to carry over a car engine, a supermarket checkout, a building site, a kitchen. In many situations in contemporary life a background hum of low fidelity sound is a constant presence. Car engines, planes, road surfaces, air conditioning, etc, all contribute to the sonic environment, making commercial radio, with its wide frequency range and dominate bass, a logical choice for listeners who may want to hear something more personal, curated, and cheerful to block out the background noise.

Heart's broadcast uses familiar and distinct music tracks and announcements, which overlap at their edges and maintain consistency of pace and pitch, to build a sense of a whole station sound. Skylark's broadcast uses recordings made by its listeners that are always layered with something else in its library, leading to continuously overlapping segments, that always appear in new combinations. Music has been deliberately limited to short phrases that utilise a simple mode of just six notes, and reappear often, to build a sense of a whole station sound.

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3 I identified dominate frequencies by recording short extracts of the hour, and using the spectral analysis feature in Audacity editing software. The vertical axis shows volume in decibels, the horizontal one shows frequency, with lower tones to the left and higher ones to the right.
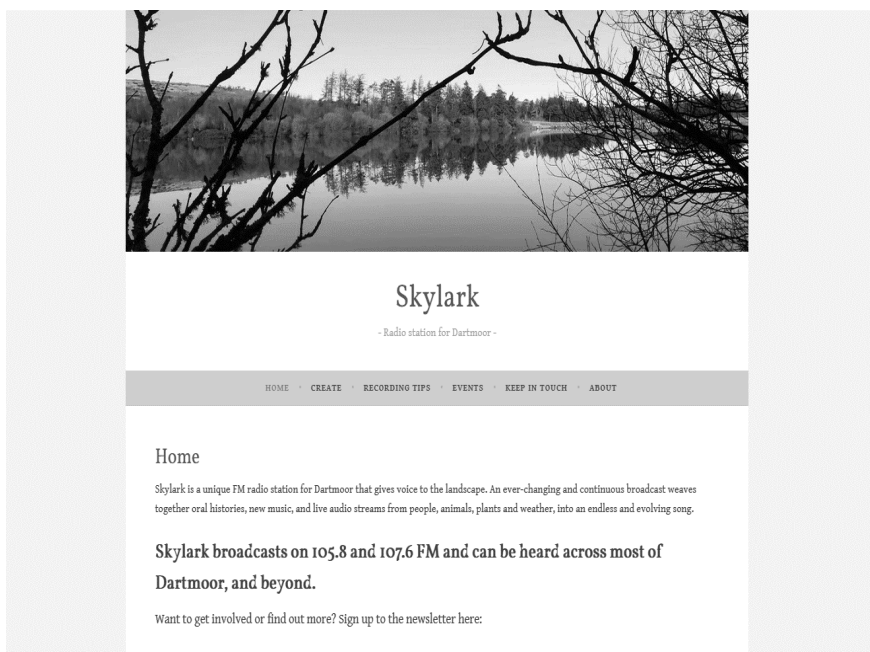
The same hour of Skylark's broadcast, 9-10 am on 27th February 2022, can be broken down into music, voice and field recording. These cannot meaningfully be expressed as percentages of the output, as they overlap and mix to a greater extent than the material on Heart. The station's design uses automation which selects clips from two folders, one of which I call "long and slow" and has field recordings and music clips, and the one that I call "everything else" which has voice recordings and (mostly the same) music clips. These are selected at random and folded together into a continuous mix.

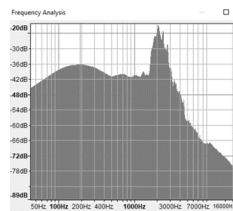| Speech | |
| Music | |
| Other sound | |
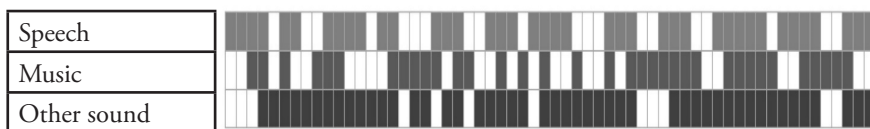
There are 50 segments of speech, including readings of poems and archive material, clips from oral histories and interviews with specialists, individual words taken from other speech content. Across this sample hour, three examples appear more than once. As the hour

begins, a voice is reading from a 1920s news report about the legend of the Hairy Hands. The same clip is heard again, just 10 minutes later. Slightly different, ambient recordings of places accompany each occurrence. There are 41 pieces of music, which range from long, individual notes to short phrases. All are solo recordings on acoustic instruments, including cello, cornet, recorder, glockenspiel. I designed these with mutability in mind, using a scale of only six notes for all the music, and with similar phrases pitched up or down the scale, and in lower and higher registers. These restrictions increase the likelihood of musical fragments blending together in ways that feel harmonious, and that support the sense of all the station's output being a single, continuous composition. Both the speech and the music segments are between one second and ten minutes in length. There are far fewer instances of the third type of content, field recordings and environmental sounds. These are generally much longer, between two and 14 minutes in this extract.

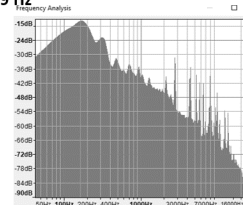As with Heart, I selected a small sample of each content category for spectral analysis.


field recording 2069 Hz
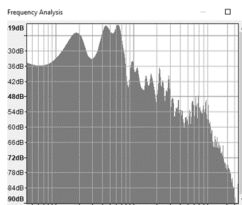
speech 634 Hz

music 171 Hz

These examples show very different pitches – a bird singing in a high register on the field recording. The speech is a female voice, but

unlike Zoe Hardmann's it has not been processed to boost the bass tones which give commercial radio presenters voice their distinctive sound, enabling them to carry across noisy environments. The music clip analyzed here is a single note played on a cello. To emphasize how different these are, again I will round them up or down to conventional musical notes.
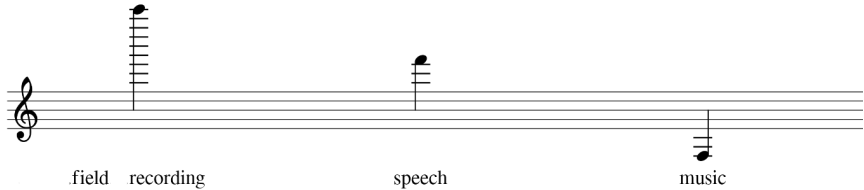
Such notes could be played, for example, by a piccolo, a violin, a cello. This illustrates my intention to produce radio content that doesn't seek to drown out other sound, but to weave through it, be in dialogue with it, complement.

Differences and Commonalities

The use of frequent idents, where a station announces its name to listeners is so common that I have heard it said it is a licence requirement, though this is not the case. It is however common that the name of the station spoken aloud is the sound most often heard on that station. In this hour of Heart, the word "heart" appears 20 times in the announcements and idents, and 25 times in the lyrics of songs. In the Skylark example, the word Skylark doesn't appear, though 'lark' does, in the context of a poem by 17th C. Dartmoor poet Robert Herrick. Recordings of birdsong are frequent.

If the name of the station is closely related to the sound of the station, what qualities do these names represent, and what do ideas of radio do these correspond with?

Heart	Skylark
Inside the body	Up in the sky
Universal	Place specific
Beats	Melody

Listening to an hour, or a minute of these stations, the differences in style are obvious. Heart places itself in a tradition of commercial radio, using automation to line up regular advert breaks between popular music and occasional vocalisations from a friendly-sounding presenter. In designing Skylark I have deliberately looked away from this kind of radio culture, and to my own experiences of listening. The ways in which some sounds hang around (car alarms, rivers, wind in the trees) others flit past (a half heard sentence in a shop, music through a car window) but all blend into one continuous sonic experience of life. There are no chapters, no clear beginnings and endings. Patterns form as ideas and reoccur. The sounds of our environment blend, fade in and out, reappear, interrupt and form a whole.

In creating the Skylark project, I was initially attempting to launch a station with the innovation that it was a single composition, made up of fragments. Since then my position has changed. I now perceive each radio station as achieving this objective, but particularly stations such as Heart that use automation to play popular music, idents, adverts etc. The idents take the role of mutable motifs that weave through other content, drawing it together into one station sound and identity. A rhythm runs through the whole output, driving it forwards and connecting the songs, adverts, news. Each radio station is singing its own, endless song.

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A Scenography of Inscriptions & Intangibles in the Birthing Room

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Abstract

Inscriptions on graph paper, on monitors and on various screens are ubiquitous in the birthing room; they reassure, worry, beep, light up and inform protocols. According to Latour (1985) their presence is not a result of a carefully planned logical choice, but of a legacy of mustering allies and convincing alignments. Using Barad's (2007) framework of agential realism, this paper explores the notion of intra-actions between objects and agencies of observation in the phenomenon of birth, using a socio-political and historical configuration. It presents some surprising accounts of obstetrics and gynaecology and showcases how historical inscriptions and instruments materialized today's birthing practices. It then presents how, upon entering the birthing room, one notices that the presence of instruments and inscriptions overshadows many other powerful actors at play. These other actors, such as atmosphere, presence, hormonal systems, memories, consciousness, relationship to pain, the sense of self are intangible and often not sufficiently attended to during childbirth even though literature shows their critical role for positive birth outcomes. Using post Actor Network Theory and medical scenographies (Neumann, 2021), this paper attempts to start an inquiry around the role of one of these intangible actors in the birthing room, namely the symphony of hormones (Odent, 2018), and explore their dynamic, porous, multiple nature (Mol, 2002; Neimanis, 2021). It then concludes by inquiring whether identifying the intra-actions of a fuller spectrum of actors in the room, both inscribed and intangible, invites the co-emergence (Ettinger, 2006) of new layers of actors and thus reconfigures the phenomenon of birth and its transformative potential.

Introduction

The *obstetrix* profession has evolved through centuries of cultural and historical landscapes. Socio-cultural discourses shaped what was deemed important and to whom to listen. What emerged through this research is that the invention of instruments and ways to inscribe the process of labour and birth were key milestones that shaped the profession. The legacy of the inscribed and the baggage of the *obstetrix* profession shape the scene that unfolds in hospital births today.

When meeting my obstetrician for the first time in Morocco 20 years ago and asking her if I could move, stand or squat during birth, she looked at me with disdain "we are not savages here! we are modern!" I was baffled, it was obvious to me that a dynamic position was much more conducive to birth than a static one; I wondered what in her medical practice elicited such a response. A few weeks later, when I came to the maternity to give birth, the "modern" protocol was followed. I was to lay down on my back, immobilised by the continuous fetal monitoring and the IV drip – *just in case* – and instructed not to move. Birth professionals know that the supine position is the least optimal and most painful position for birth and that movement is essential for optimal fetal positioning[1] (Balaskas and Balaskas, 1983; Gaskin, 2008; Buckley, 2009; Kitzinger and May, 2011), however it allows for easier access, monitoring and view by medical staff. At that moment, my pregnancy and birth were externalised; the intimate relationship with the foetus and its life-supporting system I had nurtured for nine months was irrelevant. In that birthing room, my body was severed from my decision making processes; my body became a transmitter, attached to transducers inscribing numbers and sounds, a vehicle to an external process organised to extract a baby.

My experience might seem *passé*, in a *developing* country but it is not singular, on the contrary, it is still a standard birthing scene of the

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1 Lying on your back makes the pelvis outlet about a third smaller, the birth canal slants upwards, it increases the risk of forceps and ventouse use, the risk of spinal, pelvic and nerve injuries, episiotomies, constricts blood vessels, increases pain and duration of labour.

hegemonic medical models of childbirth in various countries in the world, and is still the cultural expectation of what a "modern" birth should be (Bohren *et al.*, 2015; Visser *et al.*, 2018; Odent, 2019, Davis-Floyd, 2022). The question therefore arises: why do standard medical protocols of childbirth disregard the agency of the birthing woman during birth and the experience of practitioners? Some answers can be found in the historical contexts that shaped the *obstetrix* profession and in particular the role of inscription technologies. Some further answers can be found in the literature around the development of medical protocols (Berg and Mol, 1998; Bijker and Law, 2010), and in the *cultural gaze* that is cast on the birthing room influenced amongst other by socio-cultural, political, historical materializations and discourses (Barad, 2006; Ettinger, 2006; Jackson, 2020).

Using Latour's (1985) concepts from his work *Visualisation and Cognition*: *Drawing Things Together*, I will explore the British history of the obstetrics profession and uncover that it predominantly evolved according to what could be inscribed, by who had the authority to inscribe and how instruments contributed to galvanise this authority. Founded in Law's (2008) critique of the Actor Network Theory 1990 and Mol's (2008) presentation of multiple bodies, I then explore how protocols influence what is taken into account in a birthing room and ask what if other processes such as the hormonal system, the atmosphere, presence, or the parturient's sense of self —intangible factors that childbirth literature describe as important—was witnessed and included in the decision-making processes in the birthing room. To do so, I will use a scenography approach, inspired by Neumann's (2021) work on Medical Scenographies. I will explore how a scene in a birthing room unfolds, select the actors (the sources of action and intra-action such as technologies, physiological processes, foetus, caregivers, the audience, the props) and let them play two scenes. One in which the inscribed has the lead role and then, by repositioning the actors, one in which the intangible leads. What appears is that actors beyond the scene, lurking from the past, attracted by the future, shape the present. What also appears is that when repositioning the actors and giving the intangible ones an active role, we gaze at a scene in which the relations between a dynamic web of multiple actors come

to the forefront; it allows for the emergence of new actors to enter the scene. The paper concludes with a short exploration of whether inscribing differently these new actors and their dynamic relationships could enhance the emergent potential of the phenomenon of birth and bring us closer to the experience narrated by birthing mothers*[2].

Mustering allyship through inscriptions and instruments

Using the example of the 3D ultrasound in pregnancy, Barad (2007) in her book *Meeting the universe halfway*, calls feminists to apply the concept of *intra-action* and "be involved in the practices of science, technology and medicine, the theorization of technoscientific practices and the theorization of the social, cultural and political" (p.222) She defines *intra-action* as "the mutual constitution of objects and agencies of observation within phenomena". This section attempts to cast a historical look at some social, political and cultural events that have imprinted the phenomenon of childbirth in hospitals as experienced by the majority of women nowadays. It follows her approach that *phenomena*—intra-actions of objects and agencies of observation—are influenced amongst other by socio-cultural, political, historical materializations and discourses. Furthermore, it challenges the notion of distinct boundaries between the object and the agencies of observation. In her words:

> Agential realism calls for a critical examination of the practices by which the differential boundaries of the human and non human, and the social and the natural, are drawn, for these very practices are always already implicated in particular materialisations. […] providing a more complete and complex understanding of the nature of practices (including regulatory ones). (Barad, 2007, p.209/210)

It is with this particular lens of intra-action and agential realism that the historical background of obstetrics, meaning the field of study of pregnancy, childbirth and postpartum, is visited. It highlights the

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2 This paper recognises that not all birthing parents identify themselves as mothers; it is with this recognition in mind that the asterix will be used (mother*) to include parents who have birthed.

importance of inscriptions and technologies and also opens the room to explore the fluidity of boundaries between actors, in and outside the room, and the presence and relation with intangibles.

When Jane Sharp wrote her book in 1671 The midwives book, or, The whole art of midwifry discovered, she was well aware that her privileged education gave her the authority and the access to publish her knowledge. She is recorded to have fought for the right of women to be educated so that they could partake in the development of the profession. However, as we will see, the practice and experience of female midwives were not recorded and transmitted in the same manner as the medical profession of obstetrics (Doyle, 2018) and much of their orally transmitted knowledge was lost in the process and in the persecutions that midwives endured during the witch hunts that spanned over three centuries (Federici, 2018). As Sharp and Hobby (1999) show, there was a historical disassociation between practice and inscriptions:

> Midwifery manuals before Sharp's are not, then, the work of practitioners and their teachers. Rather they are a particular example of the general 17th century move to make medical writings available in English, a trend frequently alluded to in the manuals themselves, as their authors make a display of anxiety over whether their subject matter might be deemed indecent. (p.4)

At this time, the majority of medical writings were based on Galen, Aristotle and Hippocrates and often used Latin and Greek (Drife, 2002; Loudon, 2008; Doyle, 2018). The most distributed book at the time and for the next century was Culpeper's *A directory for Midwives (1651)*, Culpeper "focused his anatomical explanations on men's bodies as well as women's, portraying women's bodies as imperfect variations of male anatomy" (Doyle, 2018, p. 19). The deficient female body is a discourse that still permeates collective attitudes and belief systems and imprints female reproductive care (Cleghorn, 2021). The continuous search by the male medical profession to understand the female reproductive body did face social challenges; according

to Doyle's historical account, the advent of male-midwives raised tremendous concerns around sexual decency and physicians had to:

> […] find new ways in their medical writings to mitigate the potential for sexual danger in their encounters- both real and textual – with the maternal body […]. Medical writers began to turn away from portraying the whole of the female body in their anatomical illustrations and focused exclusively on the pelvis and reproductive organs. (2018, p. 16)

The inscribed, published and distributed knowledge and the phenomenon of birth were dissociated from the whole maternal body (Allotey, 2011). The source of information disappears behind the inscriptions and the *medical gaze* prevails (Foucault, 1994). Indeed, the allies of material realities and the absolute visible were faithful to their instruments and what they inscribed. Latour (1985) invites us to look at how such authority is mustered:

> Thus it is not all the anthropology of writing, nor all the history of visualization that interests us in this context. Rather, we should concentrate on those aspects that help in the mustering, the presentation, the increase, the effective alignment or ensuring the fidelity of new allies. We need, in other words, to look at the way in which someone convinces someone else to take up a statement, to pass it along, to make it more of a fact, and to recognize the first author's ownership and originality. (p.5)

This mustering of allyship was done through the invention of instruments for reproductive care: the birthing body was "saved" by instruments. William Smellie (1697-1793) coined the father of British obstetrics, was called into the birthing room when there was a problem, otherwise, men were barred (Drife, 2002; Loudon, 2008). Until then, *obstetrix* from the Latin midwife was a low paid women's occupation and a lesser occupation for many male apothecary-surgeons or barber-surgeons of the time. However, the indecency of women's private parts was eclipsed by the advent of instruments. Smellie's use of the forceps which the Chamberlen family introduced,

and Smellie improved, became the symbol of socially accepted change. Male midwives became *en vogue* and obstetrics developed primarily into the narrow focus of extracting babies (ibid) instead of the wider art of supporting the reflex of birth to occur (Odent, 2001, 2019). Extracting babies became an art form and as such was very present in Smellie's manual (fig.1). Instruments consolidated authority; they were used to advance the profession by developing the published manuals to train future obstetricians. Some male midwives were harnessing a lucrative business and in some cases the instruments used, like the forceps, were kept secret for decades to ensure a monopoly over births of the wealthier class (Drife, 2002; Loudon, 2008). The capital cost of birth increased through the use of instruments, making it a worthwhile economic niche to enter.

The business of birth was not only in the delivery of babies, but also in their ownership. Historically, female bodies have been used to produce workforce. Even today, black and brown bodies are the ones made available to sustain the productive economy (Jackson, 2020). We find the same roots of historical re/productive allyship through instruments in the legacy of gynaecology. The "father of gynaecology" J. Marion Sims (1813-1884) operated on enslaved women to improve (re)productivity. Early pregnancies, and repeated successive birth can create fistula, a debilitating and humiliating injury. Not using anaesthetics and after several recorded deaths of his patients, Marion Sims was acclaimed for fixing this issue for the slave owners by inventing a useful instrument. His instrument, the Sims speculum, is still widely used for gynaecological surgery – and retained his name (although the French Boivin invented it two decades beforehand **(**Cleghorn, 2021)).

Faithful allies against all odds

The organic process of birth was seen as a mechanical process and instruments consolidated the authority of the one using them. As Sims did with his speculum, Smellie (1752) convinced the public to take up the value of his craft not only by his use of instruments but

also by inscribing, publishing and distributing his explanation of the mechanics of labour and birth in his *Treatise on the theory and practise of midwifery (1752-1764)*.
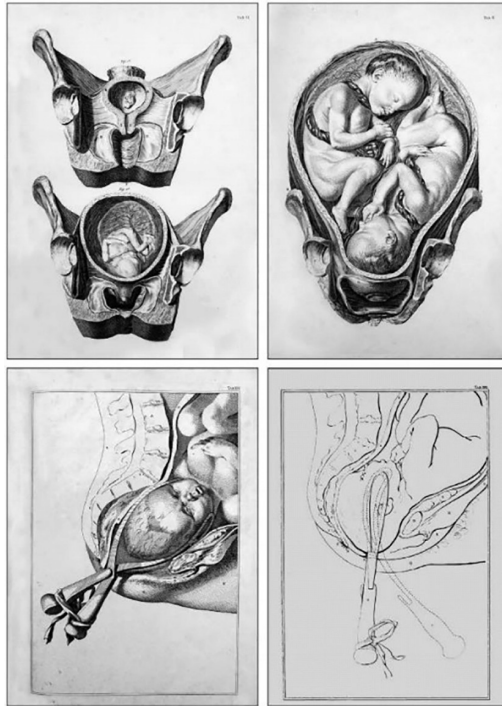
Four plates from William Smellie: *A set of anatomical tables* (2nd edn) 1761.

This was foundational work for the future of obstetrics and ensured that women's craft, shared through practice, oral transmission and experience of accompanying healthy births and birthing, was relegated to superstition, anecdotes and even mortally dismissed as witchcraft (Federici, 2018). Allotey (2009) contextualises this development:

> Elaborate childbirth theories based upon 18th- Century
> scientific rationalism (Porter,1995; Trohler,2000) were set
> forth in the treatises of authors such as Fielding Ould (1742)
> and William Smellie (1752), who transformed previously brief
> accounts of the process of birth into descriptions based upon

mechanical principles. (p.3)

This trend continued in the search to mechanically understand, monitor and manage – indeed control – the phenomenon of birth. The example of the history of the ubiquitous fetal heart monitoring and cardiotochograph (CTG) instruments illustrate the development of this trend even though their use was questioned (Benson,1968; Blix *et al.*, 2019; Sartwelle and Johnston, 2018).

In the 1600s, the link between fetal heart rate and babies' wellbeing was already ascertained and with the DeLee-Hillis fetoscope (1917) came the instruction that if there is a decrease in fetal heart rate, forceps should be used. The first commercial monitor of fetal heart rate was released on the market at the same time as a study conducted by Benson et al. (1968) on Intermittent Auscultation (IA) of the fetal heart rate in 24'863 labours; it concluded that IA was not a reliable indicator of fetal distress. Studies in the medical journals Cochrane (Alfirevic, Devane and Gyte, 2013), PLOS ONE (Blix *et al.*, 2019) showed similar results, highlighting the lack of benefits to either mother* or baby of the routine practice of cardiotochograph (CTG) used to inscribe contractions and fetal heart rates – and asking for the reconsideration of their use. Furthermore, Sartwelle and Johnston (2018) state that EFM (electronic fetal monitoring) "has done more harm than good to mothers and babies" and that there has been attempts to muffle evidence from medical research which resulted in numerous litigations: "Five decades of overwhelming evidence prove that it is not only unscientific, but also has driven the C-section rate to unprecedented levels" (Sartwelle and Johnston, 2018). C-Sections are a serious surgery that can "put women and babies at unnecessary risk of short- and long-term health problems if performed when there is not medical need" (WHO, 2021). It's overuse in many countries has the World Health Organisation calling for a C-Section epidemic and urge a shift to its usage which it claims should be between 10-15% (WHO, 2015). However, to date, even though there is a proven correlation between the use of CTG and the overuse of C-section, CTG is the routine practice for any person in labour arriving in a maternity ward. To use Latour's words, the baggage of the obstetrics

profession resulted in effectively aligning allies, ensuring their fidelity, to ascertain that the technology used to inscribe the phenomenon of birth takes precedence over evidence of harm.

Similarly, the ubiquitous and frequent use of ultrasound technology, show a similar unfounded allyship, this time not through a need to externally monitor the heartbeat of the foetus, but an allyship through affect. The 2D ultrasound is a familiar object that is the first acknowledgement of the existence of the baby in its community. Even when the mother* knows she is pregnant, it is often the ultrasound image that constellates her and her community's affect. Indeed, ultrasound technologies have developed into an impressive depiction of a moment in the foetus's life in utero. The 4D allows seeing the baby in a continuous stream, a live video, that uses high frequency sound waves that bounce off the baby in the form of echoes. This technology's overuse by non-trained professionals to produce *souvenir* imaging – beyond diagnostic need - has led the European Federation of Societies for Ultrasound in Medicine and Biology (2019, 2021) and the Society of Radiographers and British Medical Ultrasound Society (2021) to issue warnings of its potential harmful effect. As Barad (2007) reflects:

> Technological improvements in foetal imaging, particularly material concerns such as increased resolution, magnification, and real time images, encouraged the patient and practitioner to focus exclusively on the foetus, who's moving image fills the entire screen. Such material rearrangements both facilitate and are in part conditioned by political discourses insisting on the autonomy and subjectivity of the foetus. This has been accompanied by the objectification of the pregnant woman and the exclusion of her subjectivity. (2007, p. 212)

I would argue that both, the overuse of CTG and of the ultrasound imaging, are the result of the externalisation of pregnancy and birth by historical socio-cultural discourses and by the mother* herself. The exclusion of her subjectivity is further compounded by the mechanics of protocols.

As we will see in the next section, routine protocols are predominantly based on the most effective modes of inscriptions (Berg and Mol, 1998) therefore we might not sense their wider socio-cultural and political materializations. Barad's (2007) framework of agential realism and in particular the notion of intra-action provides the opportunity to conduct a more careful analysis of the different elements of the web to reappraise the apparatus.

No room for contingency

Without entering here into the rich literature around who owns the female body, I pursue one line of argument that states that the intersection of medical misogyny and re/productive racism (Jackson, 2020; Cancelmo, 2021; Cleghorn, 2021) lays at the heart of the matrix of state, religion and law playing a triangular tug a war game of the female reproductive body. The brief history of obstetrics and the current practices show that the "allies" have focused on one side of the coin to inform protocols, namely the input-output linearity of protocols; there seems however to be a barely explored realm on its other side. Ingold (2018), best known for his work on the concept of entanglement, explains this one sidedness as evading the living. In his retrospective paper *From science to art and back again: the pendulum of an anthropologist* after a 4 decade long career he states:

> It is as though science had turned its back on the living, avoiding sentient involvement of any kind. In this brave new world, life is disposable, and its forms – whether human or non-human – are mere grist to the mill of data-analytics, the purpose of which is to produce results or 'outputs' whose value is to be judged by measures of impact or utility rather than by any appeal to truth. (p. 216)

The instruments, the inscriptions and the norms become habits and protocols. According to Berg and Mol (1998) the principle of the protocol itself is mechanistic: "the protocol thus continually requires

test results as input and gives "next steps to take" as output […] it cannot deal with input that does not conform to this prescribed precision and likewise its equally precise output statements make high demands on the practices involved" (p. 233). The protocol requires a stable, measurable environment and thus demands of the practices to be organised so as to respond to the rigidity of the protocol which results in

> individual nurses, physicians, and patients to lose direct influence on the course of events in the order contained in the protocol, these actors are repositioned: inevitably, the requirement for stable and predictable elements predisposes the taming, or even silencing of this potential sources of contingency. (Berg and Mol, 1998, p. 241)

A literature on the ethic of care surrounding birth emerged in response to the need to expand the protocols (Lundgren and Dahlberg, 2002; Pembroke and Pembroke, 2008; McLeish and Redshaw, 2018) showing that public health policies still are not putting birthing women at the centre of the attention, asking "whether caring and concern for the woman herself have primacy during labour and delivery or whether technology has been given priority in labour and delivery services" (Halldorsdottir and Inga Karlsdottir, 1996, p. 3). It is only in 2018 that the first reported meta-synthesis on the psychological experience of physiological birth was published to inform obstetrical care protocols (Olza et al., 2018). This silencing of the voice of the main protagonist of birth is amplified by the current discourse and practices surrounding it: birth is separated and externalized from the lived experience of the birthing woman. Indeed, listening to the human and organic elements of birth would jeopardize the order of the inscribed protocols.

The second part of this paper attempts to expand the mechanistic legacy presented so far and cast the medical gaze towards the intangible organic processes of the birthing room. To do so, I will first question the boundaries between object and subject, actor and action, technology and body, and argue that such boundaries are porous and

continuously reconfigured. I will then highlight the performative nature of the scene unfolding in the birthing room and focus on the continuous capacity of its actors to transcend matter.

Transcending the legacy

What if the scene were reconfigured, the allies realigned, the actors repositioned; would this allow other systems to take the lead role? What if practice-led knowledge directed the scenography?

At this stage, I want to bring in Mol's (2003) work *The Body Multiple* in which she argues that each practice creates its own material reality which is not coordinated into a single reality: the body is multiple, has many body parts that interact in a multiplicity of ways. Furthermore,

> […] even common sense assumptions about bodily boundaries are at times negotiated in childbearing narratives, whereby technological interventions, healthcare providers and other birth attendants can be conceptualised as extensions of the labouring body . (Akrich and Pasveer, 2004, p.)

The porosity of the boundaries become evident once the entanglement of the mechanistic process with the organic process is brought to light. It would thus invite intangible actors that are not contained within the set of clear, rigid boundaries that the order of a protocol demands. Indeed, as Barad's framework of agential realism proposes (2007), each element of the apparatus intra-acts with the other elements of the system. This phenomenon in a specific space-time is a "material configuration of the world" (p. 206) contingent on social and historical discursive practices. Latour (1985) argues that this configuration is staged and can be reconfigured:

> Thus, one more inscription, one more trick to enhance contrast, one simple device to decrease background, one coloring procedure, might be enough, all things being equal, to swing the balance of power and turn an incredible statement

into a credible one which would then be passed along without further modification. The importance of this cascade of inscriptions may be ignored when studying events in daily life, but it cannot be overestimated when analyzing science and technology. More exactly, it is possible to overestimate the inscription, but not the setting in which the cascade of ever more written and numbered inscriptions is produced. What we are really dealing with is the staging of a scenography in which attention is focused on one set of dramatized inscriptions. (p. 17)

Indeed, the intra-active phenomenon of birth is not fixed in time, or reality, but can and is continuously reconfigured. With this in mind, this next part will reconfigure the space-time of birth and invite inscribed and intangible actors to perform in a standard birthing room. Like in a scenography, the relationship between the tangible and intangible actors determine the quality of the scene; it dictates the atmosphere, the unspoken, creates emotions and allows for new actors to emerge. My inquiry asks, which new actors do emerge?

The birthing room as body multiple

The birthing room offers a variety of props, instruments and decor. Other than different kinds of pillows, you might also find a peanut ball on the bed, a larger Swiss ball on the floor, a rope/cloth hanging from the ceiling; sometimes, there is also a birthing stool and a lower mattress. It might be possible to find a water pool if it is not in an adjacent room. There is a private bathroom; some hospitals play with soothing colour schemes; others keep the standard off white that ensures to spot any uncleanliness. Whatever variation of props we find, there will however always be some standard instruments. The fetal monitor that measures the fetal heartrate and contractions; it might come in the form of an external electronic fetal monitor (EFM)[3], a continuous EFM, an intermittent EFM, a handheld fetal doppler ultrasound. You might find the Pinnard fetal stethoscope, the DeLee fetoscope, the cascade Allen, the Leff. The different forms

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3 also commonly referred to as a CTG- cardiotocography - explored in the first part of this paper

of monitoring and inscribing the fetal heart rate and the mothers*
contractions come in many variations, initially named after the
authoritative man who invented or modified it. The data

would usually be recorded on a computer screen, available next to
the bed or in a corner. The information would be transmitted to a
central room of the midwifery unit. It is not uncommon that the gaze
of the incoming midwife or obstetrician is attracted by the screen as
they enter the room, the lines on the screen giving the authority to
the partner or supporting birth assistant to inform the mother* that
a contraction is starting, especially if she has requested an epidural
analgesic. The other standard props might include a clock, an
Intravenous therapy (IV) stand, a warmer for the baby and sometimes
life-saving resuscitation equipment. The sounds are often rhythmical,
combining the beeps of the monitor with the tick of the clock;
however they are muffled giving a sense that several rhythms are at
play in this one scene.

Using Neumann's (2021) approach of Medical Scenographies, I will
reconfigure and reposition the actors described above and introduce an
important intangible one, the endocrine system. Thereafter, following
the concept of material semiotics in the tradition of Berg (2008),
Mol (2003, 2008) and Law (2008), I will attempt to speak to the
multiplicity of actors within the endocrine system and suggest that by
focusing on the effect of the intra-actions of a system, we can uphold
the qualities necessary for the emergence of new actors to unfold.
I argue that giving space to the emergence of new layers of actors
reconfigures birth.

Practice, performance and porosity

By visualising the birthing room as a body, we allow for the
multiplicity of parts to co-exist, be dynamic, responsive and adaptable.
Neumann (2014) explains that:

> More recent theories about performative environments visualise

scenography as a kind of body in its own right. This body has physical dimensions, and its own spatial logic. And it teaches us about the ideas, practices and ethics that constitute its suggestive and political power.

It also allows us to engage with practices, which opens the door beyond the immutability of inscriptions and the accustomed rigidity of protocols "the way the body is redefined only becomes clear to the observer once the tool actually touches the practice involved" (Berg and Mol, 1998, p. 230). We can then be open to a certain porosity of boundaries and blur the demarcations of dualism; as Neimanis (2017) in her book *Bodies of Water* insists, we *live* this overflow beyond containment. The birthing body is *in* the dynamic network of inscriptions and at the same time connects beyond it. In Lammes's words,

> Such networks of immutable mobiles form ever-changing connections, a process that allows the image to become animated and layered with ephemeral information for and about the user. In other words, digital maps are a different kind of immutable mobile, putting the mobility of users in the map through complex and shifting alliances between different immutable mobiles.(Lammes, 2017, p.5)

The endocrine system is one such system that is not contained within the boundaries of a body. It reacts and interacts with light, thoughts, presence, touch, love, the atmosphere, fear, anxiety, memories, stories. Certain hormones are inhibited, such as oxytocin by neocortical activity, and many during birth are timed perfectly. French obstetrician Michel Odent, a precursor in studying environmental factors in his practices around birth, refers to it as *the symphony of hormones*. Indeed, one can observe how the flow of certain hormones between the foetus and the mother* regulate the whole process of birth, with an inner rhythm, some *crescendos* and some *pianos*. The baby gives a hormonal stimulus to the mother* informing the system it is ready to be born. The oxytocin and melatonin appear at the onset, the endorphin offers euphoria, pain relief and endurance, thus gives space to the adrenaline for the pushing phase. The oxytocin and endorphin then reappear

to ensure bonding after birthing the baby, supporting the birth of the placenta and enabling the prolactin hormone which produces colostrum and milk. The "shy" hormone melatonin orchestrates a subtle communication between the pituitary gland, the hypothalamus and the hypophysis. Melatonin is known to manage the circadian rhythm, and therefore sleep and ageing. But interestingly, it is also linked to an increased awareness of one's environment and feelings of connectedness. The hormonal symphony of birth has an effect on all present during birth; this is what practice uncovers (Berg and Mol, 2008, Law, 2008) and as a doula, I would feel its effect after each uninterrupted birth I accompanied; feelings of calm, euphoria, love and a certain altered state of consciousness.

However, the symphony of hormones is not inscribed and only recently given the resources to be researched. Indeed, a leader in the field, Dr. Moberg published "why Oxytocin matters?" in 2019; she explains in a podcast (Newborn Mothers, 2017) the hurdles she had to jump to be taken seriously and get funded to study the "mother hormone". Similarly, Dr. Buckley advocates relentlessly for the hormonal flow during birth to be understood and valued in birth practices. These are rare advocates within a context in which endocrine research mainly focuses on hormonal dysfunction and hormonal therapy for menopause. As they argue, many ubiquitous actors in the space of birth disrupt the flow of hormones, the anxiety provoking communications, the LED lights, the synthetic oxytocin in the IV drip, the atmosphere of timed performance. The relations between the multiple webs of actors is not observed, witnessed nor inscribed in protocols, but could they be? What would be needed for them to be included in the performance? According to Latour (1985) and McKinnon, (2016), a reconfiguration of allyship and allegiances would support a broader inclusion of intangible actors. In McKinnon's view "what became visible were the multiple, co-existing, competing and complementary claims and allegiances being enacted in that space by coalitions of actors, both human and non human" (McKinnon, 2016, p. 5). The question remains: how to muster allyship? To what extent would it be useful to make visible or inscribe intangible systems?

Entangled systems and the potential of emergence

If we were to take for example the porosity of the endocrine system and how it overflows beyond the boundary of the body and the foetus, inscribing it would in itself modify it. In Barad's agential realism approach:

> Humans do not merely assemble different apparatuses for satisfying particular knowledge projects; humans are part of the configuration or ongoing reconfiguring of the world - that is, they/we too are phenomena. In other words, humans (like other parts of nature) are of the world, not in the world, and surely not outside of it looking in. Humans are intra-actively (re) constituted as part of the worlds becoming. (2007, p. 206)

Quantifying, inscribing or trying to render into matter this intangible system would unpreventably modify it, the oxytocin and melatonin would be inhibited in the process, the adrenaline would rise prematurely, the physiological flow of birth would be hampered. Possibly, another sense would be called for to adequately invite intangibles into practices; however, I would argue that it is rather a certain *attitude* that would honour our enmeshment in the phenomenon of birth. An attitude that allows to perceive, be touched and be informed by the broader system.

> The acknowledgement of "non human agency" does not lessen human accountability; On the contrary, it means that accountability requires that much more attentiveness to existing power to asymmetries. (Barad, 2007, p. 219)

One such method has been presented two centuries ago by Goethe; what is since coined the Goethean science "endeavour[s] to reach a level of mutual involvement or coupling, in perception and action, such that observer and observed become all but indistinguishable" (Ingold, 2018, p.217). In this attitude that allows the perception of intra-action, there is also the possibility of sensing and encountering the whole. Law (2008) would argue that "material semiotics does not have to imagine a single actor network: [...] Webs may be partially

associated in endless different ways but the need for a center has gone" (p. 153). The concept of *presencing* has been used to name the attitude to perceive these multiple, dynamic and variable webs of actors, in parts and as a whole.

> When we suspend and we direct our attention, perception starts to arise from within the living process of the whole. […] The real challenge in understanding presencing lies not in its abstractness but in the subtlety of the experience. (Senge, 2008, p.89)

As a consequence, other and new transcendent actors emerge to our attention. Several narratives of physiological birth do refer to a new space-time and talk about *labour land*– the space where the birthing woman can go to in the transition stage of labour – transformation, bliss (Olza *et al.*, 2018), being in and in between place, a sense of presence (Chadwick, 2017), an inner world, a zone (Gaskin, 2008), a different sense of Self (Cohen Shabot, 2016). It appears that in order to access this particular space-time, the mother* has to have an attitude very similar to the one presented above by Goethean science and Senge, *sensing* and *presencing*, however less as an active cognitive decision to do so, but more of an active surrender to let it happen. Their movement, sounds, groans respond to something outside of their knowing. Their neo-cortical activity is reduced which allows for another source of knowing to pace the rhythm of hormones, muscles, fluids, movement, sound, imagery, a gradual opening of the body and the senses, a simultaneous focus and expansion, a journey into the unknown. No one can predict how the moment of birth will impact the enmeshed webs intra-acting in that moment, nor its long term effects. As the mother embodies an attitude of surrender, so should the other humans in the room relax into an attitude of sensing and presencing, that allows them to hold the space for the mother*. It is not a simple linear configuration of extracting a baby from reproductive organs, it is a constantly changing reconfiguration of multiple webs of intra-acting actors in a journey into the unknown. Ettinger (2006) calls it a *mutating copoietic net* and refers to a creative potential.

Thus, a matrixial borderspace is a mutating copoietic net. Matrixial co-emergence has a healing power, but because of the transgression of individual boundaries that it initiates and entails, and because of the self relinquishment and fragilization it appeals to, it is also potentially traumatizing. Therefore, to become creative, the aesthetical transgression of individual borderlines, which occurs in any case with or without our awareness or intention, calls for the awakening of a specific ethical attention, responsibility and extension. (p.219)

It thus appears that the attitude necessary to sense, hold space for and reconfigure the scene in the birthing room is one that includes human actors' internal sources of perception. It shifts the prevailing attention to inscribing technologies to include an embodied sense of copoiesis that opens the room to resonance with a creative potentiality.

If we conceive of traces of links, transindividual transmissions and transformational reattunements, rather than of relations to and communication with objects and subjects […] a different passageway to others and to knowledge arises – suitable for transformative links that are not frozen into objects. This passage, […] I have called metramorphosis […] Metramorphosis is the ensemble of transmission and reattunement by which I and non-I co-emerge, co-change and co-fade within a shareable web. Copoiesis (departing from Varela's notion of autopoiesis) is the aesthetical and ethical creative potentiality of a metramorphic weaving in subjectivizing matrixial moments. (Ettinger, 2006, p.219)

Ettinger proposes that the medium with which to sense the transmissions and reattunements are "intensities, wavelengths, frequencies, vibrations and all kinds of resonance and signals arriving from my own 'internal' sources and perceptions" (2006, p. 221) hinting that the receptive technology emanates from the embodied cognition of the human actors in the birthing room.

The borderspace

Let us continue our scenography and revisit our two previously presented scenes: the first scene in which the lead web of actors are the inscription technologies, the objects and the materials; and the second scene in which the lead web of actors are the intangibles, the hormonal system process, not inscribed but sensed through our 'internal sources of perception' (Ettinger, 2006, p. 219). We could then consider the combination of inscription technologies and the intangibles the third scene: one in which the birthing room is a matrixial borderspace, a mutating copoietic net. One in which all are as aware as possible of the ethics, responsibility and extension (Ettinger, 2006) accountability to existing power to asymmetries (Barad, 2007) and to the historical and political legacy and allyships present (Latour, 1985). In this scene, there is a multitude of sources of information that one has to integrate and enact: from the CTG, the clock, the protocol, the bodies, the perceptions.

As Varela, Thompson and Rosh (1993) explain in their book *The Embodied Mind, Cognitive Science and Human Experience* "perception consists in perceptually guided action and that cognitive structures emerge from the recurrent sensory motor patterns that enable action to be perceptually guided" (p. 202). Experienced family doctors access such as space of insight that is perceptually guided, sometimes referred to as the medical touch. It emanates from observation, experience, trust and empathy; a tacit form of emotional knowing rooted in presence and compassion (Kelly *et al.*, 2015). Midwives would narrate insights they may have during labour to suggest such a position, or a change in mood; some like Ina May Gaskin, would create a new theory (the sphincter law) that is integrated into practitioners' knowledge. The attunement in copoiesis opens the door to new forms of knowledge. The reconfigured scene that includes several webs of actors, inscribed and intangible, without a centre, is guided by a co-emergent set of actions unique to this particular birthing room, at this particular time: "Organisms and environment enfold into each other and unfold from one another in the fundamental circularity that is life itself" (Varela *et al.*, 1993, p. 217). The attitude with which the space is held and how each movement is an act of humility in front of an

enfolding of life's creative force. As such, I would argue that it invites the transformative potential of not knowing. Sparrow (2014) in his book *Plastic Bodies: rebuilding sensation after phenomenology* described this space.

> Even if we could attune our perception to the minute intricacies of the aesthetic, we would still be incapable of comprehending the impact sensations have on our capacity to act and be acted upon. […] When we expose our bodies to the entire domain of the aesthetic we effectively expose ourselves to deformation and welcome the possibility of reconfiguration, perhaps beyond recognition. And it is precisely our plasticity that would facilitate this potential deformation. The aesthetic harbors the potential to increase or decrease our power, or to transform us into something else altogether. (p. 232)

Varela *et al.* (1993) argues that this space of not knowing – of *groundlessness* – is a result of a back and forth between the inquisitive scientist's mind and experience. It is a motor of what they entitled *Laying Down a Path in Walking.* As Varela later repeated "lived experience is where we start from and where we all must link back to, like a guiding thread" (Varela, 1996). It is in this circular space in which the webs of inscriptions and perceptions meet that the transformative potential of birth lies.

Conclusion

In this paper I attempted to show how the legacy of inscriptions and instruments are part of the materialization of the phenomenon of birth in a medical-centred practice. The political, socio-cultural and historical material-discursive intra-action during birth results in the subjectivity of the parturient to be relegated to the background. Furthermore, the introduction of input-output based protocols surrounding pregnancy and birth diminish the capacity of birth workers to intra-act during the process.

Using concepts of agential realism, and super imposing two scenes in a birthing room, I argued that the phenomenon of birth is comprised

of multiple actors that are dynamic and variable and relate to actors outside of set boundaries. By including organic, fluid, porous sets of intangibles in the inscribed, rigid set of inscriptions and protocols, other actors are invited in the birthing room. These new emerging actors emanate from a particular attitude of sensing of and presencing the parts and the whole system; it can support the birthing body to connect to allies beyond the birthing room and result in previously unknown capacities.

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Exploring embodied interactive design to enhance the visitor's second-person narrative experience in the museum exhibition space

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Abstract

In recent years, an increasing number of museum interactive installations support visitors to actively engage with the narrative experience rather than passively receive information. Among the diverse categories of interaction approaches, embodied interactive installations emphasise the involvement of the whole body in the interactive process, which can help visitors to construct and understand knowledge and increase their participation and interest. This article presents the plan for a doctoral research project that addresses the question: how can embodied interactive installations enhance the narrative experience of visitors in museum exhibitions? The specific focus is on the second-person narrative experience of the visitor. In detail, the thesis begins with the difference between visitors› participation in second-person narratives through embodied and non-embodied interactions and then analyses how visitors› narrative experiences are enhanced through input and output. During the analysis, the thesis uses various methods to explore how tangible and intangible elements as input and the visitor›s body as input can better engage with the interaction. After shedding light on the expression approach with existing case studies in the museum exhibition space, the thesis summarises the overall results. It describes future directions for the research, including advantages and challenges and exploring collaborations and applications with museum exhibition spaces. This thesis attempts to highlight the significance of embodied interactive installations to enhance second-person narrative experiences, facilitate better absorption and understanding of museum content by visitors, and make the learning process more accessible. Simultaneously, the thesis delivers a consistent theoretical framework

and methodological insights to support the design and analysis of embodied interactive installations in the museum exhibition space and discusses their extended prospect.

Introduction

Museum exhibition spaces have always shared knowledge of history and culture in a narrative way, which helps visitors understand knowledge and facilitate their perspective better. As technology has evolved, the tools and ways in which people experience narratives in museums have changed accordingly, with more and more interactive installations appearing in museum exhibition spaces to suit people's interests and needs. Among the interactive installations is one that emphasises the inclusion of the visitor's whole body activity in the interactive process, which can be expressed in diverse ways such as visual, sensory or tactile, thus limiting social awkwardness and encouraging the viewer to become an active participant.

Embodied interactive installations facilitate how museums communicate with their audiences through interactions, primarily found in museums related to historical and cultural heritage. Regarding the perspective of first-person narrative interpretation: the NICE project (Bernsen and Dybkjr, 2005) and the Reminisce project (Ciolfi and McLoughlin, 2012) allow physical or digital guides to take on the role of characters from the story and interact directly with visitors. Regarding the perspective of third-person narrative: in the Art-E-fact project (Spierling and Iurgel, 2003) and the "Carletto the spider" project (Lombardo and Damiano, 2012), the audio guides act as interpretations to help visitors better personalise their understanding of the narrative. Regarding the second-person narrative experience, visitors can participate in the narrative by playing a role (Danks et al., 2007); instead of being a passive audience (listener), visitors can be motivated to become active participants. Research into enhanced interactive narrative experiences (particularly second-person narrative experiences) has been successful when applied to games, films

or multimedia. However, for museum exhibition spaces, this aspect of interactive installations is still in its early stages.

Some articles have studied the relationship between narrative, museum, and embodied interaction. However, there is a lack of systematic research on embodied interactions in museum exhibition spaces to enhance second-person narrative experiences. Therefore, this doctoral research thesis aims to fill this research gap, enabling visitors to derive multiple meanings from the museum experience and enlightening the future of embodied interaction and narrative applications in museum exhibition spaces.

Second-person narrative

Theoretically, the second-person narration is defined along the axis of narratee—more precisely, by the coincidence of narratee and protagonist (DelConte 2003). It is used as a typology of narrative, in both text-based and voice-based narrative modes, through specific rhetorical devices and the pronoun 'you' to allow the reader/listener to become involved in the narrative. The cultural theorist Mieke Bal (2001) writes that the second-person point-of-view, which in literature is an oddity that never went past the experimental, cannot be sustained by the reader who translates it into the first-person format to process it as a story. New media, techniques or methods may open up new possibilities for second-person narrative.

Game Theory offers a new mode of trickster narrative that invites visitors to become protagonists in a story in a Second Life space, where how much about the story becomes relevant and memorable in an interactive narrative (Noori 2011). In filmmaking, the audience is the partner of the protagonist through the second-person perspective of VR (Virtual Reality), which will allow future VR audiences to become fully immersed and interactive (Larsen 2018).

Narrative in the museum

Appelbaum (1995) discussed the exhibition's story-driven and object-driven design strategies. Bedford (2016) asserts that museum exhibits employ narrative experience with imagination to support visitors' personalized interpretations. Through narrative, visitors imagine other cultures and worldviews. The museum's exhibitions serve as a unique medium for presenting stories of other cultures and lives so that visitors can 'flirt with other ways of being' and broaden their life trajectories (Rounds 2006). As the perceived need for visitors to participate increases, they can experience the narrative from three perspectives (Magelssen 2006).

First-person and third-person perspective narrative experiences

For the first-person interpretation, the museum employs costumed staff who play historical characters to tell the historical story of the time (Glover Frykman 2009). The NICE project enables visitors to have a multimodal dialogue with the 3D animated fairy tale author Hans Christian Andersen (HCA) and his fairy tale characters (Bernsen and Dybkjr, 2005). Participants could overlay their visit to a series of buildings with a set of auditory digital memories stories narrated by fictional characters associated with the sites (Ciolfi and McLoughlin, 2012). The narratives that visitors listen to are the personal accounts of the characters in the stories (Pujol et al., 2012). Both costumed interpreters and virtual storytellers are a way of bringing visitors into the story.

For the third-person perspective narrative, Many museums and historical sites rely on interpreters to employ various strategies to help visitors empathise with a world that no longer exists (Bedford 2001). The most significant difference with the former is the costume of the guide. The ART-E-FACT project, which introduces a mixed reality interactive narrative, places virtual characters next to actual artworks in the exhibition to discuss the art while prompting visitors' comments

and questions (Spierling and Iurgel, 2003). Carletto is a virtual tour guide, conceived as a third-person 'performance narrative' for a specific location and mobile environment in an augmented reality scenario (Lombardo and Damiano 2012). The narratives of guides and other museum staff often reflect the story's authenticity (Thurston 2017). The physical and virtual guides are a way for visitors to bridge the past and the present.

Second-person perspective narrative experience

For the second-person perspective narrative, the visitors play specific roles in the program (Cauvin et al., 2018); they dress up in period costumes and take on roles related to everyday life at historic sites (Glover Frykman, 2009). Narrative and games combine to create a highly interactive experience, allowing visitors to take on a fictional role and participate in the narrative, enabling them to learn more about the artefacts in the exhibition or environment (Danks et al., 2007). As a character in the game, the visitor focuses on a specific mission, completes a series of objectives, and creates a linear storyline (Christopoulos et al., 2013). As a polar bear avatar, the visitor understands the speed and extent of climate change (Lyons et al., 2012). Visitors can become characters in a narrative by interacting with a plot (Chu et al., 2016).

Embodied interaction

The concept of embodied interaction is a faster way of interacting and operating than the traditional desktop interaction of mouse and keyboard (Dourish, 2001; Shneiderman et al., 2016). In an immersive space, embodied interaction can be through dedicated tangible controllers, such as 3D printed replicas (Damala 2021), or by using intangible and highly abstract objects, such as virtual data axes (Cordeil et al., 2017).

Embodied interaction is also interconnected with other concepts such as embodiment and embodied cognition. Dourish (1999) believed that 'embodied interaction' means interaction is an embodied phenomenon. It takes place in the world(a physical world and a social world), provides form, content and meaning to the interaction, and is based on the idea of embodiment. The embodiment can be understood as the sense of agency and body ownership (Kilteni et al., 2012). If the user sees through the eyes of the virtual body and the virtual body moves with the user, then the virtual body is considered to be spatially coincident with the user's body and 'embodies' the user in the virtual world (Falconer et al., 2014). The concept of embodiment is also reflected in the phenomenology of perception developed by Merleau-Ponty (1962), who argued that perception is an active process and one that was carried out by an embodied subject. Embodied cognition holds that our understanding of the world is shaped by our physical ability to interact with it. In this way, embodied cognition complements phenomenology, but whereas phenomenology is based on philosophy, embodied cognition is based on psychological theory and cognitive science.

Embodied interaction in museum exhibitions

Traditional ways of displaying heritage artefacts without physical contact with the visitor lack context and narrative, thus stripping them of any meaning (Pye 2008). Therefore, museums keep exploring more "naturalistic" embodied interaction approaches, from tangible user interfaces to whole-body interactives (Alisi et al., 2005). Moreover, the research on embodied interaction in museums reflects an evolution in design approaches: targeting separate installations for a fully immersive visitor experience (Ciolfi, 2007; Benford et al., 2011; Taylor et al., 2015). Embodied interactive installations support and enhance the visitor's narrative experience of the exhibition, and they facilitate how museums can communicate with visitors through interactivity.

Impact on participants

Gutwill and Allen (2004) discussed that interactive exhibitions are memorable for visitors to describe their feelings, although the tangible interactions may distract visitors (Hornecker 2008). However, Interactive exhibitions still promote collaborative learning (Antle et al., 2013), support reflective thinking (Horn et al., 2008) and enhance their visit and appreciation of the museum (McIntyre 2003).

Engagement approach

Petrelli et al. (2013) discussed that museums exploit tangible and bodily interaction to engage visitors into immersive encounters (De Reus et al., 2013). She uses 3D printed replicas (Damala 2021); they use large wall screens (Behrens et al., 2019); they use mobile devices (Lombardo and Damiano 2012); they use the integration of AR apps with gesture-based interactions (Van Der Vaart and Damala 2015). Cafaro et al. (2013) merged input from an RFID reader with camera-based commercial tracking systems.

Output and expression

Marshall et al. (2016) discussed the automatic playing of sounds and stories. Behrens et al. (2019) analysed the usability and design of visual feedback for large touch screens. Harley et al. (2017) explored the integration of VR with tangible interactions to enhance the visual experience. A lab experiment incorporated touch, smell and multimedia content (Chu et al., 2016).

Second-person narrative in Embodied interaction

The narrative has developed from oral form, printed form, film, and computers to interactive narrative. Research into enhanced interactive

narrative experiences (particularly second-person narrative experiences) has been successful when applied to games, films or multimedia. For museum exhibition spaces, there is potential for exploration in this area.

Approach

De la Peńa et al. (2010) use the content of her documentary to achieve a " Response-as-if-Real " effect on the user and to enable them to reach a sense of empathy in reality. Collins (2011) suggested that embodied interactions with in-game sound enhance emotional engagement. Tanenbaum et al. (2010) discussed object-based approaches to tangible narratives and emphasized the meaning of conveying a story. Zhao (2019) discussed that participants could communicate their imagined plots and interpretations more easily through gesture-based interactions.

Structural system (structures of narrative and interaction)

Some studies have used tangible objects to function as narrative triggers (Chu et al. 2016). Holmquist et al. (2000) described readers using only tangible objects to trigger video clips in a narrative puzzle. Objects in some studies were designed as physical representations of digital narrative information. Budd et al. (2007) designed children to create animated digital stories using blocks with RFID tags. The relationship is unclear in other interactive narrative systems (Chenzira et al., 2008).

Embodied interactive installation for second-person narrative in museum

Embodied interaction provides the technology and opportunity

for an immersive visitor experience that has the potential to enable a new level of second-person narrative experience in which the museum visitor can become part of the story of the exhibition or built environment (Jacobson and Holden 2007).

Case study: A Mile in My Paws

Description:
A Mile in My Paws (Figure 1)uses the physical interaction of participants: the challenges of polar bears as they cope with climate change. Visitors control an avatar of a polar bear who must traverse and experience the Arctic environment in search of food through multiple past, present, and future periods. Visitors control the bear by 'swimming' and walking on pressure-sensitive plates using weighted motion-sensitive gloves (stylish plush polar bear paws). As temperatures warm and sea ice decreases, polar bears must work harder to walk the same distance as they burn more calories swimming than stepping. This specific experience is designed to give learners an idea of the speed and extent of climate change (Lyons et al., 2012).

Statement of the Problem

Although narrative forms in museums are currently being explored, in projects such as A Mile in My Paw and Egypt, the second-person narrative experience is discussed through varying degrees of interaction, and its application in museum exhibition spaces is still limited. Creating representations of visual spaces, tangible objects, and 3D intangible elements may not be sufficient to allow visitors to fully 'experience' the content of an exhibition, as without the appropriate support - provided by interpreters and guides; they may not be able to understand the physical or virtual objects in front of them, especially for digital migrants. Apart from that, most of the installations were designed to allow only a small number of visitors to participate directly. It has the potential to inspire a more profound experience
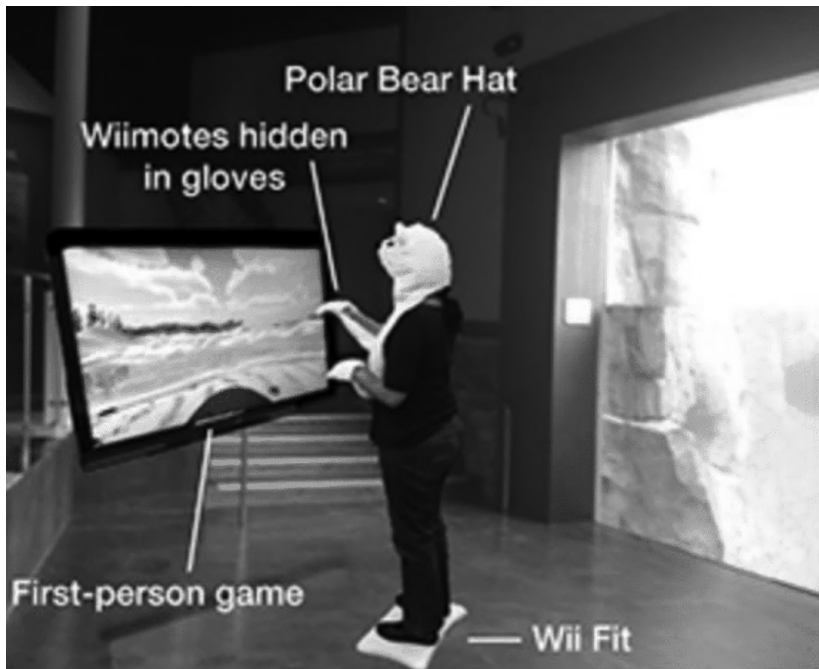
Lyons, L. (2012) *A Mile in My Paws: illustrating the magnitude of climate change*. Available at: https://www.cs.uic.edu/~llyons/projects_clizen.html (Accessed: 11 May 2021).

for visitors. Meanwhile, Embodied interaction research in museums focuses on the impact on participants, engagement approach, output, and expression, and it has not been systematically analysed from the second person position. This has the potential to attract new or marginalised visitors and enable their voices to be heard by others. As such, it may contribute to the development of critical heritage practice.

Hein (2002) suggested that interactive moment is a way to enhance learning in museums which previous studies have addressed with embodied interactive narrative in tangible and intangible ways. Therefore, further research is needed to focus on the narrative of embodied interaction in museum spaces to enhance learning.

Objective of the Study and Research Questions

This study aims to investigate the design of embodied interactive installations to enhance visitors' second- person narrative experiences in the cultural heritage museum, thereby promoting better absorption and understanding of more museum content and making the learning process more accessible and enjoyable for visitors.

1. To analyse the impact of embodied interactive installations on the visitor's experience of the narrative of an exhibition in the museum.

2. To illustrate and experiment how the visitor experiences the museum exhibition narrative through tangible and intangible elements separately and in combination.

3. To experiment how visitors enhance their experience through embodied engagement: the part of the body, the gesture, and the whole-body movement.
4. To propose how the output of embodied interaction installations is expressed through visuals and sound.

5. To investigate except visual and sound, what other media can be used for expressions.

6. To summarize the overall experiments and investigation results and the prospect of embodied interactive installations in the museum, promoting greater understanding and more accessible learning for visitors.

Methodology

This study will use a user-centred approach with hands-on experimental prototypes.

Literature review

This method primarily shows the difference between visitors' experiences through embodied and non-embodied interactions. The selection of literature is within the intersection of embodied interaction and museum exhibition space and second-person narrative research. Based on the study of other scholars, it can be analysed in terms of emotion, engagement, learning processes and memory.

Case study online

There are three online case studies; the author will study other people's analyses of exhibitions to finish the whole process.

The conditions of the case study:

> 1. Narrative exhibitions: history/culture related.
>
> 2. Type of museum exhibition space: exhibition hall or display space.
>
> 3. Exhibition narrative with a second-person perspective.

Tangible Elements as Input to the Interactive Process (Case: A Mile in My Paws)

> • The case studies will be examined and analysed through the physical elements of tangible exhibits, environmental interfaces, and digital interfaces. Moreover, the study will summarise the tangible elements preferred by participants.
> • Expression as the output of an interaction process (Case1: The Battle of Thermopylae; Case 2: Experiencing Spirituality)
> • The first case study will focus on existing visual-related and sound-related outputs and expressions. The second case study will focus on olfactory and tactile related outputs and expressions.

Experimental prototypes

The experimental investigation is based on the implementation of the museum exhibition space.
In total, there will be two prototypes through which to test visitor preferred behaviour. One prototype will test visitors' engagement with the narrative through a combination of tangible and intangible elements as input and then testing the intangible elements individually. The other prototype will identify how visitors engage with the narrative experience through their bodies as input.

Data collection

Data will be collected through semi-structured interviews and questionnaires, and video recordings. Through semi-structured interviews and questionnaires, data will be collected from four aspects of the visitor experience: emotion, engagement, memory, and learning outcomes. In addition, data analysis can help test and understand the input elements that satisfy visitors. Through video recording, firstly, the video will be used to analyse how to increase visitor engagement with the narrative. Secondly, to help record which body parts are used most frequently. The recording also investigates which body elements would better enhance the visitor's enjoyment of the narrative

Anticipated Output

The final presentation of this study will be a written thesis and documentation of two novel in-situ interactive installations in a museum.

This study has two significant impacts; firstly, it promotes the vitality and attractiveness of museum exhibition spaces and expands the museum's audience. At the same time, it promotes better and simpler learning and understanding of more museum content by visitors.

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The transcendental role of the colour blue in the ubiquitous blue willow pattern plate

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Booth's 'RealOldWillow,' (1948-1980), Image1, courtesy of @Serafinatd, (2022)

The question of the ubiquity of the blue willow pattern plate

This paper examines why the common 'blue' willow pattern is so ubiquitous in Western culture since its inception in the UK (United Kingdom) in the late 1700s (Lindbeck, 2000). It focuses on Booth's 'RealOldWillow' (circa, 1948-1980) as a good example of the 'common' blue willow pattern plate. The creation of the blue willow pattern follows the European 'chinoiserie craze' (Harris Mclary, 1985) for blue and white porcelain ware from China that began in the 1600s (Draper, 2021). The porcelain was so valuable it inspired the name 'white gold' (Draper, 2021).

It asks if the timeless popularity of the blue willow pattern plate is due to the colour blue. It considers if it is timeless because of the colour blue's ability to overcome its own signification or because it has intrinsic qualities of transcendence. It investigates the question of whether it is the representation of this transcendence, understood as timelessness, which is key to the blue willow pattern's ubiquity or if it is because of the way that the colour blue is instrumentalized or both. This raises the question of the colour blue being an instrument, which can be utilized in human culture to create certain effects in the perceiver. It asks if it is because of these effects of transcendence, which produce new meaning, that the blue willow pattern and the colour blue are so ubiquitous in Western culture. This new meaning can be understood through Ben Harris McClary's (1985) examination of Blue Willow stories, 'The Story of the Story: The Willow Pattern Plate in Children's Literature', where spontaneous stories are produced because of engagement with the blue willow pattern plate in domestic settings.

It proposes that it is due to the representation of blue's intrinsic qualities of transcendence that blue is so popular and extends itself in Western culture. This has several implications. While, as a representation of transcendence this ensures the blue willow pattern's ubiquity in Western culture, this paper highlights that there are ways in which blue can be instrumentalised which result in new meaning through transcendence. It suggests, through a reading of the

Avant Garde artist, Wassily Kandinsky, (1977) that the colour blue has intrinsic and instrumental qualities and the role of colour as a representation is not sufficient to explain its use in transcendental art and creative practices.

Bram Ieven (2003) suggests, in his gloss of Vilem Flusser that understanding how the image works is key to questions of freedom, this is to ensure that the human does not become an apparatus of the image. This paper shows that through the role of the colour blue in the blue willow pattern plate the human perceiver can connect to new meanings. This is because the colour blue operates as a 'switch,' which requires, what Flusser (2018) describes as 'the work of translation' in the blue willow pattern plate. Translation is key to the production of new meaning because this allows for blue to overcome its signification for the perceiver, so that new insight can be created which is transformative for the individual. Understanding the colour blue's role in this translation is key to being free from the image as apparatus for Flusser according to Ieven (2003).

This paper indicates that the instrumentalisation of blue, the role blue 'plays' is a key feature in transcendental arts and creative practices and is important because the ways in which it is utilised are connected to concerns of personal freedom and the ability to create new meaning by transcending current perception. The dual role that the colour blue plays in the blue willow pattern plate can be understood through Kandinsky's writing (1977) which describes blue's connection to transcendence as a representation and an instrument that guides into the infinite. It is the combination of these, which is key to the 'switching' operation of translation that creates new meaning for the individual when engaging with the blue willow pattern plate. This paper asks if it is this translation, that allows for the blue willow pattern to overcome its signification and become timeless and ubiquitous in Western culture.

This paper shows that this 'switch' and the resulting need for translation that this causes is not necessary for the colour blue to become ubiquitous and be free from being an apparatus of the image.

It suggests through an analysis with the role of the colour blue in the Microsoft Word logo (1985) and the Windows 365 desktop image and Operating System that while the colour blue is key to the blue willow pattern's ubiquity, it is not necessary for it to overcome its signification through translation to become ubiquitous. However, what this paper uncovers is that when it does, as in the case of the blue willow pattern plate, it creates new meaning for the individual.

Overview

Its first move is to invoke Vilem Flusser's concept of apparatus (Ieven, 2003) in Booth's design (1948-80) and consider blue-willow pattern-plate as multiple-combinations (Ieven, 2003) of colour-image-object, to ask whether the colour blue is the answer to the willow pattern's ubiquity. It examines; the contemporary green Spode design (Fortnum and Mason, (2022), the willow pattern image and text in the Family Friend Magazine article – 'The Story of the Common Willow Pattern', (1840) and the connection between the 'white gold' plate and the Madonna image in the work of Michel Pastoureau, Blue: The History of a Color, (2018). This will suggest that it is the colour blue's connection to transcendence, which is key to the blue willow patterns ubiquity. This raises the question of whether blue has an intrinsic quality of transcendence or if it functions as a representation of and for culture. This is examined through the writing of the Avant Garde, artist Wassily Kandinsky, Concerning the Spiritual in Art, (1977) who makes the claim that the colour blue has an intrinsic quality of transcendence and is a representation that guides into 'the infinite' (1977). Colour 'plays the soul' (1977), suggesting that 'blue' has transformative capabilities in the blue willow plate. Examining the operation of these dual aspects in Booth's 'RealOldWillow' (1948-80) suggests that the way they are utilised creates a switching mechanism in the perception of the viewer, which creates new meaning because it requires 'the work of translation', (Flusser, 2018).

New meaning is indicated by the creation of spontaneous narratives (Harris McClary, 1985) in domestic settings with the plate and is the

result of the work of translation (Flusser, 2018). It then asks whether it is the new meaning caused by the switch between white to blue in the image that is key to the blue willow pattern's success. Is it the colour blue's ability to overcome its signification and create new meaning that explains the blue willows ubiquity in Western culture? To address this question, the concluding section considers the image of the blue and white digital Microsoft Windows logo (1985-), its description in Microsoft's 'Windows logo and icon guide' (WIG) and the downloadable desktop wallpaper and operating system of Windows 365. This analysis shows that for the Windows logo, welcoming desktop wallpaper and system, blue is a representation that guides to transcendence, but it is not an instrument of translation.

This suggests that blue's ubiquity in the willow pattern and Western culture is due to its intrinsic qualities of transcendence. Its ubiquity is assured when it is used as a representation of transcendence. However, the colour blue through the 'switch' operation in the blue willow plate, as a representation that guides to transcendence and is instrumental of it, produces new meaning and insight through the work of translation. Ieven's (2003) gloss of Flusser raises concerns about whether the human is an apparatus of the image, or the image is an apparatus of human culture. It raises the question about whether the colour blue is an apparatus of the image or human culture and the importance of understanding its role in cultural expressions.

Introduction – transfer

Suggestions for the blue willow pattern's popularity in Western culture tend to focus on the increased technical proficiency in transfer printing in the mid 1700s. Jennifer Lindbeck proposes that much of the willow patterns proliferation in Western culture is due to 'the process of transfer printing and the impact its development had on the production of decorated wares.' from 1751, (Lindbeck, 2000: 9). Similarly, Angela Draper (2021) explains this proliferation through the rapidly evolving technology of 'transfer printing patterns onto plain white wares' originating in 'Liverpool in 1756'. Where 'highly

complex designs, such as the Willow Pattern' could be efficiently and effectively mass-produced. Whilst it is not as popular today as a ceramic transfer it continues to expand in various iterations.

There is some traction in the suggestion that its success is due to the development and new ease of both the production of transfers and the resulting ability to reproduce and imitate the popular China blue ware (Draper, 2021, Lindbeck, 2000) which also made it cheaper, but it fails to explain the desire of the public for blue willow ware once it becomes detached from the valuable 'white gold porcelain' (Draper 2001). Why blue remains the most popular colour. There is a dazzling array of 'blue' willow pattern plates and its transformations in Western culture that transcend its historical period. Lindbeck's catalogue exhibits the plate in all its various glories. From the standard first blue willow pattern variations, in the plates of Josiah S. Spode, Thomas Turner and Thomas Minton from around 1790 in the UK to late eighteenth century variations on Booth's in the image above, a version from the early 20th century. There are those without border pattern from the USA (United States of America) by the Royal China Company, c.1930s-1940s (Lindbeck, 2000:56), and those with lines and flower rings (2000:57). Variations in the plate shape include snack plates, ovals, and rectangles, (Lindbeck, 2000:89-91).

Variations on colour are rare and include blue plates like Booths, (1948-1980), with gold coloured edging. The addition of colour does not end there with overpainting in examples from Godden's, (Lindbeck, 2000:67) and hand painted underglaze like Mason's; (c1885) and the ostentatious and colourful, Two Temples II pattern with gold transfer by E.Hughes & Co, 1941 (2000:76).

Examples that eschew blue completely are rarer, the pink willow by Alfred Meakin, c.1930 (2000:15), is one instance as is the green willow 'Spode' plate created by Fortnum and Mason (1816). Blue remains the primary willow pattern colour leading to the question of why the 'blue' willow pattern is so ubiquitous. The paper considers whether it is concerned with the dual role of the colour blue as a representation that guides, and which has intrinsic qualities of

transcendence.

The collection of 'blue willow' is not limited to plates including all table ware; coffee and tea sets (2000: 106) and teapots in all shapes and sizes. The willow pattern extends to bedroom and bathroom ware, tea towels, broaches, and earrings (2000: 148-149) and wallpaper in the romantic comedy, 500 days of summer (Marc Webb, 2019), the list goes on.

Hugh Sykes (2017) compiles a joyful collection of 'the unusual' in willow ware, sharing images of; clocks, egg baskets, salt and pepper shakers, greeting cards, slippers and even Doc Marten boots. Western culture has embraced willow ware and especially, the 'blue' willow pattern enthusiastically in all its extensions. Blue remains the primary popular colour of willow ware. The question is whether it is due to an intrinsic quality of blue and the way it is instrumentalised in the image as a switch mechanism that by requiring translation produces new meaning?

Booth's 'RealOldWillow,' (1948-1980), Image2, courtesy of @Serafinatd, (2022)

The blue willow pattern instrument

This paper introduces the stacked blue willow pattern table ware as an apparatus. Booth's, 'RealOldWillow' (1948-1980) stacked willow ware (@serafinatd, 2022) gives the impression of a 'natural' image, a flower and of being an instrument of human culture used for a particular purpose. This paper proposes that it is both; it has intrinsic qualities like a 'natural object' and is a representation which points to the way. It is directional and instrumental of transcendence due to its intrinsic quality of transcendence and its representation of it because of the role that the colour blue plays in the image. This paper focuses on how the colour blue works in Booth's (1948-1980) blue willow pattern plate.

When stacked the blue willow ware evokes a mechanism with multiple parts, an instrument or apparatus. Potentially a watch, a gear box which enables transitions of power from one thing to another or a rotary safe lock which has multiple combination-possibilities. Unlocked by changes in direction, forwards and backwards until the lock arm is freed creating an interval for opening, as a safe, a switching device that allows for something to be locked and unlocked.

Willow image apparatus

For Vilem Flusser (Ieven, 2003), it is important to understand the workings of the image, so that human culture does not become an apparatus of the image. Bram Ieven glosses Flusser on the importance of understanding the role of the image as an apparatus of culture, 'one must comprehend his view of contemporary society as ruled by apparatuses.' (Ieven, 2003). Becoming an apparatus of the image is important as this relates to the question of freedom. If one succeeds in mastering the code and finding new possibilities of the programme, one becomes free. "We can only come to master such a life when we have such great control over the rules of play that we can change them." (Flusser 1997: 85 in Ieven, 2003). "Programmes are toys that, if one plays them long enough, they by necessity realise all their combination-possibilities by coincidence, even the most unlikely."

(Flusser 1997: 24 in Ieven, 2003). This paper considers the way in which the blue willow pattern plate is 'played' to unlock these multiple combination-possibilities as new insight for the perceiver, and question if this accounts for the blue willow pattern's ability to transcend its own time. It considers whether the blue willow pattern is an apparatus of human culture or if human culture is an apparatus of the blue willow pattern, or both, to understand how it has become so ubiquitous in Western culture. It begins by examining whether the colour blue is key to the willow pattern's success.

Multiple combination-possibilities in the blue willow ware

To understand how the colour blue works in the image of the willow pattern plate, the following section considers the 'multi-combination possibilities' (Ieven, 2003) of blue-willow pattern-plate, to show that the colour blue has a key role in willow ware's ubiquity. It considers whether the colour blue is key to its success by examining blue willow compositional combinations. There are three elements to the composition of Booth's 'RealOldWillow' (1948-80) – plate; the object, made from china (original blue/white wares were made of porcelain), the image – the willow pattern design and the blue colour. To critically engage with the proposition of blue's central importance, this paper begins by examining the apparatus combinations; blue-willow pattern-plate as colour- image- object. It Investigates the role of the colour green in Fortnum & Mason's (2022), Willow Pattern Plate, the role of the image in The Family Friend Magazine, 'The Story of the Common Willow Pattern,' and the role of the 'white gold' plate in analysis with Michel Pastoureau's (2018) understanding of the role of the colour blue in the Madonna image. It shows that the colour blue is key to the production of new meaning – spontaneous stories (Hugh McClary, 1985) in the willow pattern plate.

Colour - Why not green?

To focus on the question of colour as key to the blue willow's ubiquity, this section considers - why blue not green? It examines Fortnum and

Mason's (2020), Spode Green Italian, 20cm, contemporary version of the willow pattern plate.

The scene is a romantic pastoral scene, it shows a peaceful moment, there is a mainly cloudless sky with a fluffy, safe looking cloud. There are a couple of expensive residences, a ruin, and a folly, evoking the romance of the scene. Everyday activities of sheep tending, reading, washing are depicted. The willow tree is moved to the right of the painting and of little interest suggesting the willow element is not the key activity of the image. This is unlike the Booth's willow, which takes centre stage. The folly or castle turrets are in a similar place to the pagoda in the original pattern and are set back in the image.

Composition – is figurative, it depicts a real scene. There is an abstract element, and this is all carried out through colour, which is where the green river meets the white of the sky. Because the sky is green above the white, it is uncertain if the white is the sky. It is clearly not cloud as those are depicted in front of the green of the sky; it raises a question if the white is a hillside. This switch does cause the eye to move between the white and the green of the sky but the fading above the trees suggests that it is sky and so the green becomes a distant sky and sometimes land, so the eye is able to rest on it, before returning through the ruin to the foreground of the image.

Colour, the foreground is green, the river is green, which is possible. There is some movement of green to the sky, which is unusual, and adds some abstraction to the image, but the focus of the eye travels along the river and through the white of the painting, up to the green sky and then through the ruin and down to the activities of the people in the foreground, to rest again back at the white.

In suggesting that, as the land has become sky and, the impression as pastoral is about man's domination of nature and the fearful nature of sublime, in which humankind (Rabb, Lauren, 2009-2010) have dominated the sky in the image. The image is an apparatus of humanity's control over the sublime. Any disturbances are minor, like the sheep going into the river, which are not to worry about as

depicted by the other figures in the scene continuing about their business.

The limited possibilities for narrative suggest that while there is some switching of green within the image, it does not require the work of translation, so green in the image is representational. This is because in terms of new meaning, narrative interest, the components of the image that become organised into story, compared to the spontaneous stories caused by the blue willow pattern plate, raised by Harris Mclary (1985) are of little interest. On close inspection there could be an occasion for alarm indicated by the waving arms of one of the figures, perhaps because one of the sheep is in the water. It does not seem to be much of an event, as the figure to the right and the one by the river continue their activities. So, it is quickly resolved. It does not seem to raise the same level of enthusiastic interest that the blue willow evokes as described by Harris McClary (1985). Harris McClary proposes this is due to exotic interest, the pattern evokes distant 'Cathay' creating excitement in the domestic imagination. Allowing a form of 'play' in which these tales come to stand in for, to represent the real adventures and voyages of 'professional explorers.' (McClary, 1985). This paper argues that while there are multiple levels of representation occurring within and because of the image, the analysis with the green reversal shows that blue is the key component.

Non-blue image - green willow fable and the story of the willow pattern plate

The domestic activity of imagining stories in connection with the willow pattern plate means that the image itself becomes of interest. This is epitomized in the invention of 'The Story of the Common Willow Pattern' which appears in the Family friend article in (1849). It merges the image with a potential Japanese or Chinese fairy tale called 'The Green Willow Fable' (1849), setting a narrative that aims to become the standard interpretation of the pattern. The interest in translating the image is removed by the linear text, which now surrounds the image, containing it and closing interpretation. Arguably, attempting to contain or appropriate the translation work

of the blue patterned plate that resulted in spontaneous stories by removing the blue/white switch. The 'blue' willow pattern becomes a willow pattern an apparatus of human society. The blue colour is removed from the image, to be replaced by sepia, indicating, ancient, historical, of the archive and worthy of inspection as authentic document in place of the original 'blue' willow pattern plate. Moreover, perspective is added with the removal of blue from the image. The view becomes a view across the water, with the birds flying above. All abstraction is gone from the image and the figurative/non-figurative translation is erased.

The story itself tells of two lovers who escape a controlling father who intends to dictate who his daughter marries. The lovers find a happy situation. However, the father eventually finds them and they are killed. In the context of its inclusion in the Family Friend Magazine, which habitually included 'morality tales', this can be seen as an attempt to remove blue from the pattern and to de-spiritualise its components and turn them into a cautionary social and moral tale. While the father was cursed by the gods 'for his cruelty with a foul disease, with which he went down to his grave unfriended and unpitied', (Harris McClary, 1985) and 'the lovers transformed into two immortal doves, emblems of the constancy which had rendered them beautiful in life, and in death undivided', (Harris McClary, 1985), it is a confusing tale. The story tells how the birds fly there forever, on the surface this seems romantic, but it also evokes a kind of stasis into the plates image. They are held in limbo for eternity, never transcending or overcoming their current situation. The image and non-blue are not responsible for the spontaneous stories (Harris McClary, 1985) occurring as a response to engagement with the blue willow pattern.

The following section considers whether it is the 'white gold' of the plate itself, which accounts for the blue willow patterns ubiquity in western culture, which allows it to transcend its own time. This approach suggests that the blue colour in the plate is functional because blue is connected to value, so it is used in the image to represent or point to the valuable porcelain. It is an apparatus of human culture.

The 'white gold' plate

Michel Pastoureau in Blue: The History of a color, (2018) proposes that colour is a function of culture that signifies hierarchy. In this context the colour blue is pointing to the desirable value of the 'white gold' porcelain of the willow pattern plate. The name for the blue, white wares, which began to be imported in the beginning of the seventeenth century into the West, (Draper, 2021). Considered especially valuable because Europeans were unable to produce it. For Pastoureau the colour blue is a cultural apparatus used to represent value. It is the plate, which has significance in the blue willow pattern plate. As Harris McClary explains, supporting this view, the 'chinoiserie craze', which had been the 'province of the aristocracy' coupled with the ability to transfer (Lindbeck, 2000) filtered down through 'the strata of society, in its wane it left the lower classes infatuated by anything tinged with orientalism', (Harris McClary, 1985). He argues that it is in this why the 'plate comes to stand in for value according to Hugh Honour,' (McClary, 1985). The notion of 'craze' suggests a temporary moment rather than contributing to the long-term ubiquity of the blue willow. The following section then addresses the questions, if it is because of the plate's value that the blue willow patterns popularity is secured, as an apparatus of culture. It considers if it can be maintained when the 'blue' image becomes detached from the plate as it does when used in advertising.

Adventures in advertising the blue willow pattern - Extending the market?

Arguably, as a pattern associated with value, it is in a prime position to be used in advertising. One explanation for the 'blue' willow pattern's ubiquity can be explained by socio-economic policy – smart advertising. Sykes, (2013) collection which celebrates with Advertising A to Z; featuring the blue willow pattern includes packaging on soup tins for mass consumption and in flight, 'First Class' cabin trays that connect it to luxury and echoes of its original porcelain quality, revered as 'white gold' (Draper, 2021), while the 'Blue Plate Special' offers the economy meal connecting to the 'common' willow plate.

Adverts for whisky and cigarettes and churches make for strange acquaintances, full of contradictions and reversals, echoing the reversal of the blue/white - sea, sky /foreground in the individual plate, as if its signification is difficult to pin down. It even appears as a willow pattern puzzle in The New Rupert (Rupert Bear), The Daily Express Annual in 1957. Enthusiasm and imagination for the willow pattern seems to know no bounds. Certainly, its success as a marketing tool has helped to progress its ubiquity over time. However, rather than support the idea that its ubiquity points to the value of the plate, it suggests that the colour blue has its own signification, not attached to the willow pattern or the plate, its own intrinsic qualities. To understand this, the next section considers if the colour blue represents value because of its intrinsic connection to transcendence.

Blue and transcendence

Michel Pastoureau (2018) charts the history of the colour blue in connection with the Virgin. For Pastoureau value explains the persistent use of the colour blue in the Madonna's cloak. It points to; it represents her value to the culture, not why she is valuable, which is her special relation to transcendence. The Madonna has a special relation to God in the Christian context, she conceives the Son of God through her virginity, is born without sin through Immaculate Conception and at the end of her life ascends bodily upwards through the sky to the heavens. She ascends into infinity into the transcendent to live forever. While, for Kandinsky (1977) her value comes from her connection to transcendence and the infinite, which is represented through the colour blue of her cloak. In this way the colour blue represents transcendence and can be used potentially as an apparatus of culture to achieve it as in the example of the blue willow pattern plate. This is straightforward in considering the Madonna's special relation with transcendence. How can we account for a connection to transcendence in the 'common' willow plate?

Blue as an instrument that points to and is transcendence

The previous example shows blue is not only a representation that

guides, but it also has its own intrinsic qualities of transcendence. It has spiritual or transcendental qualities, which have a role within the willow pattern plate.

A key example of a connection between colour and transcendental or spiritual experience can be found in the written and visual works of the artist Wassily Kandinsky, an artist working at the turn of twentieth century and influenced by the spiritual movement - theosophy. Kandinsky writes the following in Concerning the Spiritual in Art (1977:vi);

> Colour is the key- board. The eye is the hammer, while the soul is a piano of many strings. The artist is the hand through which the medium of different keys causes the human soul to vibrate. It is, thus, evident that colour harmony can rest only on the principle of the corresponding vibration of the human soul. This basis can be considered as the principle of innermost necessity.

Here Kandinsky establishes the connection between spiritual experience and colour, and he indicates the importance of blue in particular; 'The deeper the blue the more It beckons man Into the Infinite, arousing a longing for purity and the 'super-sensuous.' (1977:vi). This denotes an experience beyond the physical senses, suggestive of the metaphysical.

Kandinsky's description of blue as an instrument for bringing into being a particular state and as a representation that guides, that points to the way, beckoning into the infinite, as beyond normal experience as transcendent. This distinction offers a key question for this paper which asks whether blue is intrinsic to, or simply a way to represent the soul or transcendence. Naturally, it may also be the case that it is both, and/either and this in turn might raise a question of the relation between ontological and instrumental claims. This paper focuses on how the blue willow pattern transcends its own time. This reading suggests that it is because it both points to, beckons into the infinite and has intrinsic qualities of transcendence, which

are instrumentalised in the blue willow pattern through the switch mechanism that explains its ubiquity.

The role of the colour blue in the willow pattern plate

If we look again at the blue willow pattern plate, blue is a representation that guides towards the infinite; it draws the viewer through the portal edges of the plate and into the image. The thick and complex trunk of the willow pattern leads the eye to the leap off from the floating tendrils of the willow and take flight with the birds of the air. While the switch of blue from the sky and sea to the foreground interrupts and reverses the process bringing the viewer back to the foreground. It is during this process that the act of translation occurs, through the process of locking and unlocking. During the interval when blue detaches from its signification and is re-signified, producing new representations, new meaning, and the attachment to new objects for the perceiver.

The work of translation

This section considers if the colour blue operates as a representation that 'guides to' and which has intrinsic 'qualities of' transcendence and that if its operations in the 'blue' willow pattern require the work of translation (Flusser; 2018). It asks, if, it is the work of translation that enables the blue willow pattern to overcome its signification, its attachment to the 'valuable' 'white gold' porcelain plate enabling the perceiver to transcend their own temporal moment resulting in new meaning for both. This new meaning is characterized by the narratives of new meaning that arise from experience with the 'blue' willow pattern, (Harris McClary, 1985) and its ability to connect with multiple meanings in advertising.

For Flusser 'Translation provides us with the only practical distance from language' (2018:30). Flusser describes how 'during the translation,' there is 'a suspension of thought' (2018:29), this relates to the process invoked by the reversal in the blue willow pattern plate,

in which the 'I am in during this transition is only in the sense of becoming.' What occurs at this limit is 'nothingness, that horizon of Being, manifests itself as nullifying during the process of all translation.' (2018:29), in which 'any translation is annihilation.' This is the moment, potentially, when the colour blue detaches from its signification – the object and meaning as value.

This 'annihilation can be … surpassed and overcome by the realized translation.' Flusser likens it to 'a miniature version of death and resurrection.' by the re-signification of blue, which is the attachment to a new representation, to a new object and meaning. This is arguably, how blue can be attached to multiple objects and attracts multiple meanings resulting in, for example spontaneous stories. By engaging with translation, the viewer also experiences his or her own self-annihilation and in so doing through translation, which is not mystical 'the intellect goes beyond the horizon of language, annihilating itself in the process.' The intellect experiences 'the dissolution of reality and of the Self (which it is)' (2018:29), making this process transformative for the individual, as Kandinsky outlines. This is a world of spirit, intuition, immediate vision, it is not intellectual because it is an experience at the 'upper limit of language' of 'this world' it is 'supralinguistic' and 'supra-real' and so 'unreal.' This speaks to the transcendent, the ineffable as what is difficult to say or cannot be said. It is the direction of language in 'a process seeking to overcome itself' (2018:21). It leads to the question - Is the work of translation caused by the switch mechanism key to the blue willow pattern's ubiquity because through translation it can overcome its signification? Does it need translation to transcend its own time?

Switching in the blue willow pattern plate

The scene in Booth's 'RealOldWillow', (1948-80) depicts an artistic 'figurative image', recognisable real-life events; people crossing a bridge, fishing, a river running through, a central willow tree and birds flying in the sky with pagodas. While the composition of the painting is abstract, 'figurative' in a textual, non-literal sense, it is non perspectival because there is no horizon line between sky and sea.

This creates the perception of becoming detached in some way that is increased by the birds flying in the 'sky.' In the perception of the viewer these two versions of figurative, the literal and non-literal, require constant translation as the perceiver switches from one reading to the other. This is mirrored in the removal of the blue from the sky to the foreground. This paper considers whether it is this use of blue that is key to the success of the 'blue' willow plate and why 'blue' has remained the prominent willow pattern colour. It asks if it is the translation caused by this reversal where blue comes to stand in for the landscape and is removed from sky and sea that is key. The movement in the image suggests that something is happening and provokes narrative interest encouraging the perceiver to consider for example the figures on the bridge to raise the question about where they are going, and it is unclear what they are carrying. Harris McClary describes how engagement with willow ware inspired a 'form of domestic recreation,' (1985) in which spontaneous stories could be imagined, new meanings be developed in connection with these functional, decorative creations.

This suggests that the blue willow pattern produces new meaning for the perceiver through the instrumentalisation of the colour blue, so that it overcomes its signification through the switch and translation for the individual but is this key to its success? Does the work of translation cause the blue willow pattern to overcome its signification and become ubiquitous?

Blue non- switch?

This section addresses the question of whether it is necessary for both the viewer and the colour blue to; overcome their own signification, transcend their current signifiers and to produce new meaning through the switch operation for the blue willow pattern to become ubiquitous. The following section asks, is this how the blue willow pattern transcends its own time, by overcoming its signification and at the same time allowing the individual to overcome the self? Is the colour blue an instrument of the blue willow pattern image

and of human culture in a way, which allows both to transcend and extend their own meaning? This would suggest that the colour blue having both intrinsic qualities and being a representation that guides to transcendence is key to the blue willow pattern's ubiquity. This proposition will be addressed in the concluding section by examining whether the blue/white switch occurs in the Microsoft Windows logo and when using the Windows 345 operating system with its background wallpaper desktop image.

It will show that while this blue/which reversal or switch is key to the success of willow ware in the context of self-transformation, its transcendent qualities can be appropriated as representation without the switch and still allow the colour blue to be ubiquitous. In this context it shows that the blue willow plate is ubiquitous because of its intrinsic qualities of transcendence, not because it is operational of transcendence. This is examined in the Microsoft Windows logo image, wallpaper and its 345 operating system. In so doing, it addresses the issue raised by Flusser, which is that representation has come to be associated with reality, and that observers do not do the work of deciphering or translating them. This is important for Flusser (2018:29), as the work of translation is the closest the intellect comes to the 'horizon' of representation and therefore insight and new meaning. Untranslated, images become 'opaque screens that block access to the tangible world,' (Ieven, 2003), instead of 'a map or magnifying glass to guide human action in the world', (Ieven, 2003). It raises the question about how blue's intrinsic qualities can be used to represent or mimic transcendence. This raises a question concerning an ethics of the use of colour and the role of the colour blue in human culture.

The Microsoft logo

This section considers the question of the work of translation in the blue/white Microsoft Windows logo, without the willow pattern image and as a digital logo, which operates in a virtual context - without an object, the 'white gold' of the plate. It asks if it is the work

of translation that is key to the colour blue's ubiquitous use in the willow pattern plate, which allows it to overcome its signification and become timeless.

It examines whether the logo image operates through the blue/white switch, as with the blue willow example. The blue logo is the object of the image and the window itself is foregrounded in blue; the background is whitened. On first impression, it appears to operate like the willow pattern, which would cause the viewer to revert to the window and cause a switch However, the blue pane suggests sky beyond the image itself which the viewer is drawn towards, as if, the viewer is able to go through the image. The eye then settles back to rest on the white image, which is indicative of the blank page of the operating system. It gives the effect of a blank page waiting to be written or created onto. All the focus comes to rest on the blank contained image as the only place of creativity. This is mirrored upon entering the operating system when using the Windows 365 wallpaper. As such, unlike the blue willow pattern plate, there is no work of translation to explain the Windows logo and its brand's ubiquity, 'With its presence throughout our vast ecosystem, the Windows logo is one of the most visible (and familiar) logos in the world,' according to Windows icon and guidelines (WIG, 2022). This suggests that it is not the work of translation and its transformative qualities for the individual that secures the colour blue and the blue willow pattern's ubiquity.

Windows 365

Upon entering the operating system, the wallpaper depicts a blue window shown against a black background simulating the logo. Inside the computer system, the background 365 wallpaper screen is blue, and a pale blue window is featured to the right. This time its edges are almost at white which shine a light across the screen. The white lined borders suggest again a place beyond the screen, and the eye is drawn to these borders of escape, which resonate with the romantic escape offered by the Family Friend's 'The Story of the Common Willow

Pattern' (1840).

Once the system is in use, the usually black or white page is foregrounded standing in front of the blue background, so that the viewer comes to rest on the white page again as the only place of authentic production. In this context it represents transcendence but is not operational of it.

As noted, before in Ieven's gloss of Flusser, untranslated, images become 'opaque screens that block access to the tangible world' (Ieven, 2003), instead of 'a map or magnifying glass to guide human action in the world' (Ieven, 2003). In this sense the Windows operating system becomes a screen restricting 'access to the tangible world'. It comes to stand in for the world because it is not operating through the switch mechanism of the blue reversal, as it does in the willow pattern plate because it requires no translation.

The WIG invokes the domestic stories of the blue willow – 'everyone needs a place to do. A place that feels familiar and personal. "A place to do the things that matter—exciting things." and that place is Windows.' (WIG, 2022) in its branding. 'It represents possibility and a 'unique, personal perspective on the world.' (WIG, 2022). Connecting itself to the creation of spontaneous stories 'The story, customer, or device can be the hero, with Windows playing a supporting role.' (WIG, 2022).

It suggests transcendence through its use of the blue willows' white and blue, which the operating system only represents. It does not operate through translation because there is no switch between blue and white in the system's images. In this way, it suggests from a Flusserian perspective that the human and the colour blue become an apparatus of the image of Windows, which secures its ubiquity through its connection to blue's intrinsic quality of transcendence. This analysis suggests that it is the colour blue's intrinsic qualities of transcendence, which secure its ubiquity in human culture and in the blue willow pattern plate, and that these can be utilised through representation. In this respect it leaves an open question as to whether

the colour blue is an apparatus of the image. The analysis suggests that it is not necessary for the colour blue or the blue willow pattern to be instrumentalised, as in the willow pattern plate, to become ubiquitous. However, for the colour blue to be transformative for the individual in transcendental art and creative practices, it must be instrumentalised in particular ways. This forms the interest of the research project, which aims to understand the role of the colour blue in transcendental art and creative practices. This is important as Ieven's (2018) suggests, glossing Flusser, as it connects to the question of freedom.

The role of the colour blue

This paper suggests that the colour blue has an instrumental role in transcendental art and creative practices because it is both a representation that guides to and has intrinsic qualities of transcendence. The colour blue in the blue willow pattern plate operates as a switch device, which, because it instigates continual translation, allows for it to detach from its signification for the individual, allowing for the creation of new meaning. This is transformative for the individual. For the colour blue this switch is not necessary for it to become attached to new objects, it is not translation that enables it to be ubiquitous. In the operations of the blue willow plate, neither the colour blue nor the individual become an apparatus of the image. While the blue willow pattern through translation offers transformation for the individual, the Windows logo, wallpaper, and operating system do not need translation. This suggests that the colour blue does not need the operation of translation to overcome its signification and become ubiquitous. Blue is ubiquitous in culture through the representation of its intrinsic qualities. If it is not operationalised in particular ways aimed at transcendence, it can be used as a representation, which for Flusser makes the individual an apparatus of the image. This raises a question about the way that the colour blue is instrumentalised in culture.

Conclusion

This paper offers some synthesis to the role of the colour blue in cultural expressions and documents which suggest that blue can be used as a spiritual adjunct like rosary, prayer or cross in practices of self-transformation and transcendence. It suggests that the colour blue has intrinsic qualities or certain features of transcendence. In this case an experience of the infinite, which can be instrumentalised in particular ways in individual transformative practices. The questions raised by considering that the colour blue has intrinsic qualities that can be instrumentalised within and by culture in transcendental art and creative practices is the interest of the research project.

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"Hauntological Form" - Videogame Mediums' inability to escape the past

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Abstract

This paper provides an alternative understanding of the presence of nostalgia in contemporary videogame form. By introducing the concept of "Hauntological Form" a reinterpretation of nostalgia in the context of media form is proposed. This is aided by a clarification and exploration of the concepts "new" and "novelty" through the case studies of The Legend of Zelda: Breath of the Wild and Halo Infinite. Using these case studies as well as Return of the Obra Dinn as an example, this paper illustrates how hauntological form is present in contemporary videogames. Through this paper, it will be argued that hauntological form provides the medium with an alternative approach to enable creative sustainability whilst the industry struggles with longer development cycles and increasing difficulty in providing novel experiences. Hauntological form addresses the presence of past videogame elements (whether that is game mechanics or aesthetics) and distinguishes how this "haunting" from the past has become an intrinsic aspect of mainstream videogames.

Introduction

This paper sets out an exploration of the term I have coined, "Hauntological Form". Whilst this paper predominantly explores this in the context of the videogames medium, it can also be applied more broadly to other contemporary mediums (more specifically, but not exclusively, digital media). Hauntology as a concept has different interpretations but this will be focusing on the notion of the ability of the past to haunt the present as it lingers upon contemporary media.

Identifying this does not provide a black and white result, rather, instead a framework in which the lingering presence of the past can differ in its impact upon contemporary form. In addition, it can also be the result of previously non-existent elements impacting the present, as will be exemplified by the Olympic Games Tokyo 2020 and the two videogame depictions of the event from Sega.

Nostalgia will also be looked at in this paper. What I once considered key to understanding the decelerating form of videogames has altered how I place its importance. Whilst I had previously determined that nostalgia was key to understanding the decelerating form of videogames, the identification of hauntological form (HF) suggests that hauntology is a much better descriptor. Had used the other term I coined "Relative Nostalgia" to not only highlight the shifting temporality of media from when it is engaged with but also the increased access to the past through digital means. This has altered the relationship with past media enabling it to haunt the present as if it had never left. It can therefore be considered that nostalgia is somewhat redundant as media pieces are often no longer lost to the past (although this is not universal to all media pieces). Because of the greater accessibility to the past and its ability to linger longer, hauntology is a much better descriptor of what is happening to media. What is considered nostalgia becomes a symptom of hauntology rather than the cause of retro-leaning design. In other words, how can you be nostalgic for what is still available?

By acknowledging the accessibility of the past, we can begin to address what is meant by "Hauntological Form". Going beyond identifying nostalgic elements and instead distinguishing something fundamental to the current forms of many videogames. A means of providing alternative experiences in the place of revolutionary innovation. Return of the Obra Dinn (Pope, 2018) will be examined as through it each core element of HF that I identify can be attributed to this videogame.

After describing HF, I then provide a distinction between definitions of "newness" and "novelty" in the context of videogames. This will

be highlighted via the use of two separate case studies of videogames released within the past five years and provides a which will provide a framework for identifying how new media products can differentiate from other media pieces whether or not what they provide has been done before. Doing so helps to strengthen the wider understanding of HF, showing the versatility of this concept.

With this in mind the, thought experiment of "The Ship of Theseus" is introduced as a key element of the wider argument. This expands upon the existing work provided on HF and enables us to examine the differences of other videogame types, specifically remasters and remakes. These have been difficult to examine under the concept of nostalgia as the nostalgic elements apparent are obvious, which previously prevented more meaningful analysis to take place. Applying the Ship of Theseus resituates these two media products and their role within the videogames industry and what it can mean for other videogame products that exist.

Finally, this essay applies "Theseus' Paradox" globally to broadly identify the differences between the East (specifically Japan) and the West. Posing whether there are cultural differences that can impact the extent to which HF presents itself. Given the importance of Japan within the videogame medium despite its global reach, this will help begin to consider what this could mean for the future of videogame form.

Throughout this text there will be the inclusion of "we", this will predominantly be referring to those who play videogames who are based in what I refer to as the "traditional videogame markets", North America, Western Europe, and Japan. Videogames might be a global medium but how videogames are engaged with differs around the world. Within this is a broad age range from 16 to the very least to late 50s at the most (meaning that they would have grown up with videogames in the 1980s1). This age range is specified due to the

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1 The selected epoch for my research is primarily from 1983 when the North American videogame market crashed (Consalvo, 2006). This was also when the Nintendo Family Computer (Famicom) first launched in Japan (arriving in the West two years later as the Nintendo Entertainment System (NES)).

assumption that within that, among those who still actively play videogames, there will be a familiarity with past videogames as well as an awareness of videogames that were released before they started playing videogames as a long-term pastime.

This also covers those who are more likely (but not exclusively) to engage with videogames via dedicated hardware such as consoles/systems. This will also likely overlap with those who only (or predominantly) play videogames on PCs/computers as the videogames accessible on different hardware is increasingly available on multiple platforms.

This "we" does not claim to speak for all people, or even all videogame players but does aim to cover most who play videogames and have enough awareness of the medium to exhibit nostalgic tendencies (or at least the appearance of). Furthermore, I refer to myself (as "I") in this essay to provide context of this perspective, I am approaching the arguments made primarily as a videogame academic & lecturer, as well as someone who plays a wide variety of videogames and is located in the West.2

Hauntology

Time is out of joint - at the Olympic Games Tokyo 2020

Hauntology as a concept is still being developed (Ahlberg, Hietanen and Soila, 2020) – especially in the context of videogames – but its origins, whilst not that old, began as a bit of comical wordplay. A portmanteau of haunting and ontology, which takes on a double form. If you imagine a French person saying it, they drop the H, and it sounds like ontology. Therefore, it is not surprising that hauntology has a relationship with ontology. If ontology is the study of "being", existence, and reality, then hauntology can be broadly understood as

2 Prior to and during the initial years of academia I was a videogames reviewer/journalist. This has informed my view of the videogames medium and wider industry. I continue to write about videogames, but this has a strong connection to my academic work as a researcher and lecturer.

the opposite of this. In short, things that do not exist tangibly, are therefore more akin to a spectre.

However, there is more to the term than highlighting what does not exist. In keeping with the theme that one might imply from the haunt part of the name, the concept also considers that which is simultaneously dead and alive, like a ghost (or spectre). To help explain this dual element, this essay will begin by using the Tokyo Olympic Games (both the event and its accompanying videogames) as an example.

The Olympic Games Tokyo 2020 does not exist. Except it does. Is this being pedantic? Not really, because a year later in 2021, the world did get to compete in an Olympic Games that took place in Tokyo, except it was the year "2020" that was splashed all over. This obviously was a very different event to what was meant to have been. Given everything that was going on, and the fact that the sporting event was given the opportunity to go ahead a year later might have distracted viewers from the general lack of spectators, the disappearance of mascots, and a general absence of festivities.
That is unless you played The Official Video Game (Sega, 2021). While, this might be an official depiction of the Olympic Games, realistic it is not, which also seems at odds with how it can draw attention to how what we got was not the Tokyo 2020 Games (also inforced by the fact this videogame did not release outside of Japan until 2021). The Official Video Game is more of a sports-themed arcade game than anything close to resembling a simulator, which helps broaden its appeal. It is still a challenging game (mostly due to the AI) but learning the controls is often mostly straightforward [Unlike Mario and Sonic's version which this will get to]. The more one plays it the more it becomes apparent how this is depicting an alternative event, one that never took place.

This thought became even more pronounced, paradoxically by going back to Mario & Sonic at the Olympic Games Tokyo 2020 (Sega, 2019). This originally came out back in the before times of late 2019 and despite being Mario and Sonic themed, was depicting an event

that was going to occur. Playing it in 2021 this notion blends with the videogames plot of going back to a digital version of the previous time Tokyo hosted the Olympics back in 1964.

Roughly half of the videogame are set in 2020 and featured 3D depictions of sports and venues whilst the other half is set inside a videogame recreation of 1964 Tokyo with 2D depictions of sports and venues. It is the 1964 setting that is particularly interesting in this whole context. The rationale behind the 2D pixel look is to help distinguish and reinforce that part of the videogame is taking place in the past, yet for starters videogames barely existed, with Spacewar! having only been developed two years prior. Furthermore, the 2D section features the original pixel depictions of Mario and Sonic, except these both come from separate generations and visual styles, resulting in the weird disconnect between 8-bit and 16-bit respectively. Gameplay-wise this works well enough, but the clash between 8-bit and 16-bit with no rationale for this always reinforces the notion of time being out of joint. Could they have used the 16-bit versions of Mario and Bowser (et al.) to better complement the 16-bit Sonic and Dr Eggman (et al.)? Whilst it might be even further away from 1964, it is not as if the original Super Mario Bros. was close, as there is still a 20-year gap.

What we are left with is a videogame that simultaneously features depictions of an anachronistic past (be that of real Tokyo and the videogames medium) and a depiction of what was meant to be a forthcoming event that did not take place and was instead replaced with something similar.

In the years ahead, if one comes back to those two videogames, it will be a reminder not of the Olympics Games Tokyo 2020 but of 2021 which featured a sporting event that simultaneously existed but did not.

Relative Nostalgia

What is the future when it and nostalgia are relative?

Simon Reynolds' (2012) Retromania: Pop culture's addiction to its own past" is a particularly important book for beginning to understand how one considers the existence of the future and what relationship this then has with the past in the context of not just media (more specifically music in Reynolds case) but also technology.

A term, I previously coined, "Relative Nostalgia" (Sweeting, 2019), was inspired by an introduction to Reynold's work in Jonathan Rozenkrantz's (2016) article Analogue Video in the Age of Retrospectacle: Aesthetics, Technology, Subculture, which highlighted how artefacts from media in the 1990s have gone on to be used by creators in the 21st century. The crucial difference is that it evokes nostalgia for specific media rather than a particular time. Therefore, it is argued that "relative nostalgia" results in something that is not dependent on a specific time. An individual can be nostalgic for something based on when they first came across it, rather than when it was first created.

In a previous text (Sweeting, 2019), I have used the example of The Legend of Zelda: Ocarina of Time (Nintendo EAD, 1998), a videogame that is often considered one of the greatest of all time (Metacritic, no date)3. One that many players might understandably be nostalgic for. Yet what decade are they nostalgic for? Presumably, the 1990s, which is when it was first released on the Nintendo 64 (1998 to be precise). But what if you did not play it until the following decade? As it was for me, having played the Nintendo GameCube rerelease around 2003. Furthermore, there was also the remake for the Nintendo 3DS (Grezzo, 2011), which quite likely could be the first time a new generation played it for the first time. It is for these reasons that the example of Ocarina of Time highlights that relative nostalgia can be particularly helpful, contributing to how we might understand the scope and agility of nostalgia. Media does not exist in a vacuum, which perhaps also helps partly to explain how past videogame aesthetics live on today.

This brings us back to the point mentioned at the start of this section

3 *The Legend of Zelda: Ocarina of Time* still retains a "Metascore" of 99 and is currently top of the "Best Video Games of All Time".

relating to Simon Reynolds. Towards the end of the book (Reynolds, 2012, p. 425), he reflects on a point made by author William Gibson regarding how the younger generations viewed the future. Reynolds provided his own anecdotal confirmation that his children are 'not the least bit interested in the capital 'f' Future, [they] barely even think about it.' This was in reference to the escapism that current media and technology provide, and that current technology already feels rather futuristic today if we think about it (the near-endless online video meetings during and following the lockdowns demonstrate that), the difference now is that we also have access to past (or rather, recent past) media like never before.

Just before highlighting how his children do not care about the future, Reynolds also mentions how the past has lost its 'lost-ness' because of the availability of access to the past. Preventing media (as a whole) from fading into obscurity, or in the case of videogames succumbing to obsolescence like the manufacturers and publishers previously wanted. There is a reason, why, for a long-time, videogames were poorly preserved, because publishers saw no interest in them. Instead, the priority was providing the next new thing to be sold. Old things do not sell (in the context of technology) it is all about the future. Today though, it is a different story.

Reynolds' observation helps to suggest that our understanding of nostalgia is shifting as a result of the technological changes that have enabled greater access to past media, suggesting a historicisation of the term. Nostalgia has already evolved from a crippling longing for a place to 'a yearning for a different time' (Boym, 2007). Now it is something to be exploited, another resource for capitalism to use up. Nostalgia is finite, there is a limit, something can be remediated, not a fixed number but a relative point in which overfamiliarity takes hold. In the next section, I will introduce "hauntological form" (HF) which demonstrates how different elements of the past provide the sources for contemporary form.

Media Haunting enabled by technological access

The previous part concluded on the point that whilst previously, the prevailing wisdom was that "old things do not sell" in the context of technology (and by extension videogames), today the narrative has changed.

Now to examine this shift. How can we (players of videogames) be nostalgic for videogames that are not lost? Understandably, this would appear to be oversimplifying the issue. As for many, there are certain videogames which may as well be lost for them due to the difficulty in obtaining not only the videogames themselves but also the hardware required to play them. In addition, videogame preservation is a real concern (as briefly mentioned publishers have done a poor job of preserving videogames). However, we are currently in a time where access to past videogames (in some form) is greater than ever before. Or to repeat a previous point outlined by Reynolds (2012, p. 425), videogame past is in the process of losing its 'lost-ness'. But, if the gap in time in which this occurs shortens, would this negate any nostalgic desire for the past? Is that gap where something is lost to time needed to generate the nostalgic desire? Yes, but it is not about nostalgia, rather nostalgia has become a by-product, beneficial but not essential. Rather, the past – as mentioned – is instead a source of content to be exploited again. Providing sustenance for the videogames industry to continue.

This is a significant shift from how the videogames industry operated in previous decades in which a sense of loss was facilitated by the transition between console generations. However, that loss was used as a means to generate interest and desire in the new videogame hardware and software that was being provided. A tactic deemed necessary due to concerns that players would stick with what they had. In later console generations to alleviate the sense of loss due to the inaccessibility to the past publishers would provide small slices of access in the form of remakes or remasters (which this essay will look at in later sections). This gave publishers the power over the medium's past, something to wield when necessary or rather

financially beneficial. Now the medium has changed resulting in the need to provide greater access to the past to cover up the lack of contemporary releases and to generate interest when there are "new" releases. Ultimately though, this will be on the publishers' terms and not at the request of players (Doolan, 2021)4.

Increasingly the three main console manufacturers (Nintendo, Microsoft, and Sony) are making it easier for players to access videogames from past systems. However, the approach taken by the three companies differs, and in many instances, there is an additional cost involved. Microsoft has provided a technical workaround allowing owners with discs dating back to the original Xbox to be playable on the current Xbox Series X for selected videogames. Alternatively, Microsoft's Game Pass subscription might be more convenient for many players. Nintendo and Sony, meanwhile, have taken a different approach due to technical reasons, games for all of Nintendo's previous systems are incompatible with the Switch and likewise games for Sony's PS1, 2, and 3 are incompatible with PS4 and PS5. Instead, with the exception of specifically ported/remastered/remade videogames, a subscription service is required to access past videogames from a curated catalogue. Not only is this a monthly cost, but to add confusion, it is an additional layer on top of the base subscription.

This is about accessing past videogames, but another part of nostalgia is the aesthetics from past videogames. Whether that be the iconic pixels, the chiptune beeps, bleeps, and bloops, or more recent low-polygonal 3D graphics and MIDI scores. These aesthetics for a short time had for the most part been replaced with

"better" graphics and sounds. Yet, today, these are remarkably present

4 This is evident with Nintendo's continual approach of providing limited timed remasters of classic videogames such as the *Super Mario 3D All-Stars* (Nintendo EPD, 2020) collection for the Nintendo Switch. This contained *Super Mario 64* (1996 – Nintendo 64), *Super Mario Sunshine* (2002 – Nintendo GameCube), and *Super Mario Galaxy* (2007 – Nintendo Wii) in one package with each game receiving different improvements (of the kind found in remasters such as widescreen support). However, this was only available on the Nintendo eShop digitally for 7 months and physical versions ceased being manufactured. This was to coincide with *Mario*'s 35th anniversary but also to artificially generate scarcity to increase sales (Doolan, 2021).

once more. Whilst, pixel effects will not be found front and centre in the latest Assassin's Creed game, it is also not very difficult to come across a wealth of games in this "independent style" (Juul, 2019) in any digital storefront with an abundance of pixels and beeps. Most likely from smaller independent developers.

What is important to consider, is that those visible pixels and the two to three waveforms that comprised all chiptunes were originally the result of technical limitations of a specific time. Developers were making the best with what they had. It was not a choice. There will always be limitations that will impact the development of a videogame, although time and financial limitations will be the biggest consideration. Technical limitations will always exist, but they are not the main element they once were. What is important to note here, is that today many developers have chosen to work with these limitations[56]and 'incorporate period styles into their original games' (Sloan, 2016).

There is understandable nostalgia for the aesthetics of videogames from one's childhood, but those same aesthetics are becoming commonplace again today. For younger players today, that "retro look" is just another visual style found in contemporary videogames (as well as videogames available today such as re-releases and remasters). Something they have grown up with and perhaps look back upon fondly when they are older, again showing the significance of "relative nostalgia". It is an influencing factor when an individual comes across something, and not when it was originally created. The ontological murkiness that surrounds videogame remasters and remakes will be examined later via the help of *The Ship of Theseus* thought experiment along with the distinction between "new/newness" and "novelty".

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5 The developers of *Shovel Knight* (Yacht Club Games, 2014) were inspired to make the videogame seem as if it *could have* run on a Nintendo Entertainment System (NES), notably only going slightly beyond the original 54 available colours, but meaningfully 'bent the rules' to benefit modern playability (Angelo, 2014).
6 All three main videogames whose development was followed in the documentary *Indie Game: The Movie* (Swirsky and Pajot, 2012) – *Super Meat Boy*, *FEZ*, and *Braid* – also exhibit deliberate inspiration from past videogames (typically 1980s and early 90s).

Does this mean then that what I will be referring to as "hauntological form" has arisen in parts of the medium? Something which contemporary videogames are unable to escape from - elements of past videogames. Satiating the perceived desires amongst some players for a past they think is lost but can reclaim via these near-simulacra of the past.
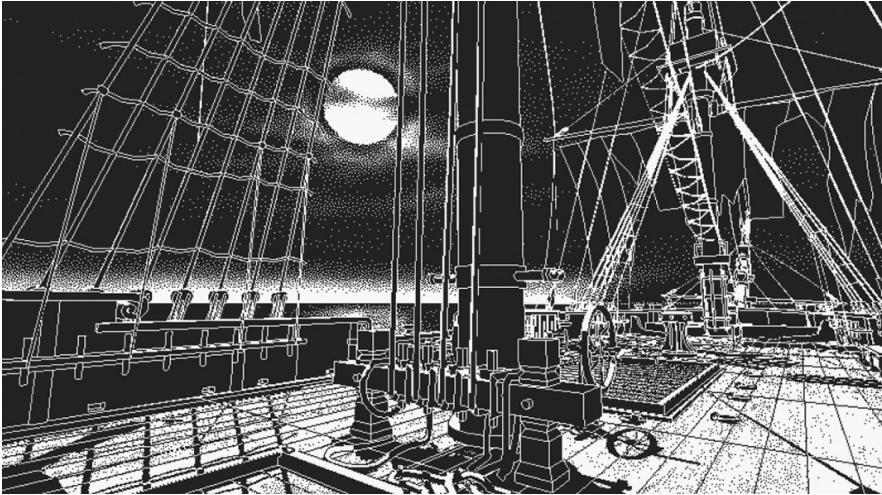
Return of the Obra Dinn by Lucas Pope (2018) employs a 1-bit art style. Visually the game looks from another era but playing it does feel like a truly modern experience.

In this instance independent videogames such as Return of the Obra Dinn (Pope, 2018) [as seen above] upon reflection can represent what is considered HF. A unique (novel) experience, perhaps, but one that is still haunted. HF, as evidenced by Obra Dinn, is not incapable of novelty or newness but elements of past form still linger (and in this instance, the setting and the in-game narrative are also emblematic of hauntology). HF is when contemporary form is intrinsically haunted by the past. This haunting takes hold in different ways through; past media form, historical/past events, in-game past events (can include narrative), or personal events (whether that is from the creators or the audience). The example of Obra Dinn satisfies all four potential conditions. Its visual style, or rather its 1-bit colour palette, is directly inspired by the games available on the Apple Macintosh Plus that the

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creator Lucas Pope played when he was growing up during the mid-to-late 1980s (Pope, 2019). The historical setting is 1807 in which the player takes control of an insurance inspector for the East India Company investigating a ghost ship that has reappeared in Falmouth, UK. Its gameplay is deeply hauntological, as the player explores the lives of those who once lived on the ship before, often, meeting an untimely demise. The last way the haunting is present is via the personal connection to the creator, which as mentioned, was inspired by the visual style of games he grew up with as well as a personal interest in this era of history (there will also be players who might have familial connections to Cornwall and/or the East India Company).

Obra Dinn satisfies all the elements I have identified that contribute to a piece of media to be considered an example of HF, even though just one element is enough to be considered. Yet, it is crucial to note that HF is not about fawning dedication to or direct copying/referencing of the past. This is also where HF distinguishes itself from merely being an example of nostalgia (rather, nostalgia is a symptom of this). In the instance of Obra Dinn whilst it might look like a videogame from the 1980s due to its 1-bit graphical style, it is a fully realised 3D game using a modern videogame engine (Unity). To achieve the look the 3D assets were textured appropriately along with a filter overlayed on top. Therefore, videogames that exemplify HF are still able to attempt to provide contemporary experiences, rather than just being relegated to remastering or remastering past pieces of media, but the key is that elements of the past are still being revived which are directly impacting the resulting form. This also goes beyond identifying the presence of nostalgia which can often be an exercise in pointing out a reference, which can also be fairly shallow. HF, meanwhile, might not be intentional, rather the medium itself is haunted by past form, whether that be genre conventions, design practices, or expectations of the audience, among other possibilities. Or when it is intentional, is done so as an intrinsic part of the experience to provide an alternative to a lack of future (or revolutionary) innovation. Remixing past form to provide the illusion of newness, or perhaps able to create something novel from this. Obra Dinn could be argued to achieve both. The next section will unpack the distinction between "new/newness"

and "novelty" in detail to explain how this relates in the context of hauntology and HF.

Newness and Novelty

Halo Infinite taking a Breath of the Wild side

Towards the end of 2021, after being delayed for a year, Halo Infinite (343 Industries, 2021) was released. The latest in the 20-year-old franchise of First Person Shooters is set in the 26th century where players control a super soldier (typically Spartan 117 Master Chief) in a fight to protect humanity from a religious covenant of aliens. This latest release was significant, as it was the first mainline Halo game to be released in six years and was intended to bring the franchise up to date to compete with other Shooters that had gone on to take its place in the medium. In addition, it was also meant to help recement Microsoft's position in the videogames industry, after it was relegated to a distant third in the previous console generation with the Xbox One.

How to address the significance of such a release? Does Microsoft (and its Halo specific subsidiary 343 Industries) provide a crowd-pleaser focusing on the hits, or do they provide a new experience to revive the franchise and ideally bring in a new audience? In short, the answer was a bit of both. This resulted in a Halo game that whilst an outlier as a whole to what came before, was not as unique as marketing would have consumers believe. Usually, Halo games are typically broken up into somewhat distinct levels. Part of Infinite's new approach is its take on an open world, and this intentionally alters the player experience in Halo unlike any other (with the closest exception being Halo 3: ODST (Bungie, 2009)).

The thing to consider with Infinite is that ultimately, its open world is a façade. This is especially apparent when considering the beginning and ending of Infinite from a gameplay perspective. The beginning is not too dissimilar to that of Halo 4 (343 Industries, 2012), linear with light overarching tutorials thrown in. It is around an hour or so until the open world is revealed. The ending of the game sees a further

return to the linear style that kicked things off, by the end the player would be forgiven for forgetting that this was being marketed as an "open world Halo".

Then again, for the main missions, it seemed like the developers (led by 343 Industries) also struggled to commit to what kind of game they were making. Some missions took advantage of the wider space, but Halo games are known for their expansive levels. Others though were a collection of different Forerunner (the alien society responsible for creating the halo rings) constructed corridors and hallways.

343 Industries could have just made another Halo game and a sizable part of the existing audience would likely have accepted, if not desired that. However, after the feedback from Halo 5 (343 Industries, 2015), the developers were under pressure to provide something different. Yet, open world does not have to be the only way to attempt to do so. Nor is it as novel from a level design perspective as some developers would like to think.

Now to compare with another videogame that also revived an (even longer) franchise after a gap of six years. The Legend of Zelda: Breath of the Wild (Nintendo EPD, 2017) expands upon the action-adventure mechanics found in previous entries in which the hero character controlled by the player (canonically called Link) ventures to save the kingdom of Hyrule from the evil Ganon. This sees Link traverse Hyrule, defeating enemies, and collecting items to help reach and vanquish the evil Ganon and save Hyrule.

BotW is a videogame sequel that received seemingly universal praise, from its art style, gameplay, and environment. Whilst BotW is a very accomplished videogame, as a Zelda game, some long-time players found it sacrificed too much, but it can be respected for doing something different and sticking to it. Zelda games have often been recognisable for their dungeons and bosses, but BotW is not as concerned with these as its predecessors. Not that the dungeons are an afterthought (some of the puzzles are series' highs), but it created a visual problem that Infinite also suffers from.

With previous Zelda games, each dungeon was unique, whilst there have been multiple forest, water, and fire dungeons (often duplicated within a game) the visual design still meant that an individual entry one could distinguish the different dungeons based on the style alone. The same cannot be said for BotW as each of the four different divine beasts share the exact same look. The level design might be different but if a player is shown a generic screenshot from each at random, they would be hard-pressed to instantly know which dungeon it came from. This is exacerbated by the inclusion of the 120 shrines hidden all over Hyrule. The majority of these, in terms of what the player has to do are remarkable in their variety but share the same issue as the divine beasts as these also have a very similar visual style. When seeing the same background upwards of 50 times (let alone 120) calling it repetitive would be an understatement.

Hope you like Forerunner architecture, especially hallways

However, it is understandable why this is the case, it is unreasonable to expect Nintendo to create a different style for each of the different shrines, or even for the different types of shrines. Then again, despite

this understanding of why this same rationale was applied to the divine beasts, it would still have been beneficial if more could have been done to distinguish between them. Even if it was the bosses that were visually distinct, who are currently the most forgettable in the whole series.

Quick, guess which Devine Beast this is from.

This brings us back to Halo Infinite. What both these individual games share is an open world for the player to explore in between, to experiment with the mechanics. To create a believable or fleshed-out world takes a lot of effort and resources, which is why other areas become more economical in design.

BotW benefits the most from this, whilst there are core quests, the open nature of Hyrule in this instance feels truly open, as if the player is on an epic journey. Infinite's overworld feels like just one part of a halo ring and the player is arbitrarily restrained to that area. To help mask this are special targets to take out and bases to capture as well as a sprinkling of items to collect.

The side activities might act as a somewhat entertaining distraction, helped by the fact Infinite has the best feeling movement and shooting it's ever had (and Halo games have always felt good to play), so it does

not necessarily feel like a waste of time, even if these additions might seem like an excuse for padding out the campaign. Halo campaigns have never been particularly long, a good length to tell its story and provide memorable gameplay, but not long enough to outstay its welcome.

Infinite does use its open world to hide pieces of lore in the form of audio logs and there are "Spartan Cores" needed to level up Master Chief's other abilities. Aside from that, there is not much incentive to explore, and it would be understandable if a player wants to just go through the main missions without exploring the wild.

BotW might have nods and references to its past and could be argued to be a true realisation of the very first Zelda game, but it does manage to do something to truly distinguish itself from previous 3D Zelda games. Infinite on the other hand cannot decide if it wants to break the formula by going "open world" or be another Halo game due to its relatively linear missions interrupted by conversations from an AI character. That confusion lingers in the back of the mind, especially by the end. Whilst it could have been worse, given that somehow the two sides of the game are not at odds with one another, this is still a game of two halves. Trying to do something different, but without the confidence or ability to let go of its past.

The Crux of "newness" and "novelty"

Part of this current research addresses the distinction between "new" and "novelty". This might seem like a semantic difference but given the context of the wider research's focus on HF, this is a helpful and meaningful distinction to make. Below is a brief description I had previously written7 when initiating this research to begin to highlight the difference and its relevance to videogames:

> Supporting this is the distinction between novelty and new.

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7 This was prompted by a discussion with my thesis supervisors culminated in a follow up email pinning down my understanding of the distinction between the two term; novelty and new.

This helps to explain how videogames continue to be developed and released but at the same time argue that the form is not different enough to distinguish it as wholly different to what came before. That a lingering presence from the past is impacting the form.

What this means is that the videogames medium can still be stated as providing new pieces of media, but those media pieces lack the novelty that was previously more commonly found. Novelty can apply to both the core (mechanics) and shell (aesthetics) which would previously result in a form that would provide revolutionary change on a more continual basis. Change that would distinguish one era (or console generation) apart from another.

Expanding on those two paragraphs it will be argued that a videogame can be both novel and new but cannot be novel without being new; or in other words, a videogame can be new without being novel.

Why though is such a distinction needed? As previously highlighted with the identification of HF, there is a shortage of innovation (or revolutionary change). Instead, the medium is looking towards the past for inspiration as well as a source for alternative elements to compensate for the lack of revolutionary change but still enough revisions to either provide evolutionary change (or the illusion of) or mask the absence of meaningful change via something different to other contemporary releases. As will now be discussed through the two case studies there are different overarching approaches to overcoming the inability of providing revolutionary change to videogame form while still sustaining itself as a medium and as an industry.

BotW satisfies both categories, as it is new (the latest entry in the series and helped to launch a new system) and is also novel in how it emphasises and enables exploration and freedom in a way that not only distinguishes it from other Zelda games but also other open world games. Yet, it too cannot escape its hauntological form – as will be explained later in this section – but can exploit the strong ties with previous entries further demonstrating (via a different approach to Obra Dinn) that HF need not automatically be a hindrance in

providing something different.

Infinite is not as unique as 343 Industries would have players believe. For a game developed by 343 it stands out from the previous two titles (Halo 4 and 5), but the nearest comparison in terms of level design was ODST which was developed by Bungie. Yet this is still a Halo game sequel (originally planned as an expansion to Halo 3), therefore elements are present from previous entries. Infinite meanwhile does take the open world concept further, expanding upon the intentional claustrophobic city of ODST and providing open spaces from the surface of the Zeta Halo ringworld. It is in the execution of the open world where Infinite's novelty is questioned. It was previously mentioned how this is underutilised, here special targets and bases to capture are used to mask the emptiness of the open world. Zeta Halo as a play space is like many other open world first-person shooters (FPS') with areas of interest dotted around the map giving players something to do. This approach is certainly new for the franchise (for the most part), as well as for 343 Industries, but that does not distinguish it as something novel within the videogames medium as a whole.

Does every videogame need to be novel? No, and it is unlikely that this would be achievable. This essay has neglected to make abundantly clear what new is. If Halo Infinite can be considered new, then what does not count as new? This is surprisingly difficult, which is ironic considering the surrounding research - to put it (perhaps too) simply - argues that videogames are not creating anything new anymore. Is a port [re-release] of a videogame (whether that be a current videogame or an older videogame) new? Technically, yes as it is new to whatever platform it is being released on, but the game itself is not, so it would be argued that this would not count as new.

Now that it has been clarified, as whether these two examples can be considered "new" and/or "novel", we can determine how to address them in the context of HF. Both videogames by their very nature of being the latest entry in a long-running franchise are ontologically predisposed to presenting HF. Past videogame form will certainly

haunt these videogames, with past elements lingering during development. These two examples help show how HF presents itself differently and does not preclude such pieces of media from providing new or novel experiences.

Halo Infinite narratively is a direct sequel to both Halo 5 and Real-Time-Strategy (RTS) game Halo Wars 2, but it also acknowledges events that precede those from across not only other past Halo games but also novels as well. Infinite is unable to escape its narrative past, despite inelegant attempts to dismiss it to simplify the overarching narrative, resulting in a messy and at times confusing plot. There are elements that players will expect from a Halo game and that developers presume need to be included. Despite not naming it Halo "6" Infinite does not present a clean start for the series, nor does it act as a "requel" (Lizardi, 2015). Rather, despite the significant push to do something new with the franchise by breaking up the flow of the gameplay and providing players with (the illusion of) freedom, it is still held back by the very elements that make it a franchise. To abandon those though is not just a matter of difficulty, but incompatibility. The absence would be felt throughout the whole experience creating a sense of loss that would envelop the videogame. Regardless, a sense of loss is inevitable in this instance. Returning players could experience a perceived sense of loss for what they expected from a new entry which is not present. Whilst new players must untangle the references to past entries which linger throughout the experience.

This is supported by Ford (2021) who argues that 'the present is suffused with the presence of absence, the haunting of the past that is sometimes literal and crystallised, pointing to a broader spectrality'. Ford also mentions the irretrievability of the past, yet, in this instance that is not the issue. The past is all too accessible, I argue that it is because of this and a seeming desire to attempt to escape – or move on from – the past that has seen this haunting become more problematic. This has resulted in identifying an expansion upon Ford's distinction of 'modern sense of nostalgia' which represents the loss of the past, whereas crucially 'hauntology remarks upon the loss and absence of

the past simultaneously with its presence in the present'. Therefore, in the instance of Infinite, the simultaneity of the presence and loss leads to the establishment of HF. This is a deliberate development but with unintended consequences.

BotW is not afflicted with the same existential setbacks as Halo Infinite. Whilst it is (as previously mentioned) the latest in a long-running franchise the majority of entries are stand-alone. What connects each entry are the characters, locations, items, and themes. What they do not share is a singular grand narrative that is interwoven between all entries. This gives each new entry a degree of freedom, as it is not beholden to whether or not a character present in a previous entry lived or died or even if an entire Kingdom was lost to the bottom of the ocean. Other elements though have impacted the form of new entries, notably the gameplay loop present. Conventions were prevalent across multiple entries (referred to by some players and critics as the "Zelda formula" (Rosenberg, 2021) providing a familiar gameplay loop that could be found in most Zelda games, such as the way dungeons were designed, how items facilitated advancement, and the methods used to defeat bosses. This was particularly evident with Twilight Princess which shared many similarities with Ocarina of Time. These became long-term tropes of the franchise and eventually were considered by reviewers and players as crutches holding the franchise back. The problem the developers faced was how to move beyond this without losing the feeling of a Zelda game.

BotW was able to largely achieve this by abandoning much of the gameplay loop that previously defined Zelda games. No longer was there a set order in which the player advances through dungeons. Nor are there key items the player is given throughout their journey to navigate specific dungeons and defeat certain bosses. Instead, the player is given the core items they need in the first area and then set free to explore as they see fit. The resulting new gameplay loop (for the franchise) separates it from its predecessors, but what distinguishes it from other third-person action-adventure videogames are the other elements that are iconic to the Zelda franchise. The iconography permeates the entire game as a necessity. The icons range

from across the entirety of the franchise, including promotional material supporting the game's "nostalgic shell"8. The execution of this serves different purposes; to enrich the game world, to help affirm its contextualisation within the franchise, knowing nods to long-time players, and recognition of the franchise's history amongst its developers.

Does this mean that a videogame series' past (and/or nostalgia for it) is something inescapable or a requirement when creating entries within an existing franchise? There is a Proppian structure across the Zelda franchise which can be tracked alongside the narratives found in the different games (Propp, 1968; Sweeting, 2017). Whilst BotW does require past Zelda iconography in its role of continuing the franchise, the Proppian elements also remain, and the combination contributes to the HF present underneath the veneer of newness and novelty that BotW provides. This is not a hindrance, rather it is an identification that HF does not necessitate positive or negative impact but is the presence of the past lingering upon contemporary form. In this instance it does not hold BotW back, rather, it helps to facilitate it. Making it more than another open world game and strengthening it with elements from across the franchise, with a wide array of references from past entries that not only appeal to long-time players but also strengthens the digital world that players explore. Without the lingering of past elements, this new videogame would lack cultural caché and recognition making it more difficult to market. It could also impact internal funding available, as the industry is averse to financing large new projects linked to unknown IP as it is a very risky exercise.

The essay over the past two sections has focused on two initially similar but ultimately different examples that present HF. Both are new videogames which make the identification of HF particularly illuminating. Both are also beneficial in this instance as neither is

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8 "Nostalgic shell" builds upon Frans Mäyrä's (2008, p. 17) "core and shell" model. With core referring to gameplay and shell to representation (aesthetics) of a videogame. I have created the term nostalgic shell to refer to aesthetic elements in a videogame that deliberately remediate past videogame (or media) visual or sound attributes as part of its contemporary aesthetic. "Nostalgic core" would refer to mechanics in a contemporary videogame that deliberately those found in past videogames.

overtly nostalgic. What about videogame remakes and remasters though? A new "product" but the videogame itself is not strictly new. To understand this, the essay will be applying the "Ship of Theseus" to identify the essence of new within these media products.

Ship of Theseus (Theseus' Paradox)

Remakes and Remasters – a clear distinction

The philosophical thought experiment referred to as the "Ship of Theseus", also known as "Theseus' Paradox" (which will be the term used throughout the rest of this essay) in short explores the idea of whether something can be considered new or not, if after replacements have been made it still resembles the original.

In more detail, Theseus' Paradox refers to a ship on which Theseus travelled to their destination. During the journey, the original planks of wood were replaced due to general wear and tear with new stronger wood. By the end of the journey, whilst the ship resembled the ship that originally began its journey, it was no longer the same ship in terms of the physical components of its construction. This led to the philosophical question, and therefore debate, of whether this ship remained the same or if it is considered a new ship.

Earlier in this essay, the relevancy of "Theseus' Paradox" about the connection to videogame remasters and remakes was alluded to. In that section, it was primarily further exploring the differences between "new" and "novelty", which interestingly (but not surprisingly) led to Theseus' Paradox given the form that these types of videogames comprise. A remaster would not be considered a new videogame but can be considered a new product. This is because it is likely to be on a new platform and technically serve a slightly different function to what came before but otherwise is the same game. For example, the HD remaster of No More Heroes (Grasshopper Manufacture, 2021) for Nintendo Switch is the same game as what was originally released on the Nintendo Wii a decade beforehand, albeit with HD graphics and improved frame rate. Otherwise, the gameplay, mechanics, level

design, aesthetic style, and soundtrack/sound effects remain the same (with a couple of exceptions).

A remake though is a different proposition. For the time being, I will focus on new rather than confusing matters by addressing novelty. Like Theseus' Paradox, a videogame remake will resemble the original, as the core will remain mostly intact (usually aside from some quality-of-life updates), and the aesthetics will also bear resemblance to the original style (but recreated with more fidelity). Not all remakes are created equally though, and this makes it difficult to provide a definitive statement concerning Theseus' Paradox and remakes. If we take Shadow of the Colossus (Team Ico and Japan Studio, 2005) as an example, the PlayStation 4 remake very closely resembles the original PlayStation 2 videogame. So much so that if one were to look at a screenshot of the two side-by-side from a distance they would be forgiven for thinking it was the same image. Of course, up close the differences become apparent in terms of fidelity, but ultimately, there is no mistaking that these are the same videogame.

Screenshot from a Sony promotional trailer for *Shadow of the Colossus* shows how intentionally similar each version is whilst also improving the fidelity.

This would then make us inclined to state that this closely aligns with the same problem identified with Theseus' Paradox. Shadow of the Colossus (Bluepoint Games, 2018) has had all of its "components"

replaced with updated and improved ones, but what we can see looks and plays the same as the original. Can we still call this remake new?

Considering how this is a commercial product that has been packaged and sold (with the original only purchasable second hand) it is new in that sense but considering when a film goes from DVD to Blu-Ray the film itself is rarely new (unless perhaps it is something like a Director's Cut) then this can be disregarded. But where it gets more complicated is that the remake has taken considerable person-hours in which this version has been newly crafted. The level design, gameplay mechanics, and aesthetic style might remain the same, but otherwise (in this instance) many elements have been remade from scratch.

This also brings us to the same conclusion that emerges from the original Theseus' Paradox. A similar process has taken place as with the ship. The caveat here though is that Theseus' ship was consistently repaired, was Shadow of the Colossus repaired? No, as it was not broken, yet in its former form, it was not possible to continue to "operate" it on modern hardware. The intention behind this then is not to provide something new (or novel), rather it is about providing access in the present to something that otherwise might be lost to the past (which also brings aspects of hauntology to mind and therefore nostalgia as a side effect).

A remaster certainly acts similarly, and in keeping with Theseus' Paradox thought experiment is about ending up with something that resembles the original. The difference though is that nothing (or certainly very little) has been replaced, just polished.

Like all good thought experiments, Theseus' Paradox will have academics arguing in circles, but it does help us to better consider whether remakes are new or not. I have aligned on the side that a remaster is not new because it does little to distinguish itself from the original. It is like a classic car that has a new coat of (appropriate) paint. Designed to look like it did when it was first made but in a contemporary setting rather than having been stuck rusting away. Or, another way of thinking, as if it had been hermetically sealed. Whereas

a videogame remaster is applying rose-tinted glasses to the game itself to live up to players' memories. In the case of the ship, a remaster would be considered the original.

A remake though is where this is trickier. For now, this essay will side with the argument that it is new, as many elements have been replaced, the visual fidelity has been improved over the original and the game will likely function better. Sticking with the vintage car analogy, it is like replacing the engine with one from this century so that it is more reliable. Bringing it back to the ship paradox we would therefore consider it to be new.

However, whilst a remake might be deemed new, it certainly does not qualify as novel for it retains too many features of the original. "New and improved" is not meaningfully different and that is the crux of understanding the role of remakes.

East and West – rebuild or preserve

Expanding upon the existing examination of Theseus' Paradox is an additional exploration driven by political philosopher Thomas Hobbes' expansion (Britannica, 2021). This initially seems like a further complication, as it introduces the assumption that the old planks of the ship are saved, rather than just discarded. A whole other ship is put together using the previous planks. It is constructed in the same way resulting in a duplicate version of the original ship.

This is where the crux of this extended experiment comes in. Now we have another ship, but, as it is made from all the original parts, does that make this the original? The inclination is to say yes it does, if all the original discarded parts were used to recreate it. This has similarities to something being taken apart completely and re-composed. However, what does this make the version that is seemingly identical but made from new parts? A recreation? A replica?

This is the distinction that needs to be made when referencing the past. Are you recreating it as accurately as possible (using the same/ close materials and techniques) or are you creating an authentic

product (one that looks very similar but has made meaningful concessions to improve the quality)?

Such a choice might differ depending on who is being asked, the producer or the consumer. Consumers might say they want an accurate recreation of something from the past (restorative nostalgia (Boym, 2002, p. 41)) but actually, they do not want the negative aspects (components or connotations) that come with them (more akin to reflective nostalgia (Boym, 2002, p. 49)). Likewise, producers (in this instance any kind of creator) might want to create something as close to the original as possible, but production techniques, feasibility, or cost of doing so might not be feasible, therefore changes are made. It is important to note that the explanation given will not always play out that way, but it is helpful to note that intentions and reality when it comes to creating products can have such links to the past.

When looking back at other texts on the Ship of Theseus one example came up that is particularly relevant to the research that for a while was influencing the earlier thinking on nostalgia and videogames (especially the distinction between East and West) by myself but have struggled to fully integrate meaningfully.

This example is the Ise Jingu's Naiku shrine which – in Shinto tradition – is completely rebuilt using new wood every twenty years to the same specifications and similar construction techniques (Levin, 2020, p. 205). As of writing the shrine has been rebuilt 62 times (Jingushicho, no date) meaning that this process has been going on for over a millennium. It is not difficult to understand why this would be included as an example for the Ship of Theseus, because it is a living example that puts the thought experiment into practice.

In the West, a historic building will often (but not always) be preserved in its already decayed state. Whereas this Shinto shrine suggests that in the East, the thing itself is not the important part that needs to be preserved, rather it is the idea that needs to be preserved, which can only be done by the ritualistic rebuilding to maintain the

passing on of knowledge and skills between generations, so that they are not lost to time.

It is this distinction that leads one to think about how this could apply specifically to videogames. Is there an identifiable difference between how the two sides approach remasters and remakes? What about the presence of nostalgia in contemporary videogames? Can the resultant hauntological videogame form be understood differently or a variation in trajectory to this point be identified? For now, a question for another paper and further research.

Conclusion

This essay has introduced the concept of "Hauntological Form", a means of applying the notion of hauntology to videogames to understand what is happening to contemporary form. Hauntology in its relationship with videogames is still in a nascent stage but this has been supported by expanding upon the insightful work done by Mark Fisher and Simon Reynolds in the context of the music medium. This has enabled similarities to be identified and expanded upon more efficiently as well as providing an understanding that, whilst predominantly focusing on videogames, can also apply to other digital mediums (I also include contemporary music and film in this distinction). Something I won't exploring further in this text, but will be exploring in an upcoming text.

Whilst nostalgia has also been increasingly identified in relation to videogames (Sloan, 2015, 2016), this alone does not address the wider videogame form, especially in the many instances which are not overtly nostalgic, such as Return of the Obra Dinn explored earlier in this paper. This essay has been influenced by Simon Reynolds' exploration of nostalgia and has consequently been able to begin to reinterpret nostalgia. In the context of contemporary videogames, shifting the view of nostalgia beyond one that aims to elicit a positive experience in the player (Sloan, 2016) (which itself shifted the understanding of nostalgia from that of a sickness of longing for home) to identifying nostalgia as a resource, one which capitalism

– and here the videogames industry – can exploit. Yet, like most
resources, nostalgia is finite. The source can come from remediating
and reusing past elements, how long though can that be sustained?
Can this be expended? After which, what happens then? The solution
is not to create something new as the shrinkage of novelty is an
issue in the videogames medium and the supply of "newness" is via
HF from its process of utilising past elements to mask the lack of
innovation and to offer difference between products. This poses the
question, what happens when the recycling of past videogame form
has been exhausted? Would this result in another industry crash
at the mainstream level? Would this be limited to the traditional
videogame markets (North America, Western Europe, and Japan)?
What about China (and other East Asian markets) where videogame
form is dominated by PC and mobile which by their very nature are
determined by Internet access? This would be a future research topic to
determine the presence of HF beyond the traditional markets.

Going beyond reinterpreting nostalgia is addressing the notion of
how videogame players can be nostalgic for videogames that are
increasingly accessible. Applying what Reynolds refers to as the
process of something losing its 'lost-ness' – we need to consider
how the videogames industry addresses the increase in access that
is often provided through digital distribution of older videogames.
As mentioned, nostalgia (specifically the recent past) has become
a resource (a commodity) to be exploited. That also means it is
something to be controlled. Nostalgia is less about loss and instead
connected to a certain time in an individual's life. This is where
"Relative Nostalgia" is appropriate and can be considered the new
form of nostalgia, as it does not need to be tied to a specific time (or
place) collectively. Rather, instead, it leans more to the individual,
meaning that producers can take a "scattershot" approach to how they
now release content with nostalgic sensibilities.

However, that access to past media will often be on the publisher's
terms. If they consider it beneficial to control supply, then they will.
Nintendo continues to do this – as seen with the limited release for
Super Mario 3D All-Stars in 2020 – and shows no sign of moving

away from this strategy.

It is not just access to videogame titles/releases from the past, but also mechanics and aesthetics – which I examine under the concepts of nostalgic core and shell respectively. Further highlighting the presence and sometimes deliberate use of what can be considered nostalgic elements from the past of the videogames medium. This further exemplifies the use of videogame nostalgia as a resource and contributes to the explanation and understanding of HF Resulting in a near-simulacra of past videogames and their form.

The Return of the Obra Dinn is a helpful example to demonstrate HF as it incorporates the four elements that I identify that individually contribute to the concept, those being; past media form, historical/past events, in-game past events (can include narrative), or personal events (from the creator or the audience). Although HF does not require all four elements, it can be a mix, or even just one, as long as it is prominent enough. A singular reference to the past (real or from media) would not be enough to consider an entire videogame to represent HF. This also helps academics and cultural critics go beyond pointing out references as an attempt to identify the presence of nostalgia. HF is not purely about a "fawning dedication" to the past as it distinguishes itself from being an example of nostalgia. Instead, nostalgia has become a symptom of HF. Although what about when creators deliberately create a pastiche of the past? The answer is that HF still attempts to provide a contemporary experience. It is not stuck in the past, but it is greatly influenced and/or inspired by it. Whereas those deliberately recreating the past or excessively replicating it are creating a pastiche.

HF does not even have to be intentional on the part of the creators. This is because I argue that elements of HF (and especially in contemporary videogame design) are haunted by past form, as well as processes and methods. Mainstream videogame form is unable to escape elements of past videogame form. Relatively recent (from the early 21st century) conventions/design approaches are intrinsic, even if the technology behind these videogames has evolved over the years.

Whilst examples such as Obra Dinn demonstrate how all elements of HF can be present, it is more common for videogames to exhibit one or two of those elements. These elements also help to identify whether a videogame is providing a "new" experience and/or a "novel" experience. Via case studies of Halo Infinite and The Legend of Zelda: Breath of the Wild, I examined how both videogames which are the latest entries in long-running franchises differ in the experiences they provide in this context. Both are new products but the extent that they offer novelty is where they differ, as is how HF presents itself. Infinite provides newness through its attempted shift towards an open world environment but is held back by reluctance by the developers to distance the game too far from what came before. Haunted by the expansive narrative and unable to provide enough of a blank slate for new players yet disparaging for returning players who might expect more from the two-decade-long story. It has also been alluded to during an interview with Joseph Staten – previously a lead writer for the first three Halo games who was brought back to be creative director for Infinite -that a 'Zelda-like experience' was attempted during production (Bass and Schreier, 2021). Suggesting that the success of BotW's novel approach has already begun to be remediated, albeit with mixed results.

However, BotW provides a different – seemingly more intentional – implementation of the elements found in HF. Like Infinite, it also expands the open world nature of the game which distinguishes it from previous entries, although its execution is more effective on the whole compared to Infinite. On the surface, BotW offers both a new and novel experience that is not only an outlier within the franchise but also helps it stand out amongst the other open world videogames. Yet, underneath, there is a clear adherence to the franchises' past, the rationale benefitting long-time players as well as providing content and world-building.

HF has previously been mentioned as something that is not inherently a hindrance to videogames. However, that does not mean that there are not aspects that are associated with HF that can be considered negative. Although, this is not intrinsic to HF, rather, it is how the

specific videogame has been developed. In the case of Infinite, the connection to the franchise's past and its disjointed narrative and links to past games likely emanate from the drawn-out development, and turnover of key creative leads (Wales, 2019), among other issues.

Having such a distinction can help to understand and identify where change is still occurring in the medium whilst still acknowledging the shortage or slowdown in innovation (or revolutionary change). HF also provides a more measured overview of what is happening to the medium. Videogame developer Kyle Kukshtel states that 'culture has stopped' when considering the current state of mainstream videogames (Kukshtel, 2022; Stuart, 2022), a sentiment that echoes Fisher's and Reynold's observations of popular music. Therefore, the presence of HF exists to help mask the lack of revolutionary change whilst also at times enabling some evolutionary change to occur to prevent the mainstream industry from crashing again.

Not all videogame releases need to be novel, nor would it be practical either. Newness is still possible, but increasingly this is via the presence of HF. Utilising elements of the past to provide the appearance of "newness" to justify the release of the product. Novelty can also be an outcome as well but is not as reliant upon HF. The number of videogame remasters and remakes have been increasing over the past decade (Nielsen, 2021; Statt, 2021). To help understand this as well as how it relates to the definitions of "new" and "novelty" used in this essay, the thought experiment of the "Ship of Theseus" is used. Neither remasters nor remakes are novel because they are not bringing forward something different that has not come before, quite literally the opposite, they are bringing something back from the past, often in its entirety. However, a remake can be considered new, because of the amount of work that goes into these products. Often assets are recreated, and new game engines are used. The ideas might not be new, but the digital "material" is.

This is in line with another understanding of a "Ship of Theseus" type thought experiment, one put into practice. With the Ise Jingu Naiku shrine rebuilt every twenty years, it cannot be considered a novel

building, but the building itself is "new" as it is literally constructed out of new materials each time. Does that make it better than what came before? The techniques remain the same, but perhaps it has become more efficient over the centuries? Tools will have likely changed and perhaps some components are no longer available. Some techniques might have been lost to time. Therefore, this provides possible symbolism. The process (and the developers) developing remakes will likely change and developers will actively attempt to improve elements they consider requiring improvement, but there is a fine line that must be adhered to otherwise the result becomes a recreation/copy or homage. Whereas a remaster has smaller aims and instead attempts to polish up the original, otherwise leaving it mostly intact. This is still one step above a rerelease though. Remasters are products for either a new audience or an existing audience wanting to reclaim something from their past. A rerelease would be the most straightforward (although not without its challenges) option for publishers to provide this dose of nostalgia to consumers, but a remaster makes enough adjustments to align the videogame with a player's memory of it rather than how it would be today.

Which is not unlike the Ike Jingu Naiku shrine. To renovate it would be one option, but this limits what can be accomplished and the deterioration of the structure would become apparent. Whereas, rebuilding the structure every twenty years keeps it relevant, not some relic that has to be preserved. Instead, the structure itself becomes part of a wider tradition contributing to contemporary culture. Can the same apply to videogames? Not for every videogame no, but the idea of not letting the culture that exists around videogames be lost to time due to technological obsolescence is important. Remasters and remakes are the more overt means of doing so, but HF enables past form to permeate into contemporary form. Thus, serving two purposes, retaining elements of past form (and associated culture) and providing content to sustain contemporary form as innovation slows down.

Although, considering the previous arguments mentioned around newness and novelty, just because new media is being created, does not

mean that novel forms are also created. This is potentially the crux to understanding the role of hauntology upon media form, or rather, HF. It is a means to help enable the longevity of a medium that otherwise would run out of momentum, alongside the struggles faced as a result of the difficulties that late-stage capitalism brings. HF provides the illusion of new, which is necessary for the capitalist system to continue and sustain itself, but this is not enough to offer revolutionary change. It is supported by the desire, not only of the system but also of society (consumers) of clinging to the past. Not just because it can be presented as an idealised vision, but because an idealised (perhaps utopic) future is no longer believable. Leaving an unknowable future, and that notion scares people (Curtis, 2021). Therefore, it is not surprising that the familiar, and therefore safe, is what is clung to. It is not simply returning to the past for the sake of nostalgia. Instead, nostalgia is just the by-product of hauntological form.

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Intimate entanglements: breathing, listening and touching

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Abstract

In this essay, I will be asking whether a deepening awareness of one's breath can create the circumstances where we can attend, not only to our bodies, but to the bodies of others, to animals, the oceans, nature, other cultures and on, and can such a consideration contribute to "co-shaping a notion of care in more than human worlds" (2017, 95). Through an examination of the video, *Breathe Wind into Me: Chapter 1* (Walker, 2019),[1] which was first exhibited as part of a 2-screen and sound installation at Fabrica Arts Gallery, Brighton in January 2019, I will be considering a respiratory approach to philosophy: an embodied relationship that extends to physical relations with the enveloping atmosphere, and to communicable states of affect and the shared space. I will also be discussing touch, and the Buddhist concept of loving kindness, to expand a feminist dialogue of care as a necessary entry point into an embodied and practical ethics of belonging and moving through the world.

Introduction

Breathe Wind into Me: Chapter 1 (Walker, 2019), was originally part of a 2-screen and sound installation exhibited at Fabrica Arts Gallery in Brighton. In the video and through its public sharing, I was exploring whether it was possible to be sensitive to the needs of the other through our breathing and can a deepening awareness of one's breath create the circumstances where we can attend, not only to our bodies, but to the bodies of others, to animals, the oceans, nature, other cultures and on.

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1   https://vimeo.com/685539949

For this essay, I will expand the original intention behind the making of the video and establish a relationship between the video, the breath and to communicable states of affect, focusing on breathing as a making and unmaking of the world. In addition, I will also be considering a respiratory approach to philosophy, an embodied relationship that extends to physical relations with the enveloping atmosphere, which Kathleen Stewart aptly describes as "atmospheric attunement" (2010, p. 4) —an enchanted place of affective communication and attachment. Every breath we take is an entering into the world, a bringing of ourselves into the space of presence, a carrying or giving of our very being to be included in life's process. It is also a daring to come in contact with the infinite finitude of another.

Loving kindness

Underpinning the video (Breathe Wind into Me: Chapter 1), and all the work that I make is a feminist ecological theory that explores matters of care, listening, and reflection—a critical inquiry that promotes equality across all genders and a view of the world that respects organic processes, holistic connections and the value of intuitive and collaborative action. Like Maria Puig de la Bellacasa, I see care as a necessary entry point into an embodied and practical ethics of moving through the world.

> Thinking care as inseparably a vital affective state, an ethical obligation and a practical labour has been from very early on at the heart of feminist social sciences and political theory; an endeavour that has become more visible with increased interest in the 'ethics of care' (2012, p. 197).

In Haraway's words: "[i]t matters what ideas we use to think other ideas […] what thoughts think thoughts." (Haraway, 2016, p. 34-35). To unravel what I mean by a notion of care, I want to briefly begin with the Buddhist concept of Loving Kindness or Mett. It is

Fig. 1 - Video still: Breathe Wind into Me, Installation, 2019.

Fig. 2 - Video still: Breathe Wind into Me, Installation, 2019.

the first of the Brahma-vihara[2] or the four sublime states taught by the Buddha as a way of being in relation to one another. Brahma translates as the sublime being, vihara the abode or the dwelling place for the mind. Loving Kindness, along with Compassion, Sympathetic Joy and Equanimity are believed to be the great removers of tension, peace-makers in social conflict, and healers of wounds suffered in the struggle of existence.[3]
In Nyanaponika Thera's words these 4 boundless states:

> […] level social barriers, build harmonious communities, awaken slumbering magnanimity long forgotten, revive joy and hope long abandoned, and promote human brotherhood against the forces of egotism. (1998, p. 1-2)

Acts of kindness are also contagious. In 2000, A General Theory of Love by Thomas Lewis et al., popularised the concept of limbic resonance — the capacity for empathy and non-verbal connection. They argued that our nervous systems are not self-contained, but rather demonstrably attuned to those around us with whom we share a close connection.

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2 The Brahma vihara: Metta, Karuna, Mudita, Upekkha.

3 There have been various studies on the health benefits of *loving kindness*, for example:
o   Carson et al. (2005), undertook a pilot study for an eight-week loving kindness program for patients with chronic lower back pain. Those who participated on the loving kindness course experienced improvements in pain and an increased capability to deal with psychological distress, the patients who practiced the most benefitted the most.
o   Goleman, Davidson et al., (2017) describe how loving kindness meditation can enable us to respond compassionately to the suffering of others. They describe how noticing, empathising and actually helping someone is stimulated by practicing a loving kindness meditation. They propose that the strength of positive effects from the early days of loving kindness or compassion meditation may signal a biological preparedness for goodness.
o   August 2021, BBC Radio 4 launched the kindness test in partnership with a team of researchers headed up by Professor Robin Banerjee based at the University of Sussex. It was the first ever public science project on Kindness, with over sixty thousand participants from across the world. The aim of the research was to learn more about how people's attitudes might vary across different groups, and how experiences of kindness might relate to psychological and social health and well-being. The first episode of Anatomy of Kindness was aired on March 9th, 2022, and is available with other episodes on BBC Radio 4.

It is limbic resonance that makes looking into the face of another emotionally responsive creature a multi-layered experience. Instead of seeing a pair of eyes as two bespeckled buttons, when we look into the ocular portals to a limbic brain our vision goes deep: the sensations multiply, just as two mirrors placed in opposition create a shimmering ricochet of reflections whose depths recede into infinity. Eye contact, although it occurs over a gap of yards, is not a metaphor. When we meet the gaze of another, two nervous systems achieve a palpable and intimate apposition. (2000, p. 63)

In other words, we attune ourselves to the other, to the breath of the other. To paraphrase Juhani Pallasmaa we have an intuitive and emotive capacity, largely unconscious, biologically and instinctively determined. An unfocused peripheral perception which is "held together by constant active scanning by the senses, movement and a creative fusion and interpretation of these inherently dissociated percepts through memory." (2014, p. 233)

To breathe: "Art must give suddenly, all at once, the shock of life, the sensation of breathing" (Brancusi, Shane, 1989, p. 67). The video, Breathe Wind into Me: Chapter 1 (Walker, 2019), functions on a number of inter-related layers. It is an entangled tale of interference, woven through and enfolded in the other; it is methodological abundance, which embraces autoethnography and connects to Michel Serres' notion of desmology, which is "not so much the state of things but the relations between them" (2002, p. 204). Writing was the entry point into this entanglement—a process of exploration, of finding something out, a continual becoming; locating, in the in-between fragmented place, something sensed but not yet known. It is as Jacques Derrida writes, "entanglement or interlacing […] a binding-unbinding interlacing […] toward which we are incessantly and properly being led back" (2007, p. 60). The text for the video was taken from a series of journal entries: a loosely, flowing, stream of consciousness that questions what arises physically and philosophically when life is stripped back to the bare essentials. What are the consequences when the breath is interrupted, or ruptured as in trauma? The words are

layered on to the sounds of breathing, of life and its happenings. The imagery was collected over 2-years and references the ordinariness of a life that once witnessed and then captured on video leans into the extra-ordinary or the enchanted, by nature of the attention placed upon it.

Access into this entangled space requires a specific type of listening that expands upon the qualitative, relational, voice-centred, feminist methodology of listening as suggested by Natasha Mauthner, (2017, p. 65). It is a listening to the inner workings of an entangled breath within the self—the embodied self, a body that breathes. For as Helene Cixous writes, if you censor breath, you also censor the body and speech (1976). She demands: "Write your self. Your body must be heard. Only then will the immense resources of the unconscious spring forth" (1976, p. 880, italics mine). It is a listening in to the in-between space of entanglement that verges into the invisible, the full to expanding space of things not fully conscious. A cut-out consciousness occupied by the past, and a future not yet realised. A container, full to overflowing of all the potential of things to come, as well as the memories and the traces of connecting and disconnecting to the world. The action of writing is the beginning of disentanglement. I write myself into the word to gain entry into an alternative space and dimension. For I, woman, must put myself "into the text-as into the world and into history-by [my] own movement' (Cixous, 1976, p. 875, italics mine). Encouraged by Cixous, when she utters: '[w]rite, let no one hold you back, let nothing stop you: not man; not imbecilic capitalist machinery, […]' (1976, p. 877) I circumvent the inner conditioning, and follow a thought onto the page, a "female-sexed text" (ibid) that leads me both away and back to my body. In this way, I weave a pathway to the visual and sound work, creating new meaning, deconstructing and exploring new forums to disseminate the analysis of the unknown. The process of uncovering what lies dormant is meandering and demands patience and constant returning to the original site—the body. Far from being completed, this work marks the beginning of research that links the breath to the voice, to language, to the movement of water and to bodies moving through water. It is a visual and auditory exploration of

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the inextricable link between the breath, sound and language, to the balancing of the air above the surface with the subconscious depths below.

Breathing is essential to the life of mammals. The human body can survive for 3-days without water, months without food, but only moments without oxygen. The video is a reclaiming of the breath as a starting point to investigate the ruptured inhale and exhale of trauma and re-establish a mode of care that begins with the body and the self. It is a seeking to create an interstitial space where traumatic remembering exists on the borders of exposure and concealment, absence and presence.

In the video the breath is audible, it moves with my voice, spills from me, every particle expanding the boundaries of skin to be swallowed by the technology leaking into the exhibition space and into the body of the other. It is through a giving of the self that the breath and the voice create a space outside of self. Once departed there is little control over how that voice, the breath is heard or received. My voice and the sounds of my breath are divorced entities, having departed from my body they exist in their own right.

Lisa Blackman discusses the immaterial body across the neurosciences, physiology, media and cultural studies, and psychoanalysis (2012). She writes about a paradoxical voice that is neither entirely inside nor outside, self or other, material or immaterial. "It is neither fully defined by matter nor completely beyond it" (p. 138). It is matter in circulation. Listening, also, is not confined to the interior. To quote Mark Peter Wright: "It suggests a listening out or otherwise of hard knowledge and a listening in to ethico-spectral becomings" (2017, p. 25). We are both inside and outside in the process of listening. The external sounds finding their way into the body, subsequently means to be open without as well as within. Listening brings me into proximity with the other. It establishes an interconnected space of relation. The sounds of my breath, of me breathing bridges the divide and connects to the breath of the other on such a deep level that a singular breathing becomes indecipherable. But there is an art to

listening—listening well. It is to be actively engaged with everything outside, locating oneself in the surrounding space, while aware of sound's penetration, the transition across the porous border of being and the affective response as the sounds, the voice moves through the body. It can hurt to listen. It can also be a blessed relief. Through listening I can consciously align my breath to the breath of the other, a loop of intertwined entanglement, a contagious exchange. I move beyond my body, the edges of my body to the body of the other, as Donna Haraway asks why should our bodies end at the skin? (1991, p. 178).

Through the making of Breathe Wind into Me, I become one with the work. The toil of my breath is embedded within the sounds and the imagery. I impart my breath to the audience, to share, to breathe along with, to feel the interruptions, the constant inhales without release, the discomfort of being told to breathe, of being reminded of our breath, of being human. Trauma is the ruptured breath, the interrupted breath, I listen to where mine is interrupted, pause, realign, begin again. There is space for the viewer to follow and register their own breathing — through the imagery and the other familiar sounds that are woven through the narrating voice. There is laughter, singing, the rumble of something in the distance. And still I breathe. Is it possible then that an alternative world could rest on a new culture of breath as the basic element of inter-connectedness? One where we breathe with the other and breathe through our differences. Can a video such as Breathe Wind into Me, guide an audience into a deeper relationship with themselves, and with others?

For Luce Irigaray the breath is "the first autonomous gesture of the living human being" (1999, p. 3). In the third phase of her philosophy she links the breath with silence and listening and argues for an ethical becoming to direct us towards respect for ourselves, each other and the world we live in. It is a silence that is attentive to others. The original place in our bodies and selves reserved for the welcome of the other, for respect for the other despite our differences. Silence is the inner 'speaking' of the threshold. The inner listening to the breath.

In I Love to You (1996), she writes:

> This touching upon asks for silence. [. . .] This touching upon
> needs attentiveness to the sensible qualities of speech, to voice
> tone, to the modulations and rhythm of discourse, to the
> semantic and phonic choice of words. [. . .] The touching upon
> cannot be appropriation, capture, seduction – to me, toward
> me, in me – nor envelopment. Rather it is to be the other's
> awakening to him/her and a call to co-exist, to act together and
> dialogue. (Irigaray, 1996, p. 125)[4]

This brings me to the concept of haptic breath, a concept which
builds on Irigaray's inner place of being with Laura Marks, and
Giles Deleuze's notion of haptic visuality [5] — a way of seeing or
knowing which exceeds sensory conventions. Marks' notion of the
haptic is different from that of Deleuze, where the eye is polyvalent
and transitory addressing the "pure presence of the body… visible at
the same time the eye becomes the destined organ of this presence"
(Deleuze, 2003, p. 37). In A Thousand Plateaus (2000) he and
Guattari describe smooth and striated space, where smooth space - the
transformative space close to the viewer becomes difficult to navigate,
so the whole body is engaged in haptic viewing. The eye moves over
the texture of smooth space, privileging the material presence of the
imagery in search of a place to locate the body, as opposed to striated
or codified space where the sky and the horizon become landmarks in
negotiating distance and therefore location. "Smooth space is occupied
by intensities", "striated space, on the contrary, is canopied by the sky
as measure" (ibid).

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4 Here, she leaves a critique of patriarchy to the development of a foundation for a possible
inter-subjectivity between the two sexes. She poses the question: how can we move to a new
era of sexual difference in which women and men establish lasting relations with one another
without reducing the other to the status of object?

5 The etymological root of *haptic* in Greek is *haptein*—to take hold of an object, fasten onto,
or to touch it. A term derived from the art historian Alois Riegl (1901) and picked up by
Deleuze (2002), which looks at the distinction between haptic and optical images as vision
that is tactile, 'as though one were touching a film with one's eyes' (Marks, 2000, xi). Marks
writes: "Haptic criticism is mimetic: it presses up to the object and takes its shape. Mimesis
is a form of representation based on getting close enough to the other thing to become it"
(2002, p. xiii).

For Marks, the haptic in phenomenological terms is a form of the visual that muddies intersubjective boundaries (Marks, 2002, p. 17), whilst psychoanalytically it is an aspect of the visual that moves between identification and immersion. As she writes: "The engagement of the haptic viewer occurs not simply in psychic registers but in the sensorium" (p. 18). Haptic vision is the close-to-the-body form of perception of film as skin, which moves the work into "circulation among different audiences, all of which mark it with their presence" (Marks, 2000, p. xi), "the eyes themselves function like organs of touch," and "move over the surface of its object to discern texture," (p. 62) thereby taking in, or absorbing the imagery into the body. Marks emphasises the tactile and contagious quality of cinema as something viewers brush up against like another body, as she writes: "The words contact, contingent, and contagion all share the Latin root contingere, 'to have contact with; pollute; befall'" (Marks, 2000, xii). Haptic vision is the close-to-the-body form of perception of film as skin, which moves the work into "circulation among different audiences, all of which mark it with their presence" (xi), where "the eyes themselves function like organs of touch" (p. 62), and move over the surface of its object to discern texture, thereby taking in, or absorbing the imagery into the body. The haptic visual does not depend on the viewer identifying with a recognisable figure or character but on a more sensuous bodily relationship between the viewer and the subject, in Marks' words: "haptic images and haptic visuality encourage a subjective position of intimacy and mutual entanglement between viewer and viewed" (2015, p. 227).

The haptic breath is more, it is an inward state, a place of awareness that encompasses haptic visuality and extends outwards into the atmosphere and to the other who watches, listens or senses. It is the breath that both touches the self and touches the other, the breath of limbic resonance, a coming into contact with the exteriority within a realisation of the active embodiment of matter, in the words of Karen Barad of "being in the world in its dynamic specificity" (Barad, 2007, p. 377). The installation, Breathe Wind into Me functions as transmitter of the haptic visual and on a deeper level as a mediator of the breath.

Let me expand: embedded into the skin of *Breathe Wind Into Me,* are the sounds of my breath, the rhythm of the waves of the sea, the movement of the wind through the trees and the noises of London. The layers are so deeply entwined they are each an extension of the other. To breathe is to be touched, to haptically engage with an image is to be touched, one level of touch or touching is indecipherable from the other. I am touched by the image and breathe. I breathe and touch the image with my eyes. So too with sound. I breathe I hear. I hear I breathe. The sound of my breath, of the other's breath. I breathe through film, I breathe breath into the space where the viewer sits, watches and listens. We are all breathing together. My breath touches upon the other, infiltrates and transmutes in its very particles the affect of being touched and of wanting to touch. The power and discomfort of touch, the loving empathy of touch. It is a complex business this breathing into the inter-connected space. It is a matter of taking care as an intention, and then letting go. It is Loving Kindness.

Finally, intimate entanglements

The interconnected breath: breathing in union, in communion with all of its ruptured interruptions is about embracing the tension between the concrete and speculative, sensing and knowing. It means being in touch with oneself, the other, the world. It is expanding the awareness of how the breath touches the other, while engaging actively with the embodiment of perception, affect, thinking and caring. For Maria Puig de la Bellacasa: "Embodiment, relationality, and engagement are all themes that have marked feminist epistemology and knowledge politics" (2017, p. 97), for her haptic technologies are matters of care, a means of "unpacking and co-shaping a notion of care in more than human worlds" (2017, p. 95).

Being in touch with how the visual and the aural penetrates one's body is to consciously be aware of the breath. Questioning the affect is to re-appropriate, in Haraway's words, the "persistence of vision". As she writes, "I would like to insist on the embodied nature of all vision, and so reclaim the sensory system that has been used to signify a leap out of the marked body and into a conquering gaze from nowhere"

(1998, p. 678). Bringing awareness to the breath and how it touches us expands Haraway's situated knowledge, to embrace a knowledge beyond knowing. It is to participate in Puig de la Bellacasa's reclamation of touch as a form of caring knowing, thinking with touch as a means to question anew (2017, p. 98).

The video, *Breath Wind into Me* is about caring, it extends the concept of the breath as a touching upon, creating space for a dialogue that builds upon Marks' and Deleuze's concepts of haptic visuality. It links a complex interplay of affect and sensation to reframe a concept of "attentive recognition" (Bergson, 1988, p. 105) through a feminist epistemology, creating anew "not only the object perceived, but also the ever-widening systems with which it may be bound up" (Bergson1988, p. 105). It allows for new meaning to be allocated to aspects of engagement with others, and begins to describe atmospheric attunements that more often than not remain intangible, unconscious, and latent.

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