

A grayscale background image showing a hand holding a glowing, spherical object, possibly a light source or a small planet, creating a lens flare effect.

texts of discomfort

Interactive Storytelling Art
Edited by: María Cecilia Reyes & James Pope

Texts of Discomfort

texts of discomfort

Interactive Storytelling Art
María Cecilia Reyes & James Pope

Carnegie Mellon University: ETC Press
Pittsburgh, PA

Copyright © by ETC Press 2021 <http://press.etc.cmu.edu/>

ISBN: 978-1-7948-8071-9 (Print)

TEXT: The text of this work is licensed under a Creative Commons Attribution-NonCommercial-NonDerivative 2.5 License (<http://creativecommons.org/licenses/by-nc-nd/2.5/>)

IMAGES: All images appearing in this work are property of the respective copyright owners, and are not released into the Creative Commons. The respective owners reserve all rights.

Contents

_foreword	8
#the_new_comfort	
_intro	14
texts of discomfort / texts of bliss	
_texts	26
Aim, fire and explode: the dangerous languages of <i>The False Unlimited</i>	28
Jason Nelson	
<i>Bairro 112: an interactive narrative for mental distress awareness</i>	56
António Ramos, João Freitas, Louis Michael, Roberto Rodrigues	
Creating discomforts: game design and personal reflections on authoring <i>Holy Fire</i>	70
Abraham Falcon	
Data as language; language as data	100
David Thomas Henry Wright	
<i>Dr Tulp and the Theatre of Zoom: virtual dramatic production</i>	128
Wendy Bevan-Mogg, Carina Westling, Annja Neumann	
<i>Fantasy Spoils: a netprov of injury and recovery</i>	152
Rob Wittig & Mark C. Marino	
Let's not play: main menu creation as method for speculative game design	174
Steven Sych	

Loss of grasp and state of bliss	204
Serge Bouchardon	
Navigating XR literature: examining <i>Perpetual Nomads</i> and <i>V[R]ignettes</i>	228
Mez Breeze	
On bodies, surveys, virus and rooms. Enter <i>Corporate Poetry</i>	250
Alex Saum	
<i>PATTER(N)INGS, Apt. 3B, 2020: sound as affective space for world-building</i>	282
Lissa Holloway-Attaway & Jamie Fawcus	
Placing stories, stories of place: writing <i>When Rivers Were Trails</i>	314
Elizabeth LaPensée & Team	
<i>Temporary, an interactive and personal story</i>	342
Ofer Getz	
<i>The Evidence Chamber: a case study in adapting digital performance from a co-located experience to an online one</i>	360
Dan Barnard & Joe McAlister	
<i>Through the Eyes of Women in Engineering: an immersive VR experience</i>	388
Hui-Yin Wu, Johanna Delachambre, Lucile Sassatelli, Marco Winckler	
Discomfort in visuality	416
Valeria Piras	

for

o reward

#the_new_comfort

The preparation for the International Conference on Interactive Digital Storytelling of 2020 started in 2019. At that time, the conference and the art exhibition were intended to be held physically at Bournemouth University (UK). During the brainstorming to set the theme of 2020's art exhibition, we had no idea, as everyone else, of what was about to happen. We chose the theme ***Texts of Discomfort*** as a mixed concept that includes Barthes' *Text of Bliss* (the text that causes discomfort) and the actual discomfort that we experience as a global society fighting for equal rights and the preservation of our planet. And then, of course, the new challenge of COVID19 derailed everyone's plans, and our theme seemed even more appropriate, both as a frame for exploring the forms of interactive storytelling, but now especially for exploring the particular discomforts of life in 2020/21.

Looking back at 2020, it is clear to see how flexible and adaptable human kind is. Everyone learnt how to live in uncertainty: planning became multifunctional design, home architecture

transformed into any location, the digital support showed a warmer and closer face, and fear didn't get in the way of happiness. Somehow, we learnt how to live, work, and laugh knowing that the only time that we have is the present time. We managed to adapt our daily lives to any unexpected circumstance. In the same way, artistic creation leveraged on this feeling to offer a space to release it.

Texts of Discomfort looked for artworks addressing uncomfortable stories or which present their stories in discomforting ways. The call for artworks gathered 44 submissions of interactive digital narratives in very diverse mediums. 18 artworks were selected, demonstrating the vibrant artistic landscape that interactive digital storytelling has evolved. The articles in this book also reflect that vibrancy and diversity: we wanted a tone and style that echoed the energy and creativity of the exhibition itself, and therefore encouraged the artist-authors to write a hybrid contribution between an academic article, and a more personal, reflecti-

ve/descriptive piece.

The 18 artworks were selected by a very mixed jury formed by traditional and new media artists, researchers and academics. The essays that you are about to read were peer-reviewed by some of the members of the jury and invited reviewers, and we thank them all: Alejandro Angel (Colombia), Agnes Bakk (Hungary), Mara Dionisio (Portugal), Simon Duflo (France), Josh Fischer (USA), Vaiva Grainytė (Lithuania), Chris Hales (UK), Charlie Hartgood (UK), Rebecca Rouse (Sweden), Lyle Skains (UK), Pia Tikka (Estonia), and Stella Wisdom (UK).

During the preparations for the ICIDS conference, the inevitable happened: the organization decided to go fully-virtual, something completely new for the history of this conference, and that was the right choice. The uncertainty of the daily policy changes in each one of our countries made the idea of having a physical conference impossible. Again, we found ourselves adapting on the go. However, this was a great opportunity for the art exhibition! In the first place, we had the great luck of having digital ar-

tist Jason Nelson developing the website of the exhibition; the perfect showcase for our texts of discomfort.

<https://icids2020.bournemouth.ac.uk/exhibition/>

Secondly, having an online exhibition had many perks: it allowed us to have a higher number of accepted artworks, a dedicated space for each one of the works with detailed information, and both synchronous and asynchronous connections with the artists. We asked the artists to send a video presenting and describing their work to be always available on the exhibition website, and during the conference, we dedicated the section *Meet the artists* on the ICIDS Discord channel for everyone to chat with them in specific time slots, and a conversation panel with the artists in the closing of the conference on Gather.town.

The online exhibition also creates a different space to experience the artworks, especially the ones that are web-based. The intimate relationship between the interactor and their own screen makes them also have total freedom

in their iteration with the digital piece. Freedom in having time to interact, to enjoy, to re-play, to reflect, to let the experience sink in. This quality poses an interesting question to think about digital art exhibitions, and their need of having an online space that serves as an individual showcase for the spectators, but also as an archive of those artworks.

The process of developing the *Texts of Discomfort* art exhibition during pandemic times meant for the creative chairs to work together for more than a year without ever meeting each other in person, to establish a connection with the artists without ever shaking their hands, to think in virtual ways to make interactors feel that “the artist is present”, and to find creative ways to take the control during the uncontrollable. We all got used to this, we all adapted, we all discover that we are more flexible than we think we are, we all found a way to be [more or less] comfortable in the uncomfortable. Maybe discomfort is the new comfort.



_intro

texts of discomfort / texts of bliss

In Jason Nelson's chapter, a key conundrum is raised: 'How far can a writer/artist go in building a new(ish) style of interface, a new(ish) mode of interaction, before they begin to lose audiences through a reading that is more difficult than the payoff provides?', Nelson asks in page 31. Since the beginning of interactive digital storytelling, which most scholars and artists will agree happened around the publication of Michaels Joyce's *afternoon, a story*, that conundrum has been central to both the enthusiasm for and the antagonism against interactive digital storytelling. How much challenge or discomfort will someone take on before attentive engagement shifts into dis-engaging struggle? At what point does the lovely flow of the effort-reward balance tip toward effort and away from reward? We wanted our exhibitors to take on this conundrum, in the very form of their storytelling; but also we wanted them to create narratives that in themselves might challenge expectations, disrupt the comfort zone of genre/familiar tropes/reassuring endings. From such a challenge, we felt, might spring the most innovative, the most rewarding art.

In his conceptualizing of the text of

bliss, Barthes argues that the text that gives the most pleasure, the most satisfaction, the most reward, is also the most challenging: 'the text that imposes a state of loss, the text that discomforts... unsettles the reader's historical, cultural, psychological assumptions' (Barthes 1973 p.14). So, bliss comes from disruption. If so, our exhibition theme seemed especially appropriate for the times. Along with everything else that concerned our artists already, the COVID-19 pandemic inevitably played a part, not only in the form of the pieces, but also the content.

If early hypertext upset almost everyone's assumptions about storytelling, how much more upsetting (and blissful) might interactive digital texts be in 2020 be, given the advances in digital technology since Joyce created *afternoon*, and given the global disruptions and challenges we are all facing? We wanted our contributing artists to create texts that pushed the reader to re/consider not only the subject matter of the narrative but also the narrative structure, and the form of the 'reading' experience.

One way or another, as you will see and read, our artists have reacted to the discomforting times, pushing the boundaries of their

storytelling forms, innovating with technology, finding joy and irony in the tensions they encountered, and, at the same time, demonstrating commitment to truth and justice. What follows is a brief introduction to the various challenges faced and met by our artists, both in the creation and the delivery of their narratives. As you will see, where there is discomfort, creativity thrives...

In *The False Unlimited*, words are literally exploded, as the game player fights with the dark absurdity of politicians' deceptions. World leaders 'have lied, diverted, distorted and deranged facts', and now it's our turn to attack their words. Gaming as political action! Jason Nelson invites us to re-read the words offered to us by our leaders, assess them, feel aggrieved, and then destroy them in a vivid blast of anger and laughter - discomforting for sure, but also highly enjoyable. That iconoclastic theorist, Barthes, who would periodically shoot down his own words down as he revised his views, would surely have embraced the rebellious nature of Nelson's approach to storytelling.

Roberto Rodrigues, Michael Sousa, António Ramos, and João Freitas created 'an interactive experience that instead of providing

a pleasurable immersive experience would actually raise discomfort to the participant, in a way that makes them feel lost in the darkness'. *Bairro 112* uses established techniques to create immersion, while the subject matter, allied to the iconography of dark and light and ghostly imagery, creates affective stress for the user/player. 'In a year that was severely marked by a pandemic that made millions of people "prisoners" in their own houses, isolated, and forcing them to deal with loneliness, health issues and concerns, and also financial problems, unemployment, even post-traumatic disorders due to all this, the message of *Bairro 112* is even more imperative'.

Abraham Falcon's *Holy Fire* depicts the suicidal self-immolation protests by Tibetan monks against Chinese communist rule. Falcon is inspired by the concept of 'notgame' - Barthes would love this! The very label is a challenge to form. Falcon uses familiarity to engender defamiliarization: 'almost every Room in *Holy Fire* attempts to evoke narrative association through familiarity by using varying but archetypal colouration palettes, and visual representations of quintessential real-world objects'. But Falcon goes further than simply allying familiar

iconography to a shocking narrative, by also creating a difficult user interface and awkward interactions: 'The game helps the player to learn about, experience and understand the emotional discomfort suffered daily by the Tibetan people'.

David Wright's two pieces in the exhibition explore 'the discomfiting and at times dystopian nature of data-driven culture and its impact on language and literature'. *The Data Souls* and *Most Powerful Words* take actual data or language and re-form them in ways which the reader will find confusing, alienating and thus insightful. While the interactivity itself seems intuitive, the resulting material is not, and requires concentration and focus to interpret. Wright argues 'In an information age, the weight of data becomes overbearing', and through a complex blending of data, code, found language and fiction writing, *The Data Souls* and *Most Powerful Words* show us how data permeates our world. Fascinating and unnerving works of digital art.

The lockdown in 2020 forced Wendy Beven-Mogg, Annja Neumann and Carina Westling to find a new creative process. And yet the restrictions, uncomfortable as they were, also

engendered innovation and insights in the development of *Dr Tulp and the Theatre of Zoom*. The rising death toll of the pandemic, Black Lives Matter protests, and the Grenfell Tower disaster were the contextual backdrop for this Zoom-based theatrical space. A time of worldwide discomfort, forcing an uncomfortable new mode of creation, delivering a complex weave of live/remote/mediated/immediate interactive theatre. 'This demanded more of its audience than might be typical in traditional theatrical performance,' say the authors - but surely that is the essence of the text of bliss?

In '*Fantasy Spoils: A Netprov of Injury and Recovery*', Mark Marino and Rob Wittig note that within the game-playing world, 'misogynism, stereotypes, and other forms of social hostility can harm players and impact communal play'. In the difficult time of the pandemic, Marino and Wittig created a fantasy role-playing game which not only took on the stereotypes and the conventions of battle games, but also took on COVID-19: 'It might seem from the outside that dragging a group of traumatized players through the muck of scenarios emphasizing misfortune might be the last thing someone should do during a pandemic' and yet this is a game that

the creators believe can be therapeutic. *Fantasy Spoils* takes discomfort and engenders understanding: 'it offers a collective reflection on recovery'.

Stephen Sych's *Menu New Game Plus* seeks to provoke a critical examination of games, and his menus for as-yet non-existent games 'drive the experience through familiarity... before providing a degree of estrangement'. As the player operates the menu it becomes apparent that there is a game just out of reach, a strangely enticing yet frustrating experience. But wait - these texts of discomfort can also be texts of bliss: Sych says, 'Through MNG+'s acute attention to the menu, a reservoir of untapped possibility is discovered'. The familiarity of the menu morphs into the defamiliarizing effect of there being no game to play, only a speculation of a game: but crucially, this seeming interruption 'allows for the creation of meta-awareness and criticality towards games and menus for both players and developers'.

Serge Bouchardon addresses Barthes directly in 'Loss of Grasp and State of Bliss'. When we experience his *Loss of Grasp* we find ourselves losing grasp of a narrative about the

protagonist's inability to grasp his own life. The discomfort felt by the protagonist as his life escapes is mirrored by the discomfort felt by the reader as the interface begins to disobey. An effective expression of Barthes in form and content. In addition Bouchardon considers the loss of grasp and subsequent discomfort felt by the author and the translator, and concludes, 'The Digital always stages a tension between grasp and loss of grasp, proximity and distance, transparency and opacity. The Digital is fundamentally ambivalent, and is consequently a milieu of discomfort'.

Mez Breeze discusses two pieces: *Perpetual Nomads* and *V[R]ignettes*. In the case of *Perpetual Nomads*, she is concerned with the awkwardness of the delivery technology as much as the story content: the 'user is entirely aware from the moment they slip on a VR Headset that their body is in essence in a state of initial discomfort, essentially hijacking the body'. For *V[R]ignettes* the text disrupts our expectations, albeit through beautiful visual effects: 'In *V[R]ignettes*, each individual microstory, or vignette, is designed to encourage a kind of "narrative smearing" (my own term) where traditional story techniques are truncated and mu-

tated into smears (kinetic actions and mechanics, collagelike layered building blocks, visual distortions, dual-tiered text annotations)'. Mez is an artist continually challenging herself and her audience through both form and content.

In 'On Bodies, Surveys, Virus and Rooms. Enter *Corporate Poetry*', Alex Saum presents a chilling analysis of the corporate data-gathering processes affecting us all. She says 'these organizational structures that allow us to work remotely, or chat with a loved one according to their own parameters of interaction, all have built-in information gathering features that feed on our usage. They not only build our new rooms in mysterious ways, but they are also spying on us dwellers by secretive new methods.' The four poems that make up *Corporate Poetry* all explore this discomfoting relationship between digital networks, our planet, our history, and our personal spaces: 'The poems travel and gather user data, and this gets repurposed with a poetic intent that is entangled in the perverse logic of their platforms and their profit'.

Lissa Attaway and Jamie Fawcus have created *PATTER(N)INGS*, 'an interactive web-based audio application... that simulates a domestic space and its embodied inhabitants (human,

non-human, present, reminiscent, and polysensual) encountered during lockdown by a single user'. The authors say, 'It is our aim not to restrict sensory perception; rather it is to multiply and reveal the synesthetic and somatic effects of the complex media worlds we make, particularly as we have learned to encounter them at a time when a viral presence renders our world-spaces and living conditions incomprehensible'. Trapped in an apartment with an unknown number of rooms, with ambiguous and threatening sounds emerging as we move across the indeterminate interface, this experience truly evokes 'states of distress and disease/unease'.

When Rivers Were Trails dramatises 'the impact of land allotment in the 1890s when Indigenous people were forcibly displaced from their territories or allocated with small plots as their lands were given away for settlement or opened up for purchasing'. Aimed at middle-school pupils, this is a beautifully rendered game-narrative with major contributions from a large number of Indigenous artists, all intimately aware of the discomfort of their shared history. 'The 1890s were especially violent and disruptive times of colonization and genocide for Indigenous people' and Elizabeth LaPensée

and her team have expressed these harsh realities ‘through relatable interactions’ consciously appropriate for the targeted audience.

In ‘*Temporary*, an Interactive and Personal Story’, Ofer Getz describes in moving detail his personal struggle to create an interactive ‘comic strip’ of his grandmother’s Alzheimer’s condition. We gain a strong sense of the creative pain involved for Getz as he sought to find ways to build a web-based narrative that would bring the user insights into the experience he and his grandmother shared. ‘Some of the frames were planned to create a coherent continuation of a situation, while others were planned to create confusion. Memories jump in, familiar house objects become strange, and people from the past reappear’. As with several of our chosen artworks, a most beautiful interface sets up a most saddening narrative: ‘the disordered story in *Temporary* might be confusing and hard to understand, but fundamentally connected with its origin.’

Daniel Barnard and Joe McAlister faced a fascinating technical challenge with their

‘cyberperformance’, *The Evidence Chamber*. Prior to the COVID 19 pandemic, this piece was presented with co-located audience members using iPads. How to transition to a fully online experience? The solution involved the creation of an original platform, the Syndicate Online, and an interface that would allow audience participation and engagement in the fictional legal case they had to rule upon. The authors say that *The Evidence Chamber* is a piece that ‘invite(s) people to wrestle with big ideas during the pandemic’: audience members are placed in the uncomfortable, albeit highly engaging, position of having to interpret forensic evidence and decide on the sentencing of the accused. Truly a challenge for both artist and audience.

Hui-Yin Wu, Johanna Delachambre, Marco Winckler, and Lucile Sassatelli discuss the discomforts women face in our still-paternalistic society: ‘Young women frequently face implicit behavioral biases – through unfriendly gaze, gestures, or speech – in all aspects of their daily lives’. The authors note that this issue is particularly acute in the field of engineering where numbers of women studying and working are

declining. The reasons for this gender imbalance 'can be generally formulated as a major misalignment between the stereotypes associated with femininity, and those associated with computer engineering'. The 'embodied experience of discomfort' created by the authors in *Through the Eyes of Women in Engineering* is a powerful use of VR technology and point of view interactive storytelling.

Finally, our book designer Valeria Piras makes a brief review on discomfort in visibility, and takes us into her inspiration to design this edition of the Interactive Storytelling Art series, the art-books of ICIDS' art exhibitions.

We hope you enjoyed the artworks of the ICIDS 2020 art exhibition, and we are sure you will be as fascinated, inspired, and educated as we have been, by the highly articulate and well-informed discussions which now follow.

References

BARTHES, ROLAND, 1973, *The Pleasure of the Text*, Paris, Editions du Seuil (edition cited 1990, Oxford, Basil Blackwell)

Creative Chairs/Book Editors

María Cecilia Reyes. Colombian researcher in interactive digital narratives, filmmaker and storyteller. She holds a dual PhD degree in Digital Humanities from the University of Genoa (Italy) and in Communication from Universidad del Norte (Colombia). Her research focuses on interactive digital narratives and immersive technologies. Her artistic practice combines filmmaking, storytelling, and audiovisual digital supports. Artist in Residence at Schloss Solitude Akademie 2020-2021 (Germany). Member of the Association for Research in Digital Interactive Narratives ARDIN, and COST Action INDCOR.

James Pope. Principal Academic at Bournemouth University (UK). His interests are: how digital media are changing narrative forms and reading and writing practices; the teaching of creative writing in digital media environments; children's literature. As well as several publications around his research into readers' reactions to digital fiction. James has also published six novels for children and teenagers. He is the director and co-founder of the annual international New Media Writing Prize. James created the Genarrator software, a dedicated, accessible package for writing and publishing digital interactive stories.

_texts

Medium: Game, HTML, Digital Writing, CSS, Javascript

Year of Release: 2019

Link to the artwork: <https://dpoetry.com/unlimited/>

Video artist: <https://vimeo.com/460609284>

The False Unlimited

Jason Nelson

"The concept is original and timely, expressing concerns over the new standard of the political discourse, this is, fake statements. Participants will be able to release their socio-political and intellectual frustrations."

ICIDS 2020 Jury

Aim, fire and explode: the dangerous languages of *The False Unlimited*

Abstract

The False Unlimited was created, in part, as a response to a world where language is used and weaponised for political, commercial and social ends. Extending my creative practice of transforming game engines into poetic and artistic experiences, this work examines how the visceral nature a shooting/bombing game interface can be used to “destroy” these nefarious phrases. The article examines both my intentions as an art-game creator, as well as my creative and technical processes for building the work. It examines how experiments into art-game making must consider a range of factors, including the impact on readers, the difficulty of reading interactive work and the power and hinderances of various “texts” (sound, movement, image, interface). This exegetical essay combines an internal poetry with the games poetic intentions and situates this work as one of many experiments “to be continued and expanded”. The end result is less about a finished work, or clear conclusions and more about the forever process of making and breaking the metaphors and textual experiences inherent in games engines and weaponised language and visual play. Three levels will eventually lead to four more of an entirely different work, as what was learned here is applied and blown apart, occasionally poetic.

Keywords

art-games, gaming, explosion, digital poetry, electronic literature, digital art, political, language, jargon, interactive art, visceral

A summary of sort

Hint-ish: *distance from the cannon equals power*

Read- Aim- Fire- Read

Sometimes the fit between a digital artwork or art-game and an exhibition's stated theme can be tenuous. In the hopes of being exhibited, artists will surf the edges of their artwork's original meaning, attempting to find tethers to the curator's call for work. At times I've dipped into this practice of meaning-stretch. However, for the 2020 ICIDS exhibition, *Texts of Discomfort*, curated by María Cecilia Reyes and James Pope, my work truly feels like a perfect fit. Indeed, the title of the exhibition, had it not been already crafted by Reyes and Pope, would have been the perfect title for my art-game, which this writing describes.

The False Unlimited (2020) is an interactive digital poem/art-game hybrid exploring the dangers and drama inherent in the "death

of truth" in political and social systems. Over the past three years leaders have gleefully and willingly lied, diverted, distorted and deranged facts, science and the social contract of a common good. They have done this, largely, through language and the use of repetition and a torrent of false and misleading narratives. These are very much, in a direct way, discomfoting texts.

Using a shooter-based game engine with timer-generated explosive spheres, *The False Unlimited* allows readers and players to shoot at these phrases and language. They destroy the words used by political leaders: missives that mislead the public and fog scientific and factual narratives. Each of the levels of *The False Unlimited* explore different political narratives, from climate change, environmental/wildlife protection, corruption, tax cuts for the rich, divisive/attacking language and tyrannical tendencies.

To experience the work, the reader/player/users shoot these spheres at specific

screen locations. When the sphere timer ends it explodes, and if aimed well, the phrases are destroyed and scattered across the screen. Visually the work uses a mix of hand-drawn and net-art style, with heavy explosions and the splattering and scattering of text across the screen. The more phrases that are exploded, the more chaotic and concerning the screen composition becomes. And with each explosion new phrases are formed, breaking and dispersing language, creating alternative narratives, deter-

mined by the reader's play and interaction. In essence, *The False Unlimited* is a visceral and cathartic digital poetry game that allows those who find the language of leaders and politicians maddening, frustrating and shocking, the chance to explode those frustrations and break apart dangerously and intentionally false narratives.

1

THE FALSE UNLIMITED

Loading - 100%

next text(s)



A difficult reading experience?

As a creator of digital poems and interactive fictions, many of which use game creation software, there is an often-uncomfortable handshake (pandemic edit: fist bump, elbow nudge, foot tap) between the ease of *how to play/read/experience* and the goal/focus/hope of the writer/artist. Readers of digital writing typically understand and are used to reading with links and clicks. They understand mouse/finger/eye/screen movement and arrow keys and swipes. These are modes of reading we have become accustomed to engaging within: interactions with expectations attached and experiences anticipated. Therefore, there is a danger in creating digital works of fiction that attempt to move beyond easy or pre-accessed graphical user interface constructs, such as my browser-based literary game, *The False Unlimited*, which specifically uses the interaction techniques associated with a first-person shooter game.

This is not a conceptual danger (although one might exist), nor a poetic obstacle, or thematic worry. Instead, the danger lives within the mode of engagement for the reader/player/user: those with less experience in digital games and gaming culture may not be as comfortable with, or might not have previously engaged with, an interface devoted to aiming, powering, shooting and exploding. This has been my experience when presenting this work to publics over the past year. Often, the anecdotal experience is that they are not as familiar with the combination of movements, the screen physics or the textual targets of a 'shooter engine', and have not internalised firing a weapon as a cohesive and metaphorical interactive reading experience. The question is, then, where is the line between thematically necessary difficulty and reader expectations? How far can a writer/artist go in building a new(ish) style of interface, a new(ish) mode of interaction, before they begin to lose audiences through a reading that is more

difficult than the payoff provides?

Inherently, I am risking the reader failing to experience my work simply through their lack of ability to interact with the work. Jesper Juul, in 'The art of failure: An essay on the pain of playing video games', describes this risk as a central feature of game playing, "...failure is an integral element of the overall experience of playing a game, a motivator, something that helps us reconsider our strategies and see the strategic depth in a game, a clear proof that we have improved when we finally overcome it" (Juul, 2013). For *The False Unlimited*, the answer to the questions regarding the line between readability versus interface innovation is unclear, murky and forever changing. Juul implies it is less about the line and more that games, and in this case art-games, will always involve some amount of unreadability. As Juul writes "Failure brings about something positive, but it is always potentially painful or at least unpleasant. This is the double nature of games, their quality as

"pleasure spiked with pain"." (Juul, 2013, p.10).

Therefore, yes, there is a danger of losing reader/player/users. They might attempt to read the work and then back away, the pain more powerful than the pleasure. Their mouse might move erratically, pointing and clicking without intent, and become annoyed, confused or simply uninterested in knowing what happens when the power is applied, the weapon is aimed, the trigger is pulled/clicked and the resultant bomb explodes the texts into literary shrapnel. Others might find the visual and auditory noise inhabiting the interface an immediate impediment, preferring a less chaotic and explosive approach to writing/reading (a point revisited later in this article).

Conversely or inversely, the work's frenetic appeal might gain readers. The work's overall thematic approach of exploding the language, breaking apart dangerous and ill-conceived/received language might attract those who adore the mixing of adrenalin and the literary



or the merging of kinetic trajectories with the de-construction of language. And from that the player/reader/user gains a type of agency, or as Thi C. Nguyen described in *Games: agency as art* (2020), “when we play games, we take on temporary agencies-temporary sets of abilities and constraints, along with temporary ends” (Nguyen, 2020, p.5). Thus, briefly they gain a new ‘power’ to explode, de-frame and re-frame sentences and phrases from the public sphere. They gain a type of temporary control over

the languages through their game interaction. And perhaps these readers will even interweave their previous experiences of first-person shooting games with *The False Unlimited's* reading, breaking, re-reading, re-breaking process, and generate a personal game genre of their own making/aiming/firing.

Aim, fire, wait, explode. Aim, fire, fire, fire, fire, wait, explode, explode, explode, explode!

exploding those letters outwards, crashing and colliding. Both are offering the reader/player/user the ability to adjust and re-organise texts, sentences and phrases. Both are techniques for deconstructing language and reordering it for meaning/meaninglessness. Using a mouse, the reader/player/user has a control that's refined and more exacting. A specific word can be pushed away, the remaining sentence re-grammared by touch. The movements are slow, casual and largely uneventful. The concept of re-orde-



ring language is more important, in the case of a cursor driven interface, than the reader/player/user's experience. By focusing on the ordered meaning and conceptual focus, the experience is more aligned with a traditional writer process: craft words, rethink their order, recraft the poetry.

However, when using a bomb, fired from what resembles a weapon-of-sorts, waiting for an explosion to transform words in shrapnel, a viscerally kinetic experience is created. It begins with an intent, aiming for an area of the screen populated with language. One then estimates the power needed to launch the bomb to the required space, physics, gravity, trajectory become reading/writing processes. On firing the reader/player/user is rewarded with the sound and movement of a small round bomb lofted to a coveted spot.

And yet, I am creating an unreal visceral moment for the reader. The launching of bombs

and the firing of weapons for literary purposes is not a normal lived experience, indeed it would likely result in a range of social and legal consequences should a suburban reader attempt such an explosive poetic approach IRL. Astrid Ensslin describes this aspect of video games as Unnatural Narratives: "the unnaturalness of games enables us to escape into realms of what's normally thought to be humanly impossible or unthinkable" (Ensslin, 2015, p.53). And after a short countdown, one, two, three, four, the bomb explodes. The sound is a well-worn media memory, this is what an explosion sounds like. Then a shockwave crashed into the language, propelling it around the screen. Once again physics, gravity and trajectory become critical vehicles for experiential reading of this digital poem.

And yet the "text" that connects all these elements, the most immediate artistic element and literary vehicle, is the interactive sound. Audio triggers (pun intended) and grounds the

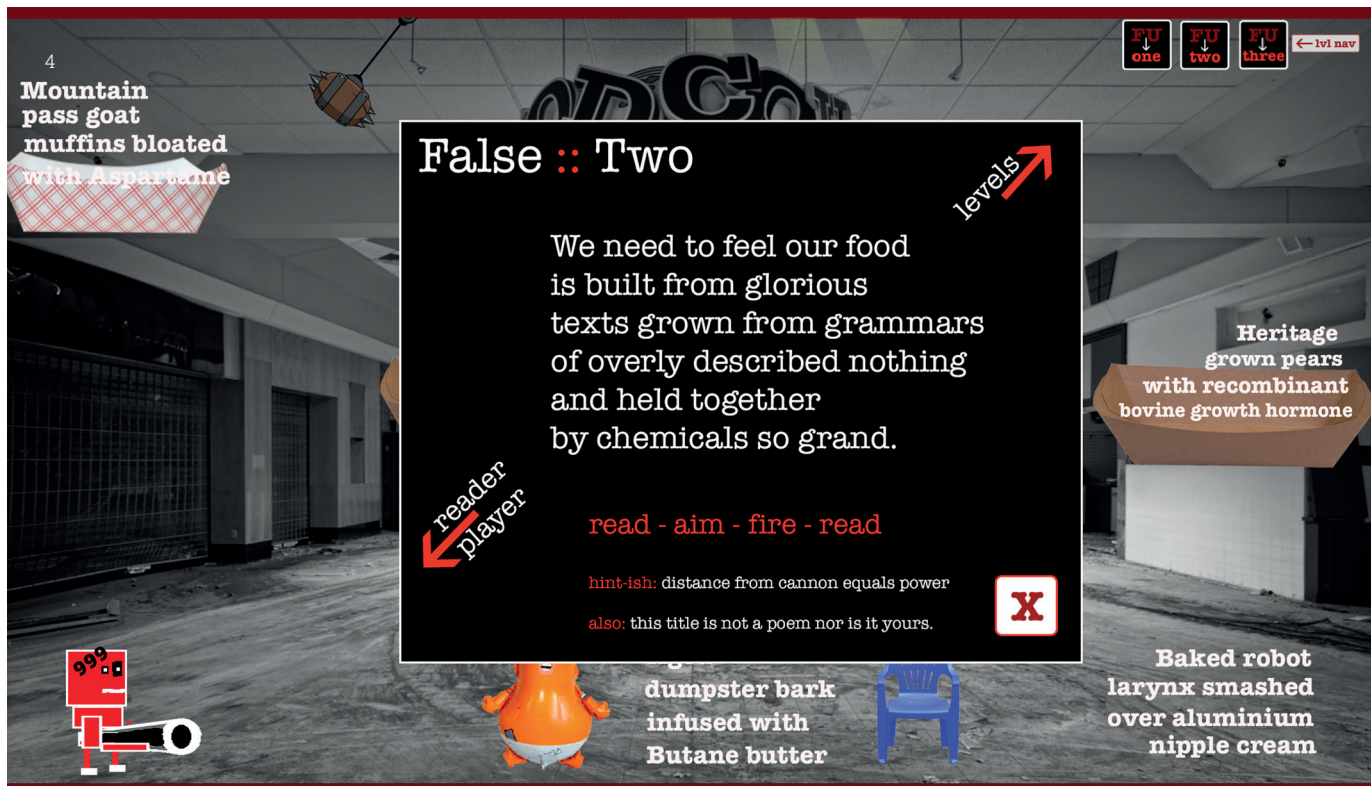
reading process and rewards the reader/player/user with an immediate hit of meaning and sensorial response. Karen Collins in her article 'Playing with sound: a theory of interacting with sound and music in video games', explains sound in games as being unique from sound in other, less interactive, media:

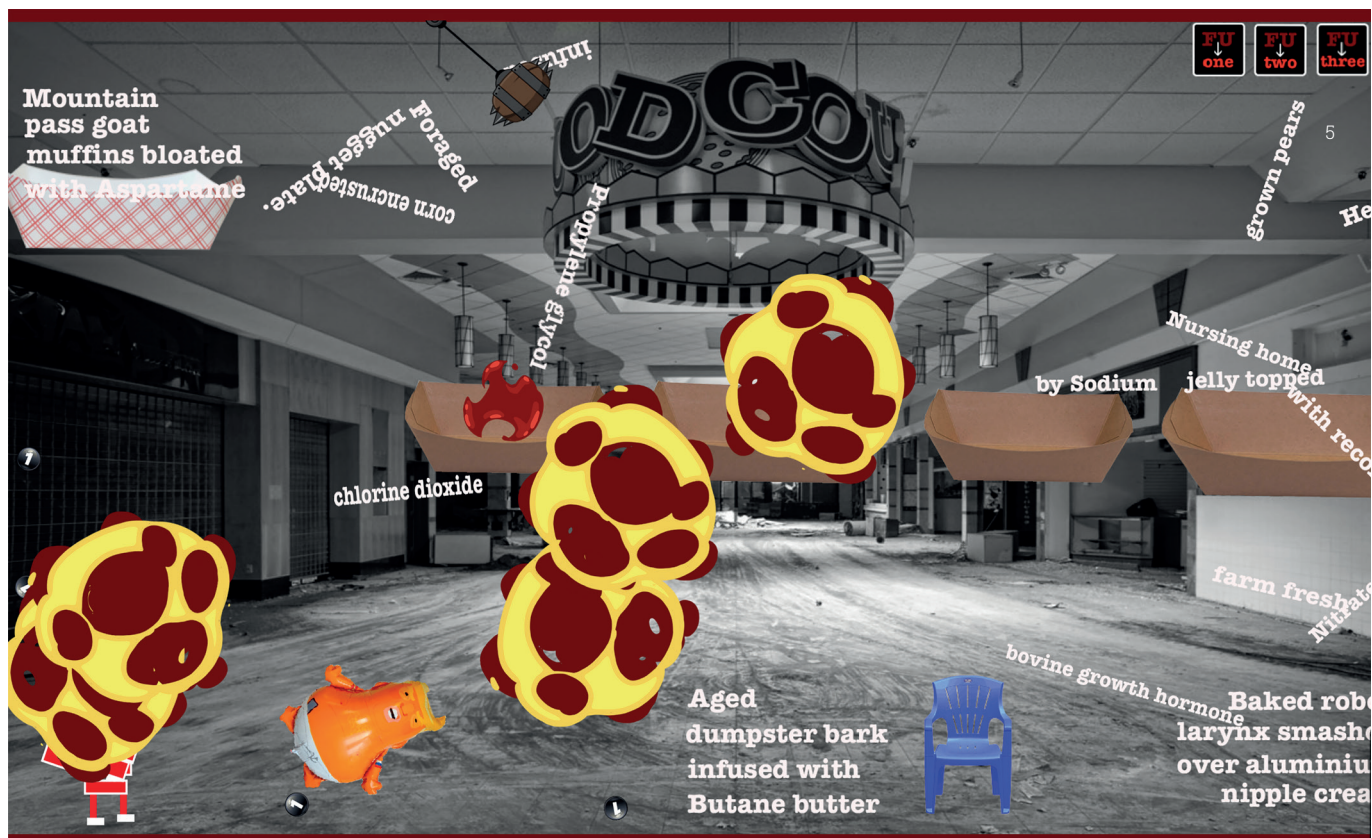
sound is fundamentally different in terms of our experience from listening without in-

teracting; that there is a distinction between listening to sound, evoking sounds already made (by pressing a button, for instance), and creating sound (making new sounds)... (Collins, 2013, p.2)

For the writer/artist, interactive or triggered sound is also an arrow of sorts. The reader/player/user does something in the artwork, they press and fire. Sound then becomes an agreement between the art/poetry game and the

texts of discomfort





player that things are working as they should. The reader/player/user is directed to fire again and again and the literary meaning of the exploding words is concreted in their heads. Again, typically, the sound of an explosion has a relatively agreed upon auditory definition, which is then used as a literary device, a sound-based arrow to a type of visceral meaning.

Almost immediately the reader/player/user begins to replace meaning with experience. The intentional crafting of slow textual movement/placement is lost in the crashing, banging of flying texts and colliding objects. But then again, perhaps it's unfair to delineate the reading/writing experience from the craft of language. After all, the explosive processes in

this work are not the same as detonating and demolishing a tall building, exacting dynamite, a floor-by-floor collapse of steel, wire and stone. What remains after the reader/player/user explodes language is not piles of lettered rubble, not unreadable chunks of font and ideas. Instead, the language remains, re-ordered, re-stacked, concrete poetry built by explosions.

In many ways *The False Unlimited* is both an art-game and a concrete poetry generator. As Scott Rettberg explains in his book *Electronic Literature*, “the precursor to interactive poetry is kinetic poetry and the precursor to kinetic poetry is concrete poetry” (Rettberg, 2018, p.27). Thus, this work occupies a genre with a long trajectory. Indeed, one version of this work, unmade as of yet, allows readers to easily and immediately generate screenshots of the game space. While the kinetic and interactive elements are critical and central to the meaning of *The False Unlimited*, the intersections of texts/

words after and during being exploded and moved and colliding is where the work’s poetry lives.

And the future-feature of image creation will add credence to the work’s concrete poetry roots, as building an interactive kinetic/concrete poetry generator was a primary goal in making *The False Unlimited*. The language the reader/player/user targets, fires on and then breaks apart, comes from negative spaces, is language representing some of our species’ worst textual utterings. The phrases, created for political and social manipulation by hollow self-aggrandising creatures, then become intersections of visual and textual meaning.

The levels as they are

False :: One

Because Idiotic and Attacking and False sloganesque language can win the presidency with the help of criminal everyones.

While the impact on US politics and discord and public language has been massive, I am slightly embarrassed the first level includes and then destroys language from the 2016-2020 US President. The echoing and expansion and continual debate about this individual's daily words and proclamations made those words more real and more powerful than was warranted or desired. And including those words here, in an art-game, even one whose goal is to viscerally and entirely explode and collide and re-construct that language, is a type of echo and continuation. For that I internally and externally am, in some ways, saddened.

Having said that, it was my frustration and at times anger, then others bemusement, that spawned *The False Unlimited* into existence. Language, slogans and messaging has always been used to control and attack and brainwash populations. But it was shocking to many (or hopefully most) how easily this person's words were consumed and believed. More disturbingly, those words were translated into actions and made enemies of neighbours and spurred millions to follow false narratives and egocentric diatribes. Therefore, the idea of birthing an art-game targeting that damaging language and allowing for readers to burst it apart, reforming it into twisted, visually caterwauling jumble of half-phrases turned concrete poetry was, and I suppose is, very appealing.

End False :: One

*Your Verbal prowess built from grey..
Next Texts*

False :: Two

We Build to Feel our food is built from glorious texts grown from grammars of overly described nothing and held together so grand. (also: this title is not a poem nor is it yours).

My current life (as of 2021) is one stretched from Australia to Norway. But my past existence was within the confines of the USA. Oklahoma, to be specific, the land of shopping malls and large box stores. Capitalism and its close-close partner consumerism were dominant belief systems. Daily we were pummeled with advertisements and packaging, a forever swim of color and logo, best and new, ingredients to better lives through preservatives and flavourings. I adored, as a child, trips through the grocery aisles, each boxed or canned or plastic wrapped food-like manufactured collection of substances (also known as “items”) was a win-

dow into a manipulative world, wondrous in its promise.

I recall taking my niece into one of these giant, heavily stocked, stores. We wandered into the fruit and vegetable section and, thinking I could transform this grocery store visit into a teachable moment, said she could pick any fruit she wanted, no matter how strange or expensive. I expected she would choose a wildly shaped Star Fruit, or perhaps a large spikey pineapple. Instead, she somehow zeroed in on what was labelled as a “Grapple”. Initially I marvelled at the cross-seeding/breeding skills of horticulturists (or geneticists). How did they combine grapes and apples into one magical fruit?! Sadly, as we drove home my niece read from the fruit packaging’s small print. They were not some magic of fruit-gene-splicing or happy result of a Star Trek style transporter cellular re-combination accident. Rather, a “Grapple” was created by injecting artificial grape flavouring into an

otherwise normal apple. Eating this made-up fruit left a taste in the throat similar to a dissolved aspirin soaked in expired vinegar.

Level two of TFU explores these marketing tricks and pseudo-scientific, entirely manipulative languages and substances used by food-like product manufacturers. Curiously, I found that, at times, after the food marketing language was exploded and broken apart, it reformed, via collision and landing and re-orienting, into other real, yet previously unknown,

grocery store item phrases. The fire-aim-explode generated poetry I had assumed would be surreal and absurdist was instead accurately, if accidentally, reflecting the actual, 'real', world. Unfortunately, I remain struck and swayed by food marketing language, albeit in a far more limited way than my Oklahoma youth. Its manipulative power shines a small poetic heart on a plastic and chemical-filled edible experience.





End False :: Two

... and bitter parking lot trees, their bark damaged... Next Texts

False :: Three

Either we do not care or we do not understand language used per day should not be so empty and without flesh, it dissolves as ant sand into the closest colony (also: details are the veins and something about the sun).

The detest of daily small-talk is a well-worn trope among intellectuals and artists. Many of my collaborators, friends, mentors and mentees often cite their dislike of casually meaningless banter and conversation. Yet, after a long conference, you find yourself waiting for vegetarian goulash and overhear those same individuals deftly using their small-talk skills when engaging with restaurant staff. Even when one attempts to circumvent the empty discussions of days and weather and wellbeing, that new

language quickly becomes lost. In essence, we, as humans, want to talk to each other, want to communicate, want to interact. But we do not want to grapple with the responsibility and care needed to actually listen to each other, and to uncover a helpful response from our brains. We are, as the title of this level suggests, engaging in ant colony banter, quick communications to keep the line going, and the daily life process moving with as few incidents and involved interactions as possible.

When making an art-game with multiple levels, there is often an evolution of creative play with the interface. New techniques and possibilities arise within the constraints of the game physics and interactive rules/controls. For the third level I made the choice to dominate the screen with text, reflecting the dominating nature of daily small-talk. Then I created dividers for the targets needed to explode the texts. These dividers mirror how isolating mea-

ningless conversation can be, and how language meant to connect and interact, actually can, instead, further separate us from each other, and real interaction. Once the bomb is dropped into the correct section, the language then falls into the lower level, clumping and colliding until all sections are exploded.

End False :: Three

...by the impatient vehicle (so, move-on-one-over). Next Texts

Technical Bits

Art-game makers are often good/bad at breaking things. The notion of breaking, at least in the creative practice sense, involves removing a thing's ability to complete its original intended task. John Sharp, author of *Works of game: On the aesthetics of games and art*, explains the rethinking of game objects, engines and systems is a common method for art-game creators (Sharp, 2015). They are, after-all, rethinking an existing digital-based genre, remaking it for purposes beyond the technology's original intentions of entertainment or commerce or simply commercial gain.

Many art-games begin by borrowing from what is already possible within a technical/software/code context. A creator uncovers a method for moving a creature forward/backwards, combines that with the code needed for enemies and obstacles, and the result is in-

teractive art or writing. Among the many examples of this is the serious/art-game *Every Day the Same Dream* (2009) by Braxton Soderman. The game uses a simple click and walk interaction, common in many platform-style games. However, the simplicity of the game controls is intimately connected to the game's overall focus/theme, a social critique of suburban life. The everyday monotony changes in unexpected ways after small choices are made. Soderman (2010) suggests,

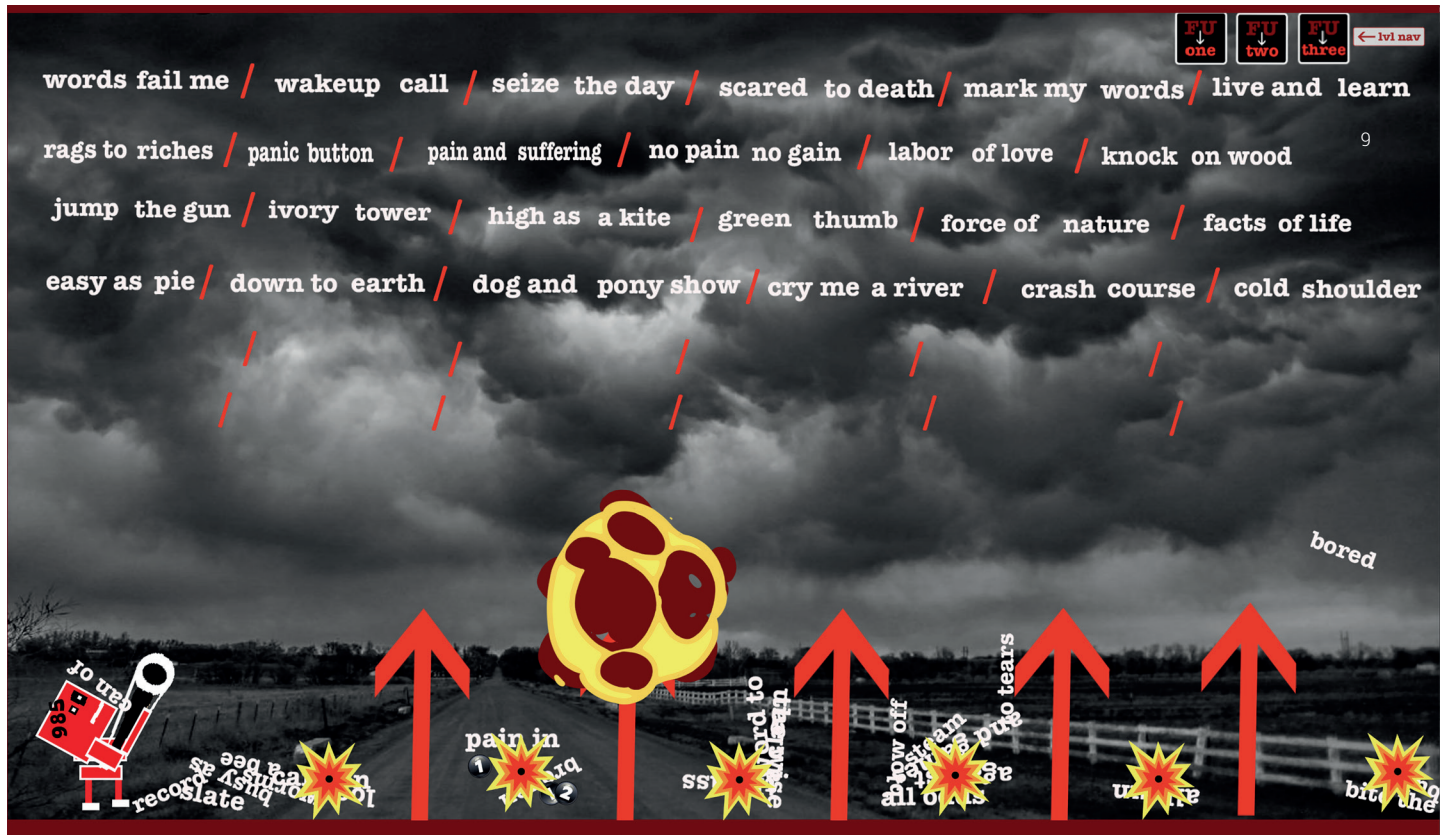
one could focus on describing the potential meaning of their aesthetic transformation of a common game mechanic, perhaps leading to an analysis that focuses primarily on the medium specificity of the videogame. (Soderman, 2010, p.3)

Thus, a borrowed game interface becomes a moment of transformative experience.



This is often how my art-game making process begins. I begin with an existing interface, a specific game genre, I examine established modes of play and game categories. My past (and some future) work breaks and remakes shooter games and space shooters, platform and adventure games, RPG and Puzzle, even quiz games and on and on the list stretches. Once I settle on a possible game engine or mechanic, I consider

the various interactive and artistic elements of these game types, and then search for ways in which they can be emulated or re-created. Importantly, I search for possible modes of game play reachable (sometimes barely) from my skill set. For example, I am proficient in JavaScript, and as such I might begin with JavaScript based game libraries, exploring examples and finding available code on repositories such as Github.



texts of discomfort

com or Codepen.com. The result is dozens of folders, .zip files and half-made works, each uncovering an array of possibilities with the game interface. The contents of which are asking and attempting to answer the questions: What I can make? What kinds of game-based techniques can I explore, then break and rethink for an artistic or literary purpose?

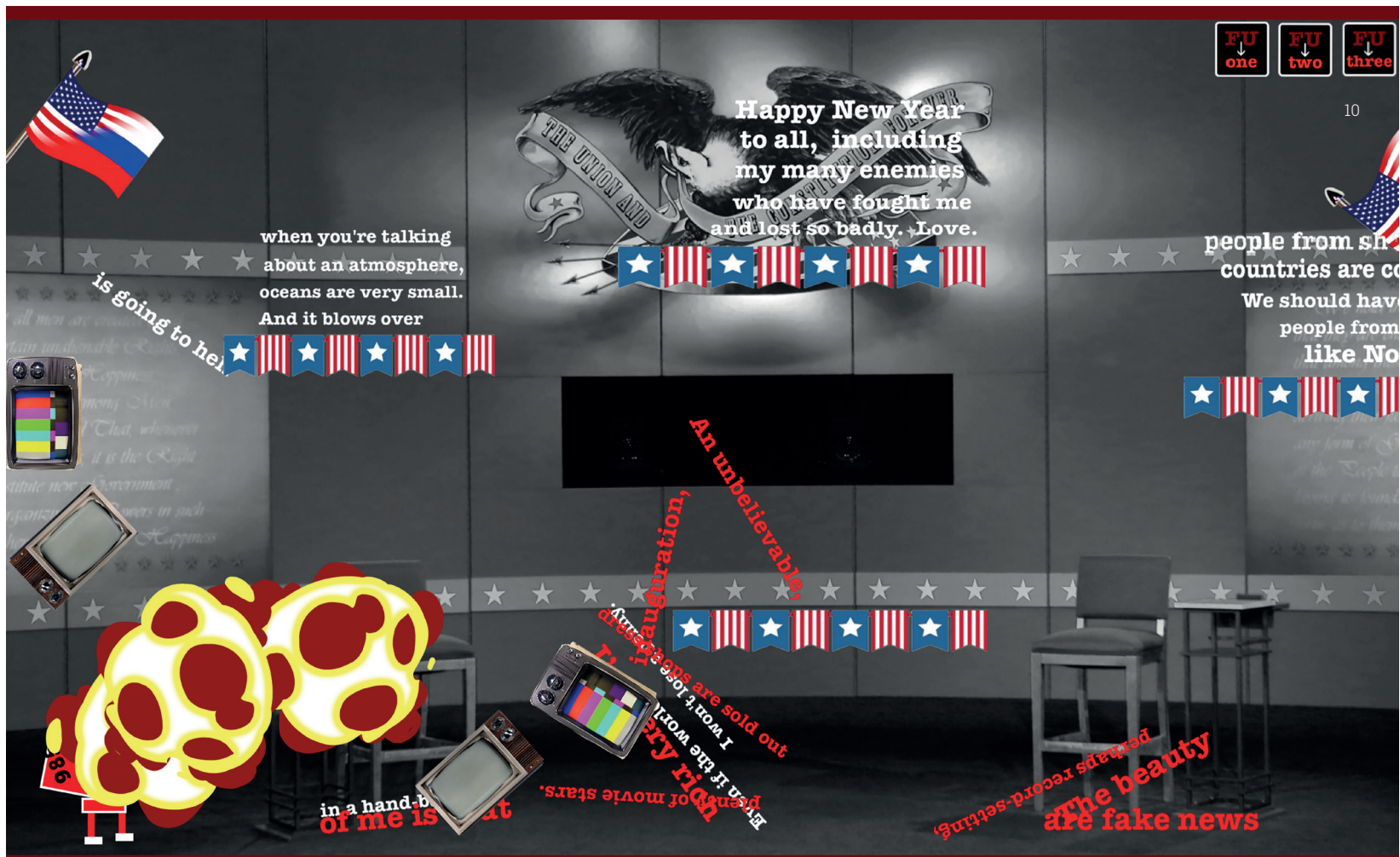
Doing this requires what I call *code mining*. Using an array of keywords and search metadata I dig through open-source databases and other net-based collections sharing Creative Commons license JavaScript libraries. Naiyana Sahavechaphan and Kajal Claypool, developers of the *xsnippet* coding tool, explain a similar process:

this largely unwritten, yet standard, practice of “develop by example” is often supported by examples bundled with library or framework packages, provided in textbooks, and made available for download on both official and unofficial web sites” (Sahavechaphan & Claypool, 2006, p.1).

The result of this “develop by example” approach is an inevitable intersection and interplay between the mined code and the resulting art-game.

While not too dissimilar from a painter using purchased brushes and paints with their specific colors, viscosity and bristle weights, there is the added factor that some effects or interactions might not be possible in a given code-set, or might be preferenced in a JavaScript library. Perhaps more importantly, code and programmable technologies change far more quickly and with a greater range of difference and technique possibility than more traditional artistic tools. In the case of *The False Unlimited*, much of my exploration of code to create this art-game came on the anguished wave of the death of Adobe Flash.

Flash was, for over a decade, my software of choice to create interactive art, digital writing and poetry as well as numerous art-games. As Anastasia Salter and John Murray detail the history of the artistic use of Flash in their book *Flash: Building the interactive web* (2014), Adobe (previous Macromedia) Flash was for many



the genesis of their art-game practice. It allowed Salter and Murray to build interactive, non-linear, multimedia, multilayered art-games within a relatively inexpensive and semi-easy to learn software package. However, due to circumstances better explained elsewhere, Flash was destroyed by corporate decisions and therefore those artists who worked with the program were forced to rethink the tools they used, and, in many cases, their entire artistic approach. Therefore, to create this work I explored using a range of other HTML5 and JavaScript tools that allowed for the building of games in a web environment. And, frankly, I am uneasy with settling on a single software or code solution in making future works, due largely to my concerns around the long-term viability of any particular technological approach.

A type of conclusion that leads to other conclusions

My creative process is a continual evolution. Works are not finished as much as they are released, mutated, reborn, recreated and released again. After a new work is coaxed into the wild, soon after a first version is finished, I ponder, plot and plan other versions and iterations. An interesting and dynamic element of digital art-games and writing is this continual process of rebuilding. For example, writer Kate Pullinger and digital artist Chris Joseph's series *Inanimate Alice* (2005-2016) continuously evolves over time through various episodes and technological developments. Similarly, *The False Unlimited*, while not episodic, will live-on to destroy and explode and adore language in other iterations.

The False Unlimited is, outside of any future rethink, only briefly static. From the first fire, the first explosion, the first flying and colliding texts, *The False Unlimited* becomes something unique, something previously non-existent. Most works of digital art and writing can claim a certain generative quality. But *The False Unlimited* is not so much about exploring a textual landscape and more about breaking one apart. The work needs to be undone for it to be properly read.

And in this regard, in this forever rethinking and remaking, *The False Unlimited* is only the first of many future works using this same interface.

Hint-ish: *distance from the cannon equals power*

Read- Aim- Fire- Read

References

- Collins, K. (2013). *Playing with sound: a theory of interacting with sound and music in video games*. MIT press, Massachusetts.
- Ensslin, A. (2015). Video games as unnatural narratives. In M. Fuchs (Ed.), *Diversity of Play*. (pp. 41-73). Meson Press. Retrieved May 23, 2021, from <<https://library.oapen.org/bitstream/handle/20.500.12657/37568/978-3-95796-076-4-Diversity-of-Play.pdf?sequence=1#page=43>>
- Juul, J. (2013). *The art of failure: An essay on the pain of playing video games*. MIT press, Massachusetts.
- Nguyen, C. T. (2020). *Games: agency as art*. Oxford University Press, Oxford.
- Rettberg, S. (2018). *Electronic literature*. John Wiley & Sons, New Jersey.
- Sahavechaphan, N., & Claypool, K. (2006, October). XSnippet: mining for sample code. In *Proceedings of the 21st annual ACM SIGPLAN conference on Object-oriented programming systems, languages, and applications* (pp. 413-430).
- Salter, A., & Murray, J. (2014). *Flash: Building the interactive web*. MIT Press, Massachusetts.
- Sharp, J. (2015). *Works of game: On the aesthetics of games and art*. MIT Press, Massachusetts.
- Soderman, B. (2010). Every game the same dream? politics, representation, and the interpretation of video games. *Dichtung Digital*, (40). Retrieved May 23, 2021, from < <http://www.dichtung-digital.org/2010/soderman/soderman.htm>>

Images

1. Start Screen of The False Unlimited;
2. Title Screen of Level One and Introductory Text;
3. End of Level One, Poetic Transitions;
4. Level Two Title Screen, The Language of Food and Consumption;
5. Reading and Playing Level Two, Concrete Poetry Generated Through Collision;
6. Playing and Reading Level Two, The Poetry of Chlorine Dioxide;
7. Title Screen of Level Three, Everyday Language as Dangerous;
8. Reading and Playing Level Three: Gravity as Text Art Generator;
9. Reading and Playing Level Three, Poetry Collects Between the Arrows;
10. Playing and Reading Level Two, Language Exploding and Colliding.

Jason Nelson. Australian/Oklahoman Jason Nelson creates digital poems and fictions, art games and digital creatures. He professes Net Art and Electronic Literature at Griffith University. His work features around the globe at FILE, ACM, LEA, ISEA, SIGGRAPH, ELO and other acronyms.

<https://www.secrettechnology.com>.
<https://www.facebook.com/digitalpoetry>
<https://www.dpoetry.com>

Medium: Screen-based computational Work

Year of Release: 2020

Link to the artwork: https://drive.google.com/file/d/1p1vfNk62u9ttV_Sk-RFPiQp00VtNnb6_/view?usp=sharing

Video artist: <https://vimeo.com/461132362>



Bairro 112

António Ramos, João Freitas,
Louis Michael, Roberto Rodrigues

"This piece succeeds in placing the viewer in uncomfortable immersive situations that communicate well the underlying issues of mental health."

ICIDS 2020 Jury

Bairro 112: an interactive narrative for mental distress awareness

Abstract

The aim of *Bairro 112* project was to create a virtual experience that focuses on mental issues and suicide awareness, problems that still are somewhat invisible and neglected in our society. Based on a real life experience, with the help of animations, sounds and interactions in a VR environment, this interactive narrative aims to enable users to understand what are early signs of mental distress, and makes one aware of future situations. Using a first-person perspective to achieve an immersive experience, *Bairro 112* manages to pass the most reliable message of this true event, during which the user becomes interested in the narrative that is being told and becomes a part of it. Most of all, *Bairro 112* encourages the audience to pay attention to the ones that live nearby, to one's friends and neighbours, often struggling with one or more problems and issues and giving a hand before it is too late. The experience offered may make everyone more aware of their own responsibility of living in a community.

Keywords

3D animation, interactive narrative, immersive experience, mental distress awareness, virtual experience

Bairro 112 offers a virtual experience to the users, one in which they become a silent witness in an episode of mental issues and suicide awareness. With the help of animations, sounds and interactions in a VR environment, the user is able to understand what were early signs of mental distress, and hopefully become more aware for future situations. *Bairro 112*, was envisaged by a group of students from the Master of Interactive Media Design programme at the University of Madeira, who were challenged in the class of Interactive Narratives I to create a piece inspired by this year's ICIDS art exhibition theme, Roland Barthes' concept of the Text of Bliss "...the text that imposes a state of loss, the text that discomforts... unsettles the reader's historical, cultural, psychological assumptions..." (Barthes, 1973, p.14). Therefore, the authors thought about conveying an interactive experience that instead of providing a pleasurable immersive experience would actually raise discomfort to

the participant, in a way that makes them feel lost in the darkness. This interactive experience allows the audience to engage in a story that can be your own, a story of a family that isn't perfect in so many ways.

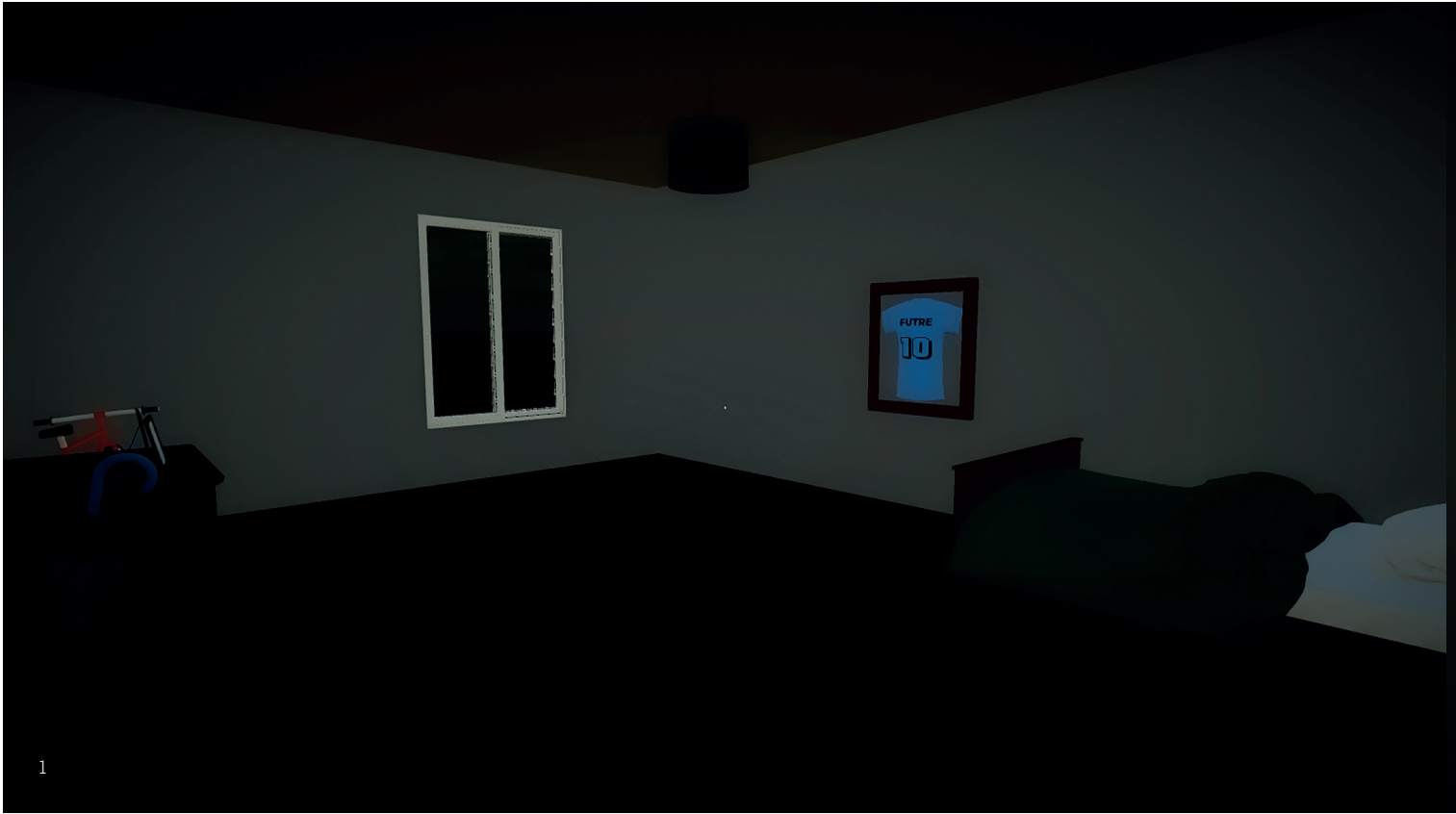
Most of all, one might open one's eyes to see what is hidden behind the appearance's curtain and what causes discomfort in so many of us: loss. By presenting a personal and past experience to the audience in a way that it could help people to gain the ability of not only looking at someone, but really seeing them, as a whole, the authors wish to help the audience to become more aware of problems and situations that each day affect our modern society, although most prefer to ignore them. *Bairro 112* in its narrative unsettles the audience by confronting them with mental problems, depression, suicide, death wishes, and others. By going through this narrative, the participants can gain knowledge or establish connections to some of these situa-

tions which can already be happening around their life and therefore can serve as a warning for future situations. By enabling the interaction with such issues in an interactive and immersive experience, the authors envisage that a closer connection will be established.

The story behind *Bairro 112* is based on a real story event witnessed by one of the artists of this piece, and it retells not only the events of a tragic night when his neighbour decides to take his own life but also several episodes showing what were early signs of mental distress that eventually led up to that tragic night. The narrative is largely based on the true story, however, the characters' names, location and some small details have been modified to respect the privacy of the people involved. The aim was always to try to create an experience similar to the sequence of events as they actually happened in real life. Presenting these events using an interactive approach actually enabled

a more in depth experience as the audience is able to interact with the objects that appear on the scene. This adds another layer of narrative complexity as participants are able to explore the backstory and several moments that led to the present event. In this way, participants can explore the story at their own pace and create a deeper connection with the story characters as they go through it.

The virtual reality narrative uses a first-person perspective to achieve an immersive experience, but uses an 'outsider', almost God-like point of view, of this suicide attempt. The experience takes place inside a bedroom of a housing complex. As the narrative unfolds, the audience becomes aware that they are playing in the shoes of a young teenager who is silently witnessing a suicide attempt of his best friend's father and next-door neighbour. As the events of that night progress, the audience has the ability to recall memories by interacting with objects



present in the room. Each interactive object is a token of a life event involving the neighbour, see Figure 1 and 2. These events (flashbacks) are presented to the audience by using 3D animations. However, while the audience unravels memories, the present time events continue to develop outside the bedroom window during the

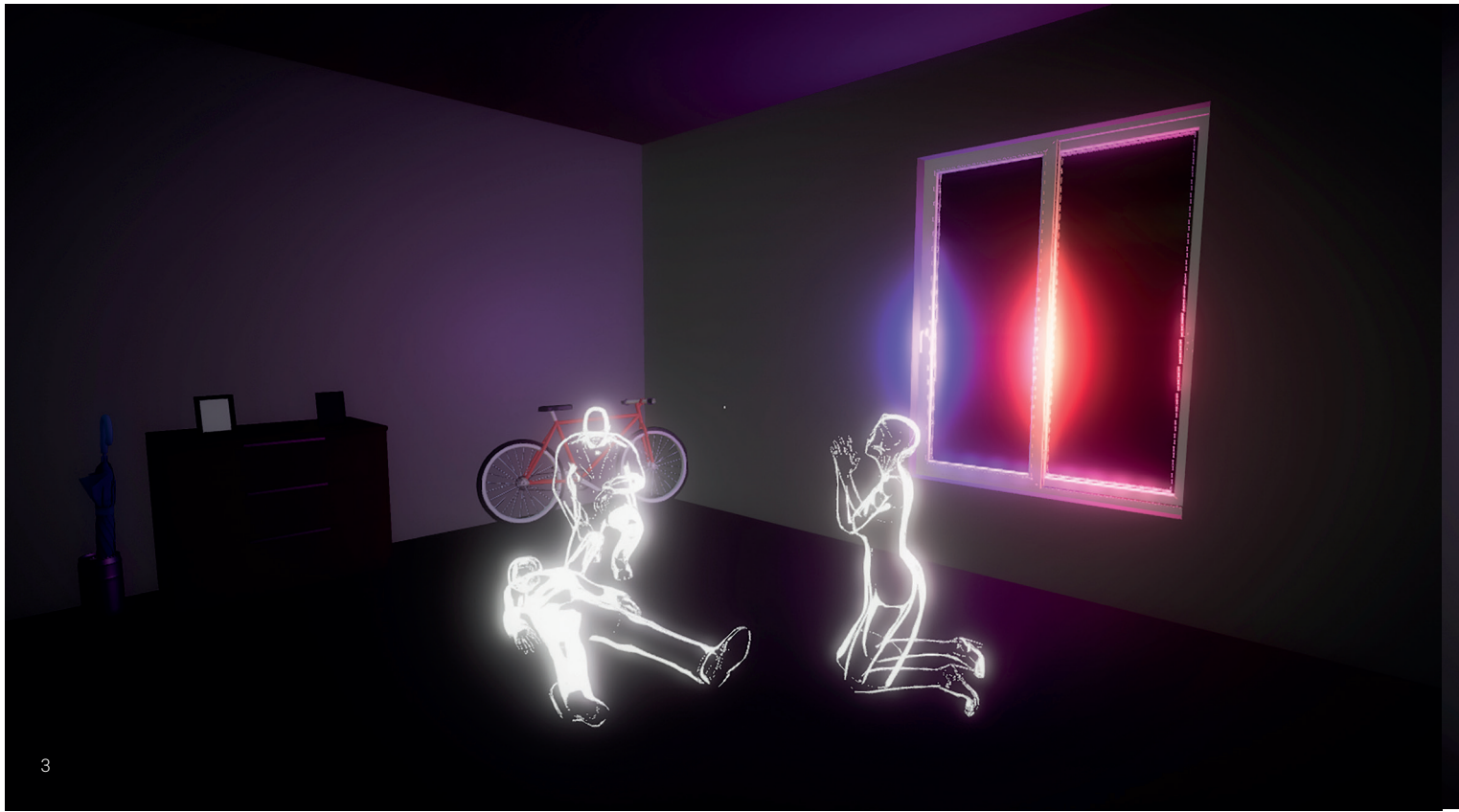
narrative time: these are represented by lights, sounds and dialogues that appear in the walls of the 3D scenario (room), see Figure 3 and 4.

The story takes place during night-time, and the goal was to recreate an ambience and mood close to the real event. Hence, special attention was given to the visual aspects of the



experience. From the 3D scenario, the colours, the objects that would allow the desired interaction and the sound design. Every detail, from objects used in the scene, the lack of light in the room during the whole experience, the effects used on the models that complement the narrative, was combined to achieve that ghost

appearance inside the room. The interactions are phased according to the narrative, so it is not possible to rush the entire story. All sound effects were used to give a bit more life to the spectral figures that appear in the room, giving more emphasis on the story and making it more meaningful and easier to understand. Thus,



every technical aspect binds together to reinforce and convey the “heaviness” of the situation, feelings like sadness, loneliness, despair and mourning for the character who committed suicide.

As mentioned before, once the audience interacts with an object by clicking on it in the

room, it triggers a flashback. This flashback comes to life through an animation with a couple of seconds picturing a life moment where the person who is about to commit suicide crossed paths with the character which the audience is embodying. The animation is represented by white silhouettes almost as if the characters in



it were holographic ghosts, see Figure 2. Besides these flashbacks that are linked to the room objects, some text is displayed on the walls of the room, giving extra information and context to the narrative events as they unfold. This text is also animated and follows a similar visual style to the flashbacks.

During the events and the interaction of users, the room that seems to be without light provides the mystery of the search for discovery, making the user interested in the narrative that is being told. On one hand, the dark environment of the bedroom conveys a message of sadness which leads the user to feel compassion with

the character and is crucial for the message to be absorbed by the user. On the other hand, the white colour in turn refers to purity, peace and spirituality, arising liberation and inner balance, by the fact that the character who commits suicide, sees that the best way to help his family is to leave this world, so that it does not cause more suffering and anguish for the people he loved.

The narrative uses a screen-based computational VR environment controlled by mouse and keyboard, to achieve a higher sensation of immersion and embodiment in the character's narrative. This screen-based computational VR was chosen to allow an easier accessibility by participants, however authors envisage that a VR headset would potentiate embodiment and immersion in the narrative experience. The project was developed using the Unity game engine as it would provide the support needed to incorporate interactivity and all the media

(sound, 3D animations and interactable objects) that the authors wanted. Also, since it is a free and light game engine, the experience is able to be run almost on any device. All the 3D models were developed using Blender, being a free software and capable of modelling any complex 3D object. Artists started by creating the basic shapes of the characters that had to be highly optimized in order to achieve smooth animations.

The sound design of this narrative had to be carefully designed to mimic the real events of the narrative and thus provide a more emotional experience. The voice-over of this narrative was all recorded with the support of a mobile phone with a microphone and edited in the Adobe Audition software. Some noises and speeches were recorded by the elements of the team. All this was outlined and discussed in group so that a great user experience was possible despite being a sad narrative, managing to communica-

ate the challenging message of this true event. The process of designing this narrative was iterative and involved user testing in the early stages to ensure no errors in the interaction process. This also ensured that the representation of the visual effects, animations and sounds were in perfect sync to convey a better understanding of the whole narrative. The feedback gathered from the testing helped to fine tune any imbalances in the experience.

As so, *Bairro 112* became more than an interactive narrative: this artwork encourages the audience to pay attention to the ones that live nearby, to one's friends and neighbours, often struggling with one or more problems and issues that one might rather ignore in one's selfish assumptions, and giving a hand before it is too late. Especially in a year that was severely marked by a pandemic that made millions of people 'prisoners' in their own houses, isolated, and forcing them to deal with loneliness, health

issues and concerns, financial problems, unemployment, even post-traumatic disorders, the authors believe that the message of *Bairro 112* is even more imperative. This kind of experience may serve as a reminder of all those issues and make everyone more aware of their own responsibility of living in a community.

Credits

Sound Design & UI: António Ramos

Programmer: João Freitas

3D Designer: Louis Michael

Producer: Roberto Rodrigues

Music: "We are Echoes" song by Stanley Gurvich

Special thanks to professor Mara Dionísio

References

Barthes, Roland, (1973). *The Pleasure of the Text*. Paris, Editions du Seuil (edition cited 1990, Oxford, Basil Blackwell)

Images

1. 3D environment where the action takes place, the young boy's bedroom;
2. Right: Interactable object that triggers a flashback memory;
3. Left: Animation of a Flashback Memory;
4. Combination of the animation of a Flashback Memory while the present events unfold and are highlighted by the text on the walls of the bedroom.

António Ramos has graduated in Design through the University of Madeira where he acquired several skills in various areas of Design such as Graphic, Industrial, Web Design. One of the features that Antonio most appreciates is the value attached to the detail and rigor. As a professional, Antonio describes himself as a creative person with great communication skills with a continuous desire to learn.

Louis Michael took an undergraduate course at the University of Madeira, where he developed many skills both on the graphic and 3D levels. It ended up becoming the area of greatest interest, dominating some 3D modulation tools like Blender. Currently, he works at M-ITI as a researcher on a project where the job is to create 3D content and some products. He spent a year working at the Institute, then decided to continue studying and joined the Master Interactive Media Design at the University of Madeira, because he wanted to deepen his skills, this time more focused on Game Design and Interactive Applications.

João Freitas is a Portuguese student currently attending Master's degree in Interactive Media Design at the University of Madeira. His background began with a professional course in Programming after completing his bachelor in Language and Business Studies. João's interest in games made him enrol in the Master to develop new skills in various fields from animating, modelling and storytelling. João always thrives to expand his knowledge in the game development area.

Roberto Rodrigues has been a designer since 1999, developing several works for web and communication companies. Between 1999 and 2013 he worked in the Editorial Art department and Internet department of Diário de Notícias da Madeira and saw his work recognized by the 'European Newspaper Awards' in several design categories. He's currently attending the Master's degree in the Interactive Digital Media course at University of Madeira.

Medium: HTML; Video Game; Interactive Story

Year of Release: 2020

Link to the artwork: <https://abrahamfalcon.itch.io/holy-fire>

Video artist: <https://vimeo.com/453959919>

Holy Fire

Abraham Falcon

"The player has little agency and cannot directly interact with the non-player characters, but in this case the form of the game is actually also self-explanatory: it expresses how one cannot do anything to save people in danger, and how there is no free will in these kinds of political systems."

ICIDS 2020 Jury

Creating discomforts: game design and personal reflections on authoring *Holy Fire*

Abstract

Holy Fire is a Bitsy video game and digital interactive story that depicts the suicidal self-immolation protests by Tibetans against Chinese communist rule of Tibet. The subject matter is an ongoing human rights issue that is being actively censored by the communist Chinese state and largely ignored by mainstream 'Western' media. This game, available on mobile and PC, seeks to raise public awareness of this important issue through an accessible medium. This paper reflects on the pseudonymous author's personal experience creating the game. This paper firstly highlights game design aspects of the work: specifically, using the game's environment for storytelling; utilising behavioural economics principles to balance ensuring player agency with implementing intrusive but helpful and necessary tutorial elements; creating player agency through exploration; and applying 'Interpretation of Remains,' i.e., storytelling through what other undepicted game characters and events have seemingly left behind for the player to discover, examine and consider. This paper secondly analyses the many discomforts that this game is capable of creating for the player (both in terms of physical and emotional discomfort), and contemplates the many discomforts creating this game has itself caused to the pseudonymous author and may have caused to other political stakeholders.

Keywords

bitsy, china, interactive storytelling, game design, political games, serious games, tibet, video-games

Introduction

Holy Fire (Falcon, 2019) is a video game and digital interactive story, made using the Bit-sy game editor, that depicts the suicidal self-immolation protests by Tibetans against Chinese communist rule of Tibet (as the so-called Tibet Autonomous Region), which have been occurring since 2009 and continue to occur presently. 156 people, including monks, nuns and laypeople, have self-immolated as of July 2020 (Fadiman, 2020), most of whom have died (Free Tibet, n.d.). This ongoing conflict represents the uncomfortable, continued, widespread repression, segregation and cultural destruction in 'post-imperialist,' 'third-world' countries. The subject matter of the piece is inherently politically and emotionally uncomfortable: it is generally ignored by mainstream Western media and actively censored by the communist Chinese government. *Holy Fire* was selected for exhibition at

the 13th International Conference on Interactive Digital Storytelling (ICIDS 2020) (ICIDS 2020 Organisers, 2020a) under the theme of 'Texts of Discomfort' (ICIDS 2020 Organisers, 2020b). This pixel-art interactive journey is recommended to be experienced on mobile devices using touch-screen controls, but may also be experienced on personal computers using keyboard controls, at the following link: <https://abrahamfalcon.itch.io/holy-fire>.

Inspiration and creation

Holy Fire was created as part of an assignment for an undergraduate game design module. *Holy Fire* is inspired by *The Killer* (Magnuson, 2011), a web-based Flash game (or 'not-game,' as its author, Magnuson, prefers to refer to it) depicting and publicising the Cambodian Genocide perpetrated by the communist Khmer Rouge from 1975 to 1979.^[1] *The Killer* was shown to me as part of the essential 'playing' list (in ad-

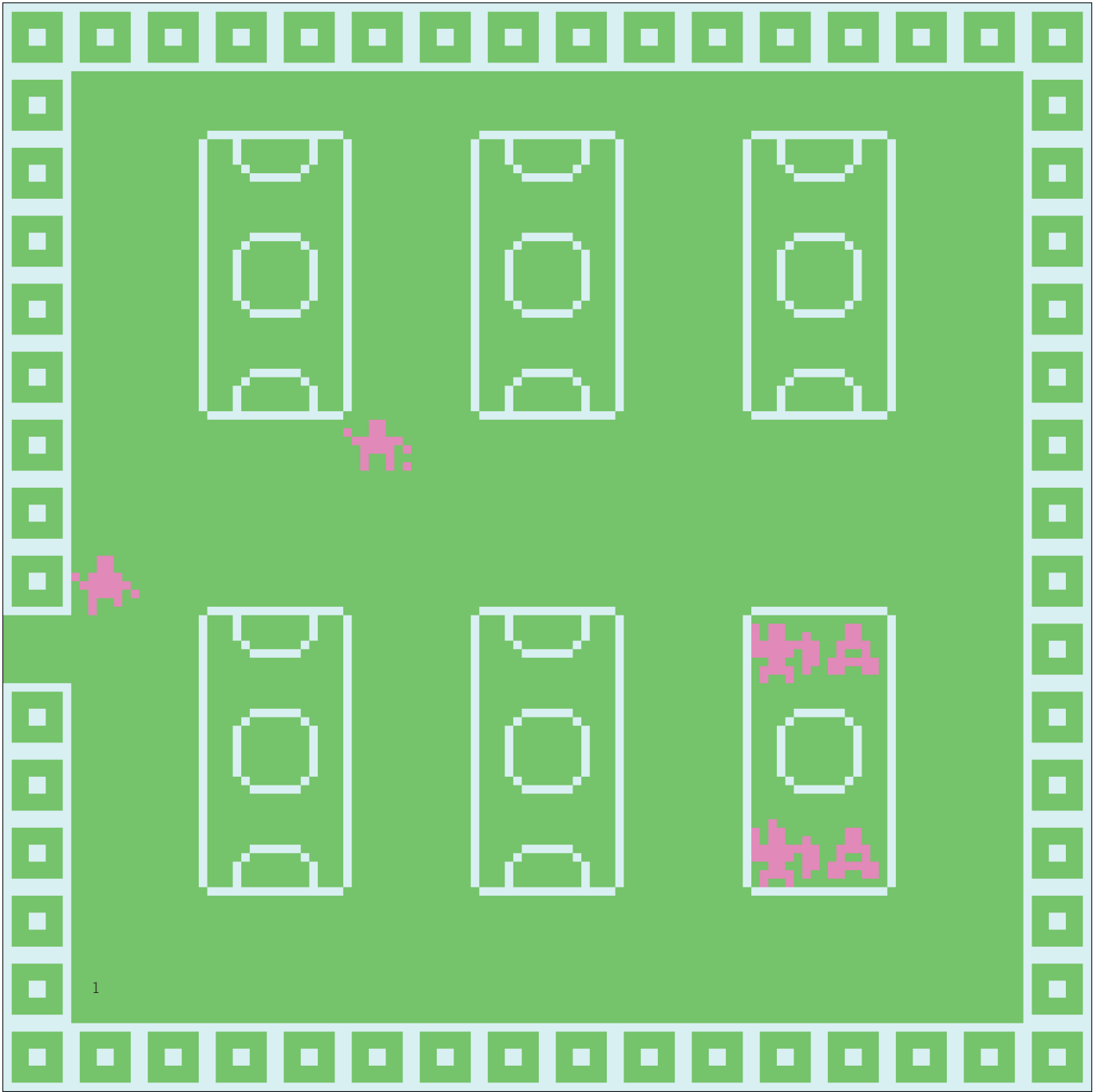
^[1] The Killer (2011, Jordan Magnuson: Flash) <<http://www.gametrekking.com/the-games/cambodia/the-killer>> accessed 11 December 2020.

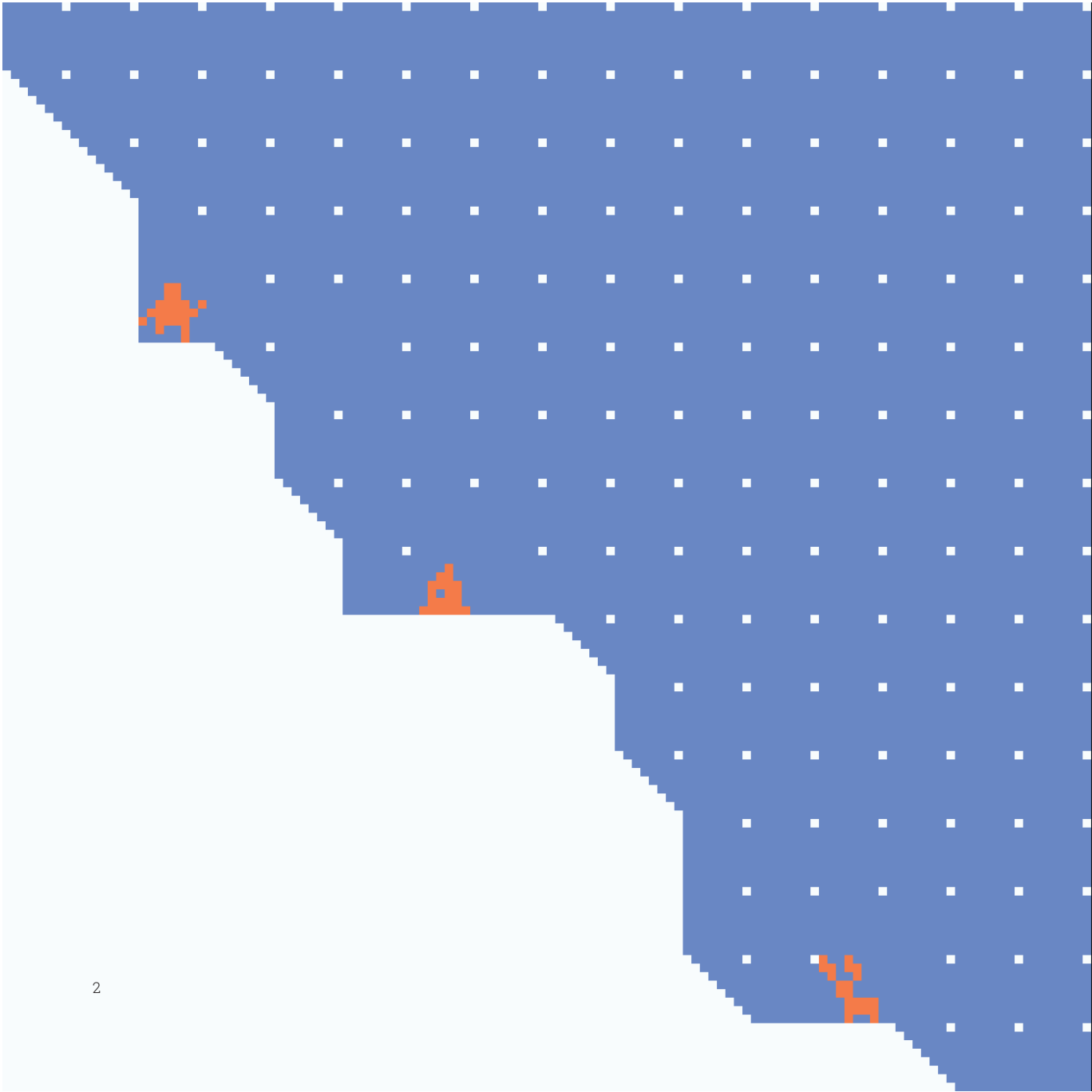
dition to the essential reading list) for my undergraduate game design module. When tasked to complete an assignment for the module, I wanted to do more than just make a 'fun' game and hand in my assignment; instead, I decided to use this opportunity to make a similarly meaningful and serious game that has social value and wider implications. Consequently, I decided to make *Holy Fire* in order to raise public awareness of the self-immolation protests by Tibetans in recent years. I recommend that other students also actively consider if they may be able to research or create something more meaningful and valuable as part of their studies, and that we should choose to do so if opportunities arise.

Game design

Evoking and creating story association through environmental storytelling

Jenkins argued that environmental storytelling can be made immersive for a player through the evocation of pre-existing narrative associations (Jenkins 2004): specifically, that the past experiences, knowledge and preconceptions of that player can be drawn upon to enhance the present experience. Almost every Room in *Holy Fire* attempts to evoke narrative association through familiarity by using varying but archetypal colouration palettes, and visual representations of quintessential real-world objects. For example, white lines on green grass delineating ball game pitches School Playground Room (as shown in Figure 1), and the white snowy mountains with falling snow and clear blue sky in the background in the Mountain Rooms (as shown in Figure 2).





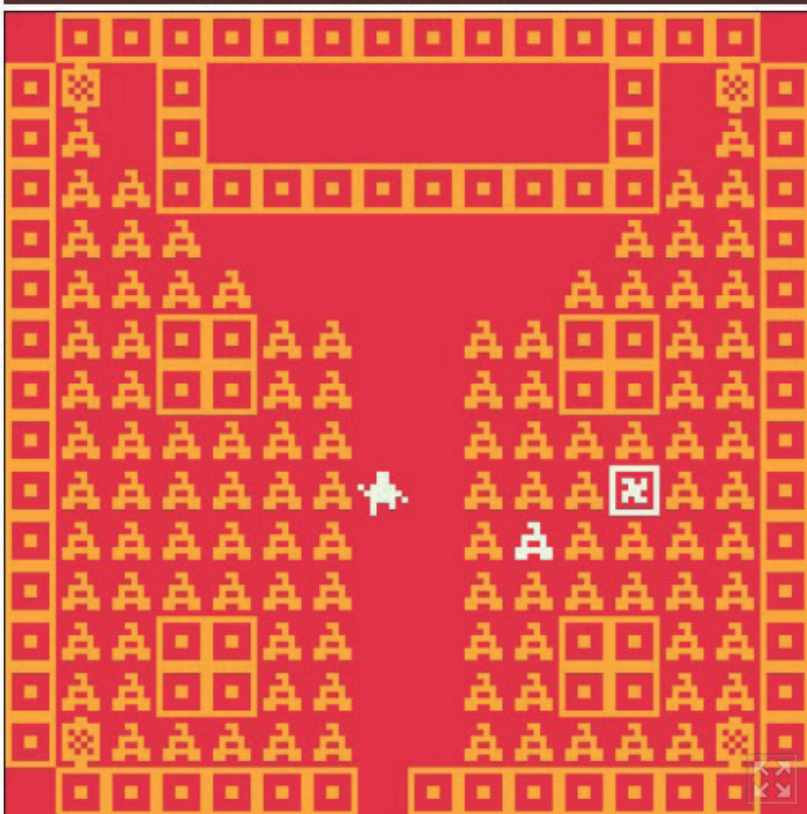
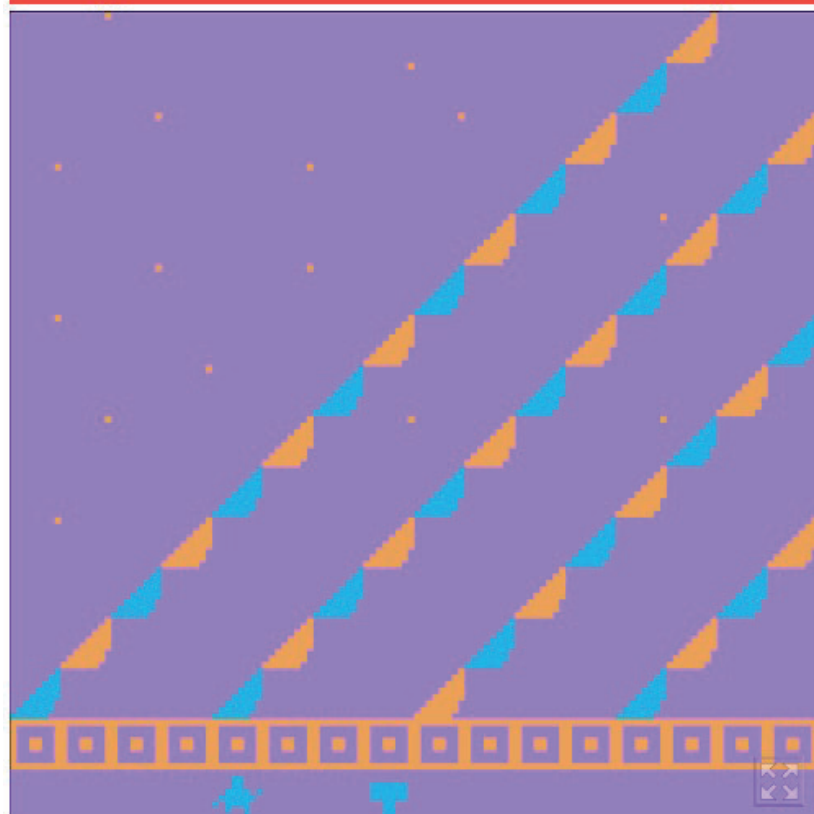
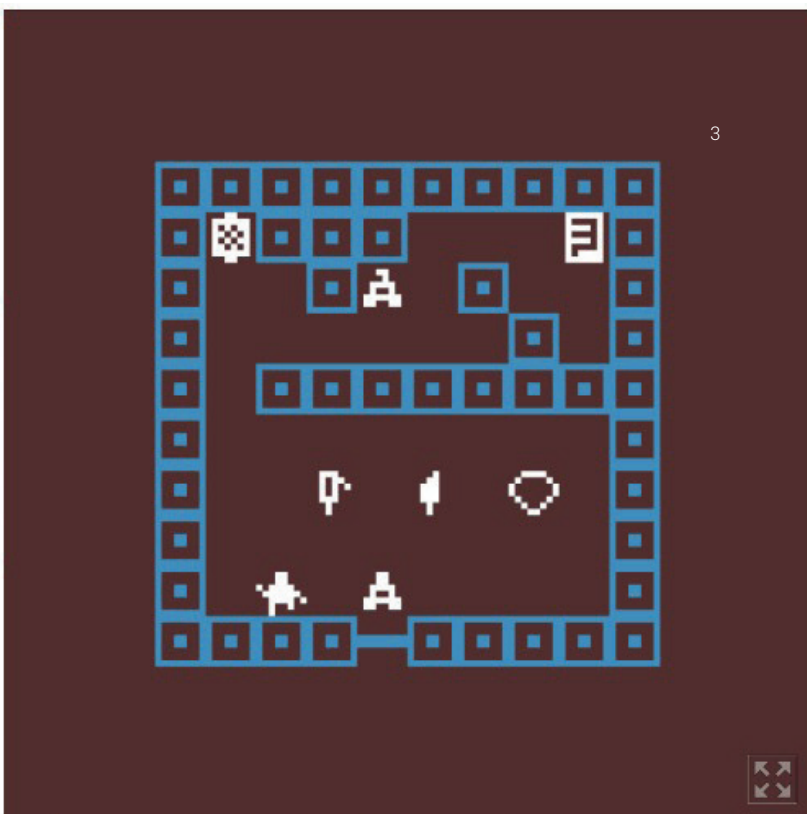
texts of discomfort

For pre-existing narrative associations to be made, it is a precondition that the player must possess prior knowledge which allows them to understand elements used by the designer to convey and evoke the environment. This prior knowledge is ideally obtained naturally from the player's own past experiences (as can be easily done for the examples above), but to account for more obscure references and less experienced players, the game can also provide such contextual knowledge through tutorial elements and dialogue. In *Holy Fire*, background information is provided to less knowledgeable and less experienced (in terms of the game's adopted Tibetan cultural context) players to also allow them to understand the wider, inter-textual narrative environment which surrounds them. For example, the descriptions provided by the various scrolls, signs and monk characters that the player can interact with explain Tibetan Buddhist references made in *Holy Fire*, such

as prayer wheels, prayer beads, prayer flags and the wheel of reincarnation (as shown in Figure 3), which not every player may necessarily be familiar with.

Embedding (optional) information to create emotional responses

Jenkins differentiated between enacted and embedded narratives (Jenkins, 2004). The enacted narrative is controlled by the designer and compulsory for the player to experience, whilst the embedded narrative, although also intended by the designer for the player to experience, requires the player to actively discover and interact with them in order to experience them. Dialogue is a method for the designer to convey information and it can be either compulsory or optional for the player to engage with. Optional engagements with Items, Sprites and even certain Rooms thus embed information in *Holy Fire*. For example, exploration of the School



Playground Room is entirely optional (the player can choose to not visit it and nonetheless progress through the story): the player is not given any active tasks to carry out, such as puzzles to solve, in this Room; the player must choose to discover and interact with the optional dialogues with the various characters in that Room in order to understand the information I embedded.

I also embedded information and attempted to evoke emotional responses from the player through game mechanics and a difficult user interface. The sudden mechanical change of the guard characters in the Injured Monk Room (as shown in Figure 6), from being non-Wall Tiles which the player can navigate past to Wall Tiles which the Player cannot navigate past, surprises and disappoints the player. The player expected the guard characters to behave mechanically in the same way, i.e., to be able to walk through them in order to interact with the

injured monk character that the guards are surrounding. However, upon interacting with the first-aid kit, the guard characters change mechanically: the player can no longer walk through them and interact with the injured monk character so as to help him with the first-aid kit. The difficult controls required to navigate the Mountain Rooms (as shown in Figure 2) and the External Temple Room (as shown in Figure 4) force the player to feel hardship and frustration because the player is required to tap or press the movement buttons repeatedly. My implementation of a difficult user interface was inspired by Juul and Norton's paper (2009) in which they argued that the difficulty a player encounters when interacting with the game (e.g., controlling the avatar) potentially adds to the gameplay experience: a game that is more difficult to interact with may tell a more meaningful story. I argue that both mechanical changes and difficult controls constitute narrative game mechanics

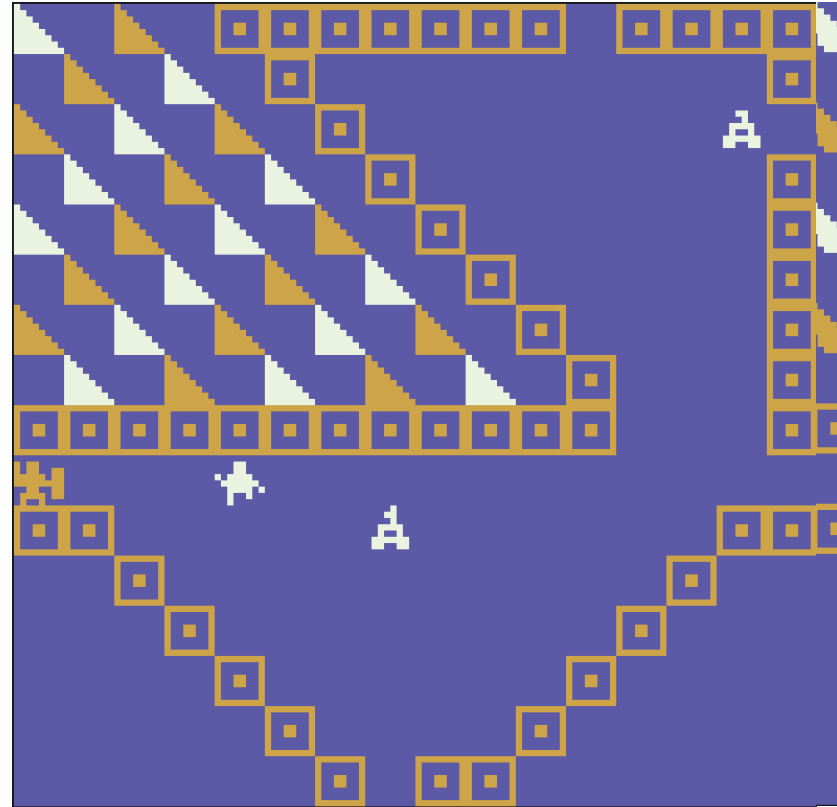


(Dubbelman, 2016, pp. 40–41).

Allowing the player to control progression: applying behavioural economics

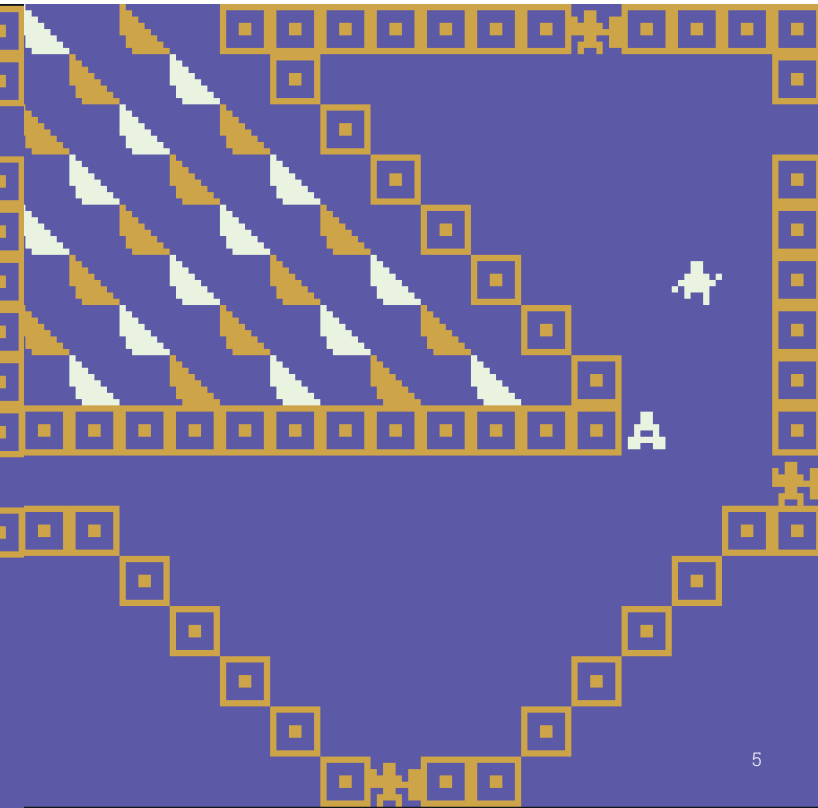
The Bitsy game-making platform (Le Doux, 2017) does not allow for complex limitations and restrictions of player progression as neither endings nor exits could be conditionally triggered. I address this software limitation by using way-pointing signages which I argue represent one of the simplest, most effective and non-intrusive methods of conveying tutorial elements.

I borrow from behavioural economics' understanding of the concept of 'nudge'^[2] (Thaler & Sunstein, 2008, p. 6) and Baldwin's categorisation of nudges into separate degrees^[3] and propose to divide the tutorial elements in games into two categories:



^[2] Which refers to a method of influencing behaviour and decision-making with suggestive, non-restrictive interventions rather than with indiscriminately imposed mandates;

^[3] Specifically, I refer to first- and second-degree nudges.



- (i) the supplying of simple tips and reminders to assist the player in going in the correct narrative direction; and
- (ii) the manipulation of ‘default rules’^[4] (Sunstein, 2013) which prevents the player from easily and accidentally going in the incorrect narrative direction, but from which the player can ultimately ‘opt-out.’ (Baldwin, 2014, pp. 835–837),

Holy Fire implements both first- and second-degree tutorial elements. In terms of first-degree tutorial elements, many of the notes, signs and monk characters placed around the game world in *Holy Fire*, represented as either Sprites or Items, inform the player about possible directions to explore and some even nudges them towards exploring certain options before others, e.g., the monk character in the Temple Square Room recommends a sequence

^[4] Which refers to the options which are designed to be chosen automatically unless the decision-maker actively refuses.

to visit the various Rooms in (as shown in the left screenshot of Figure 5).

In terms of second-degree tutorial elements, for example, the default option for the player when encountering an unblocked exit is to enter said exit. I prevent the player from choosing this default option of entering unblocked exits uninformed by blocking said exits with Items in the form of monk characters who instruct the player to do certain tasks before entering said exits, e.g., in the first Baby Hut Room and the Temple Square Room. However, I do allow the player to disregard this amended default rule and, nonetheless, choose to enter said exits if they so decide, in order to ensure that the player's autonomy and agency are preserved.

In addition to first- and second-degree tutorial elements, I also utilised mandates by creating points of no return in *Holy Fire*: once the player has triggered certain plot devices by entering certain Rooms, they would not be al-

lowed to return to previous areas. For example, once the Player leaves the Baby Hut Room; climbs down from the Mountains; visits the Temple; enters the Temple Square (as shown in Figure 5); leaves the Dormitory; sees the Abbot self-immolate; and chooses to commit self-immolation at the Bonfire, they would not be allowed to return to previous areas of the game, thus ensuring that the Player will only travel through the narrative in a chronologically sensible direction as intended. This ensures and controls the temporal continuity of the story by preventing player immersion from being broken by unintended time paradoxes.

Signages and tutorials: nudging the player may not break immersion

When designing *Holy Fire*, I set out to create agency through exploration. I concur with Fernández-Vara's argument (2011, pp. 8–9) that tutorial signage is often disparate from the

fictional game world: the so-called theatrical ‘fourth wall’ will inevitably break as game tutorials tend to interact directly with the player by making reference to specific controller inputs, despite the designer’s best attempt to integrate the tutorial material into the fictional game world.

I argue that although tutorial elements may not constitute a part of the narrative, they represent an effective way for the designer to shape the player’s understanding of the narrative. Unless the designer wishes to leave the player completely in the dark, then tutorial elements should be included in games in order to encourage and nudge the player towards the correct direction in understanding the narrative the designer intended. Agency through exploration is not necessarily a wander in complete darkness. I argue that agency through exploration is created in a story when the player goes on a journey to uncover more information about

the game world and the characters that inhabit it. This journey does not have to be completely unguided. In fact, this journey can be completely linear and still effectively convey a sense of exploration and discovery, as demonstrated by the game, *Journey*.^[5]

I argue that whether or not agency through exploration is created does not depend on whether or not the journey is guided or unguided. It depends instead on whether the player felt as if they discovered more about the game world through their time spent playing the game. If the player, when prompted and guided in the correct direction, would discover more about the game world, then I argue that the game should prompt and guide them thus. For this reason, *Holy Fire* rightfully provides tutorial elements, as I detailed above, in order to assist the player in comprehending the narrative whilst at the same time preserving autonomy and agency. Although correct progression through the narrati-

^[5] *Journey* (2012, Thatgamecompany: PlayStation 3).

ve of *Holy Fire* is heavily nudged towards, progression is not fixed; thus, the Player is allowed to disregard nudges and explore freely if they so choose.

The Injured Monk Room: Interpretation of Remains

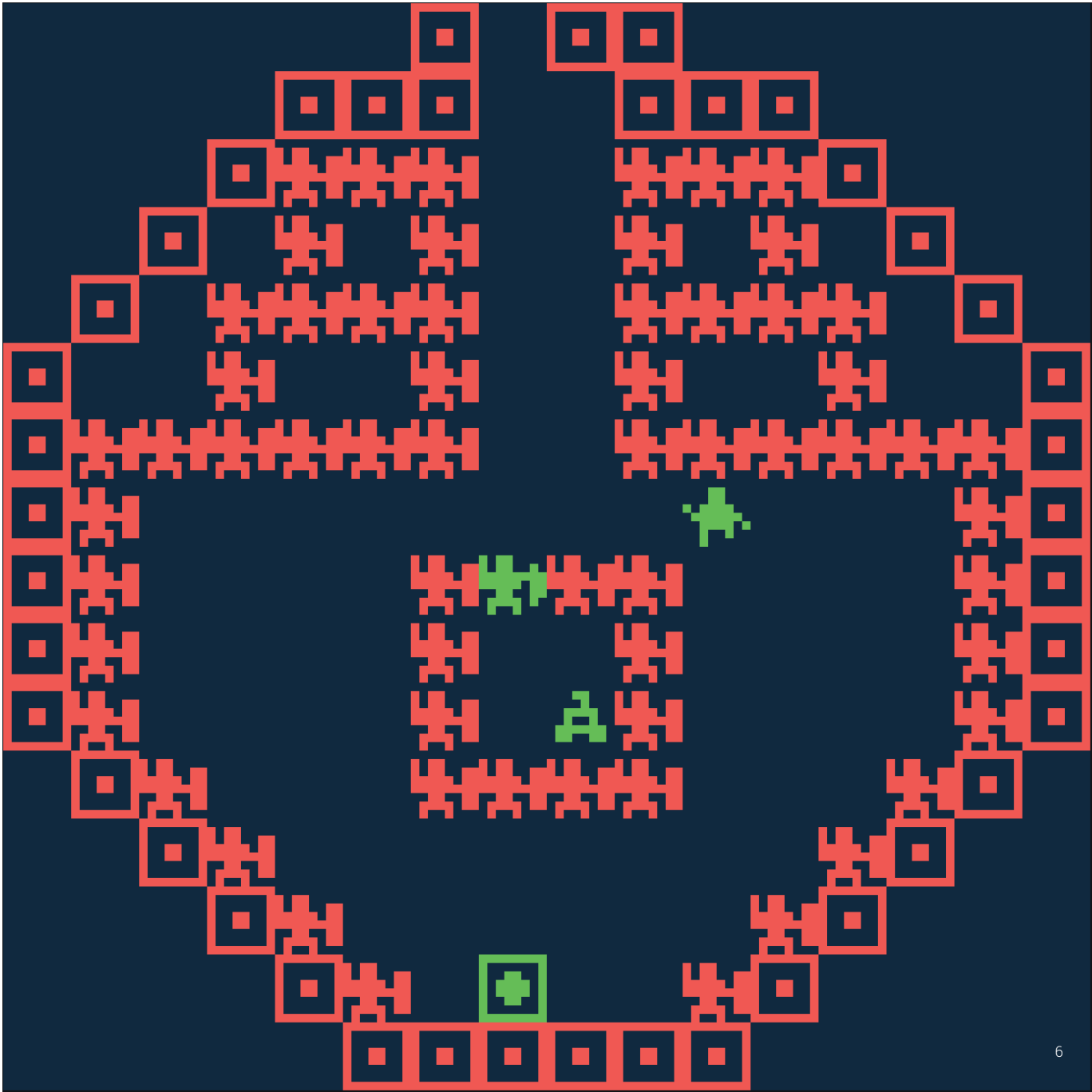
The room containing the Injured Monk (as shown in Figure 6) is an example of my application of the 'Interpretation of Remains' as defined by Fernández-Vara (2011, pp. 6–8), which refers to environmental storytelling through what other undepicted game characters and events have seemingly left behind for the player to discover, examine and consider. As the story designer, I do not explicitly explain why and how the injured monk was injured: I only show the aftermath of the events which must have unfolded before the player arrived at the room, i.e., the monk becoming injured and surrounded by government guards. The player must disco-

ver and ponder the cause of the monk's injury by themselves.

Fernández-Vara argued that the 'Interpretation of Remains' as a narrative method is not necessarily directly relevant to gameplay and fails to encourage a specific behaviour from the player. I agree that an overarching narrative regarding the background of the game world may well be very distant from gameplay and difficult for the Player to relate to, for example, the massive amount of background information embedded in open-world games through conversations with NPCs, audio recordings and text. In such a case, the Designer must somehow persuade the Player to invest the necessary time into the game and the narrative in order to truly comprehend the breadth of the game world. See examples of games with a massive amount of embedded lore: *The Elder Scrolls V: Skyrim*^[6] and *Horizon Zero Dawn*.^[7]

^[6] The Elder Scrolls V: Skyrim (2011, Bethesda: PlayStation 3);

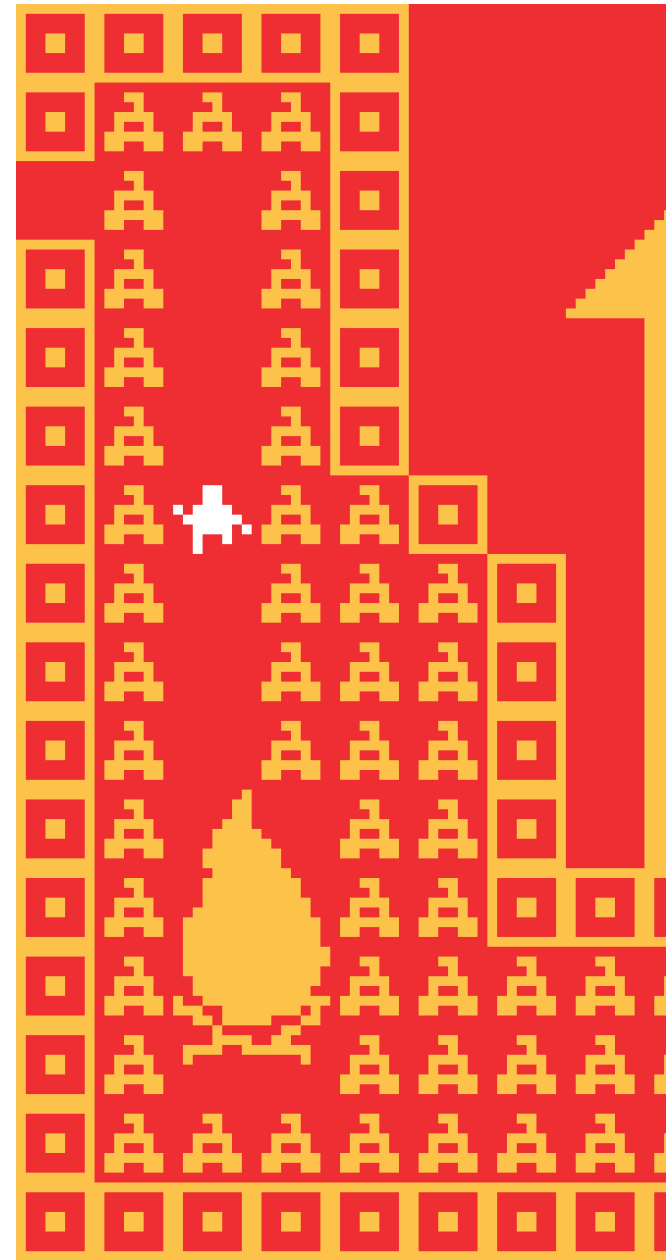
^[7] Horizon Zero Dawn (2017, Guerrilla Games: PlayStation 4).

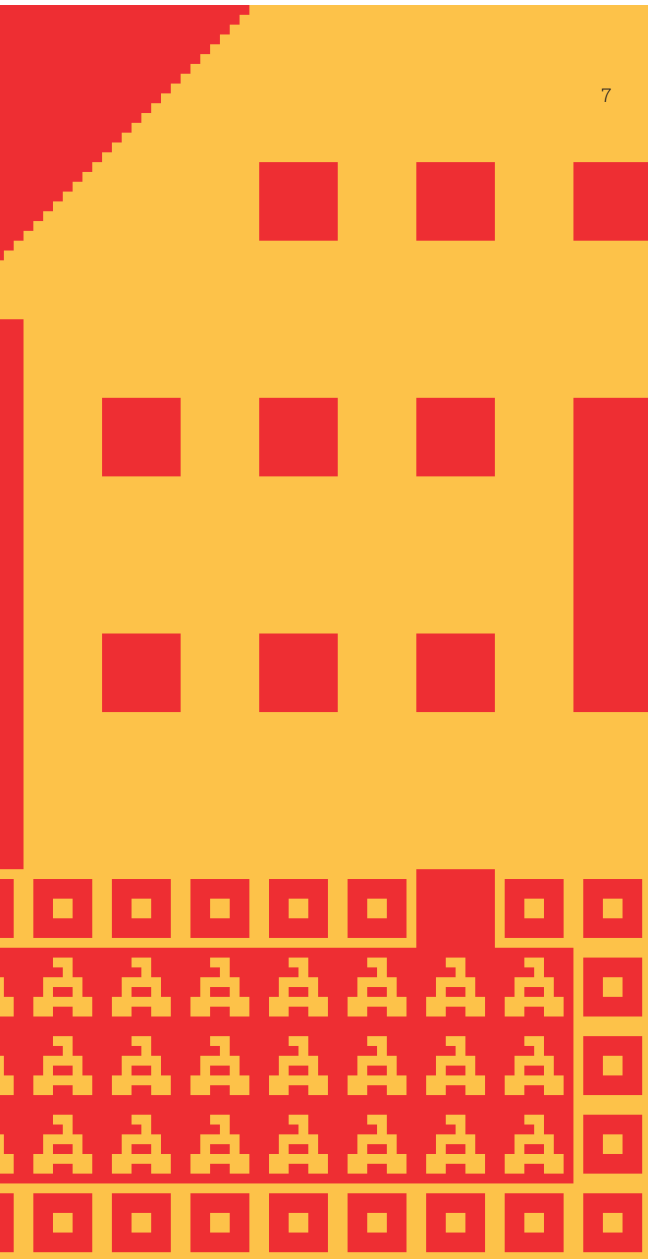


texts of discomfort

However, I argue that, in compact games with few but focused mechanics, this narrative method can be effectively utilised. For example, in *Return of the Obra Dinn*,^[8] the implementation of the 'Interpretation of Remains' as a narrative method was particularly apt because the gameplay elements mandated an examination of the past, thus forcing the Player to engage with the narrative method. Similarly, in *Holy Fire*, I attempted to emulate this by forcing the Player to engage with the narrative method of 'Interpretation of Remains' through mandating a related gameplay mechanic: in order to 'solve' the Injured Monk Room, the first-aid kit must be physically interacted with through gameplay, thus raising the salience of the injury in the player's mind.

^[8] *Return of the Obra Dinn* (2018, 3909 LLC; Lucas Pope: Windows).





Creating discomfort

Emotional discomfort through exploration and player agency

Holy Fire depicts the suicidal, self-immolation protests by Tibetans against Chinese communist rule of Tibet. The subject matter of the game is inherently emotionally uncomfortable. The control granted by the interactive medium allows the player to personally struggle as a member of a marginalised group from a first-person perspective. The player will step into the shoes of a local monk; witness the injustice against their people; and fail repeatedly at attempting to help and make the situation better. The player is allowed to explore various aspects of the storyline in different orders. In the end, the player is forced to make the life-defining choice as to whether or not they will commit ritual suicide in public protest (which leads to the two possible alternative endings, as

shown in Figure 7). This was and continues to be a life-or-death decision that faced and is facing many Tibetans in real life. The game helps the player to learn about, experience and understand the emotional discomfort suffered daily by the Tibetan people.

Physical *discomfort* during gameplay: physical mimicry

The interactivity of the game is simplified such that the player may only move their character in four directions and proceed with dialogue. Each movement requires the player to swipe in the desired direction on their mobile phone or to press the appropriate arrow key on their keyboard. Hundreds of such repetitive movements are required to finish the story because I force the player to complete certain complex, ritualistic movement patterns, which are inspired by Tibetan Buddhist motifs. The tiring and uncomfortable nature of the physical inter-

action with the game is intentional.

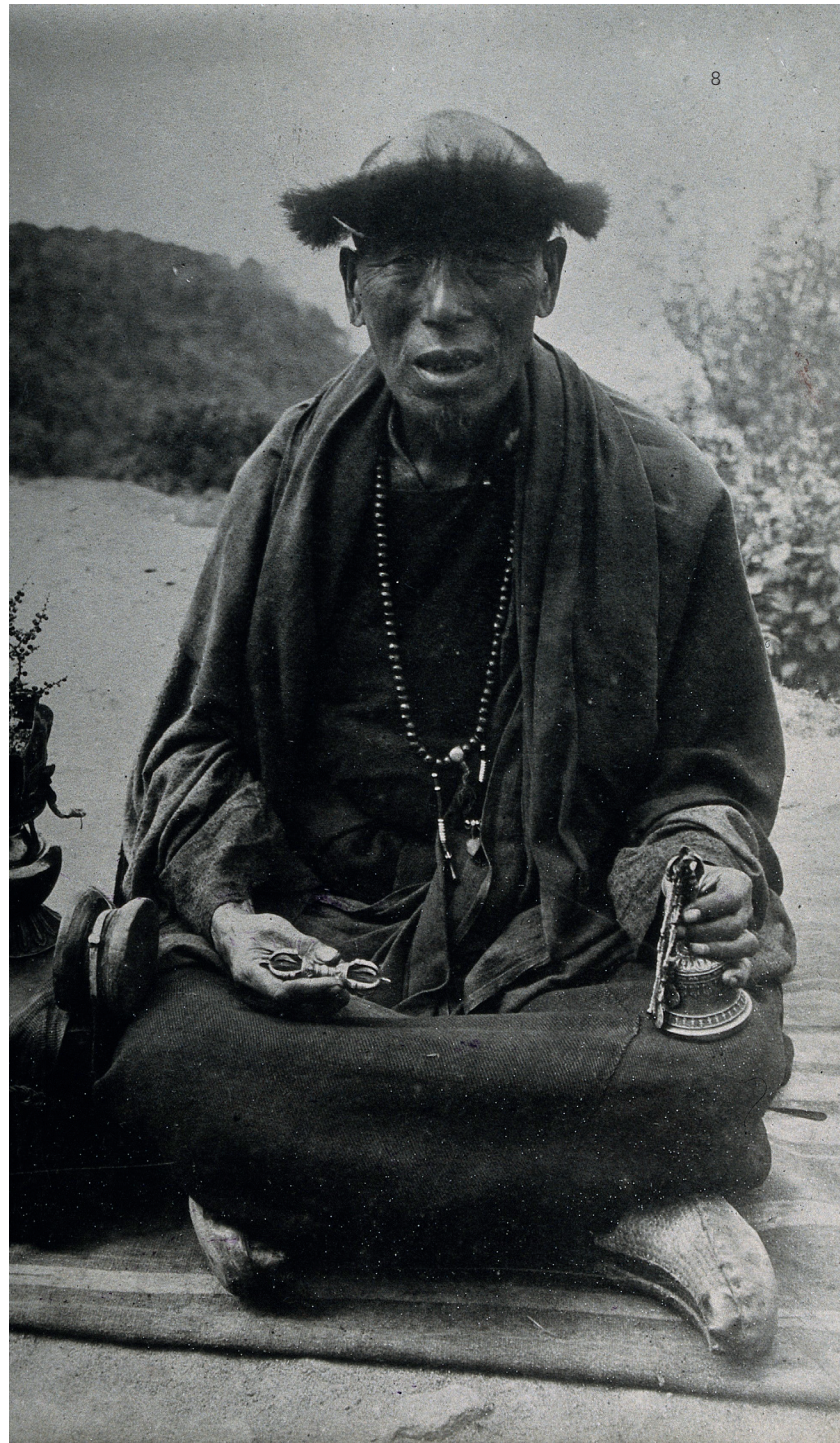
I also intend and desire that players, if they are physically able, should sit uncomfortably cross-legged on the floor, in groups of a few members, in a room that is in near-complete darkness, lit by but a few candles, for the duration of the gameplay (as shown in Figure 8). The uncomfortable physical posture that players should be in to play the game directly replicates the physical posture of the game characters, specifically the monks. I hope that at least six players would sit cross-legged in a 2-by-3 pattern to play the game together: this replicates the physical, regimented and patterned system that monks sit in during prayer. Ideally, dozens of players would play the game together and sit in even larger formations.

I hope that the uncomfortable primitive interactivity of the game and these uncomfortable physical mimicries allow players to build a deeper, more personal connection with the

narrative, and empathise better with the pained struggles of the portrayed characters, by forcing the player through a real-life exploration of another cultural and religious system's physical discomfort, in addition to the emotional discomfort represented by the game's challenging storyline and difficult decisions.

Overcoming discomfort through emotional strength

I hope that the harsh realities of this ongoing, real-life political situation will inspire players to overcome both the physical and emotional discomfort they experience whilst viewing the game and to finish the narrative. Alternatively, if the player gives up, it is hoped that they will reflect on their failure to access uncomfortable materials in everyday life because of the lack of comfortable and accessible sources, such as main-



stream media reporting, which often censors potentially disturbing imagery, such as burnt human flesh. Similarly, the display of the game on the players' own mobile devices is intended to demonstrate how easily viewers could have accessed the difficult content portrayed and the discomfort conveyed, which should be contrasted with how viewers either choose not to or are unable to access such uncomfortable content.

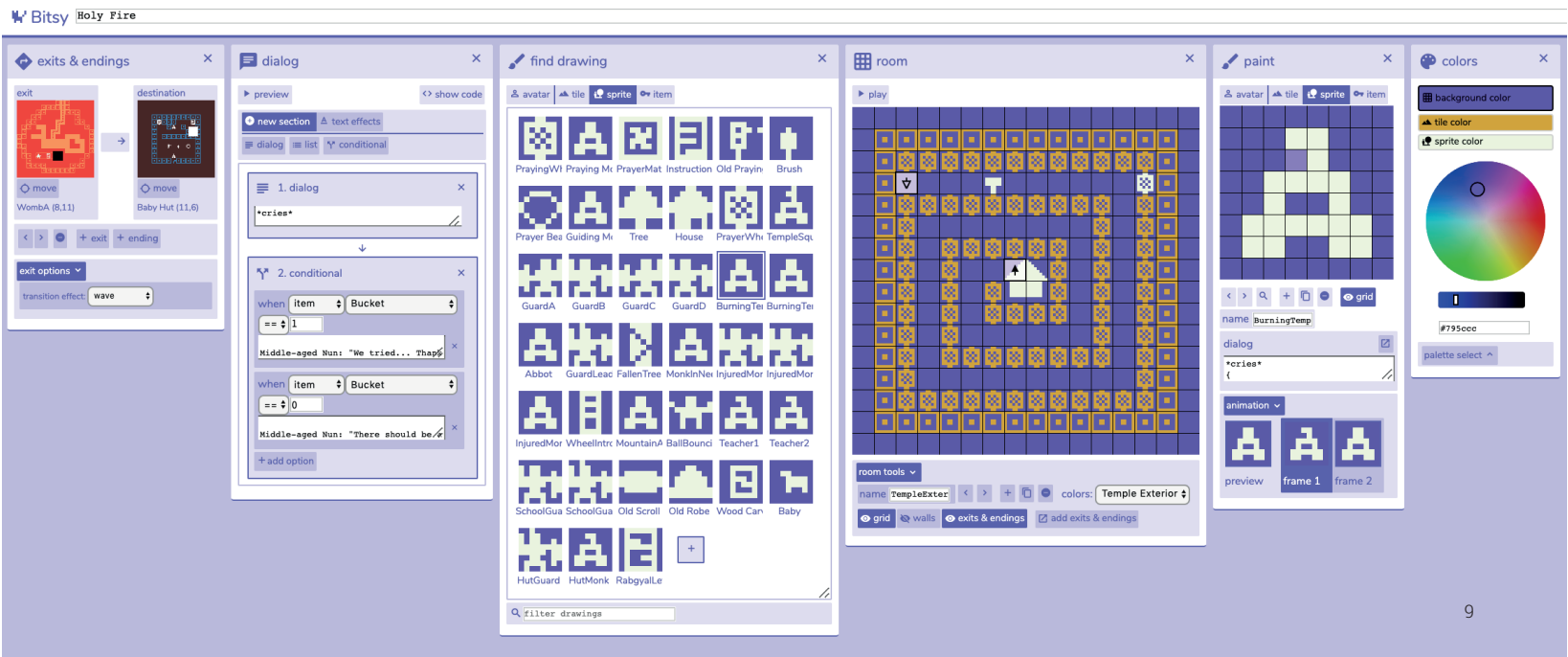
Inspiring future work through accessible and *comfortable* mediums

Web-based computer gaming is an accessible and comfortable medium for artists that can intimately bring public attention to an uncomfortable current political and social issue that has been disregarded by mainstream media. The game was made using a very accessible and comfortable-to-use game design tool. Bitsy is a web-based game maker that is easy

to use and does not require any programming skills (as shown in Figure 9). It is hoped that viewers would be inspired to create similar games to publicise other unknown uncomfortable conflicts and struggles around the world. The designer's comfort in making the game should be contrasted with the discomfort of the player. The player cannot naturally appreciate the designer's comfort through their uncomfortable gameplay, and must be told of this after their gameplay experience.

Adapting to COVID-19 discomforts

ICIDS 2020 was held virtually because of the global outbreak of the COVID-19 Pandemic. Appreciating this ongoing situation and that the ICIDS 2020 Exhibition would be held virtually, I adapted the game for exhibition in an exclusively virtual environment. The game itself can be played on the player's phone and therefore experienced remotely from anywhere in the world.



The physical elements can also be replicated by giving players prior instructions. Indeed, I proposed that each player can sit uncomfortably on their own, whilst a remote conference call of multiple simultaneous players could replicate the intended group sitting arrangement. In fact, a remote call may have incidentally allowed more players to experience the game together.

The pseudonymous author's own personal, political discomforts

The subject matter of the game is under constant supervision and censorship by the Chinese government under a regime of misinformation popularly supported by mainland Chinese netizens. The subject matter is so uncomfortable to the Communist Party of China that I must display the game under a pseudonym in fear of political persecution of myself and my family members in Mainland China, if they are personally connected to the game. I was

unable to refer to my other creative and academic outputs to establish my previous experience during the competitive submission process for the ICIDS 2020 Exhibition. My future career and portfolio would also not be able to benefit from any publicity and recognition that this game generates and receives, because I would be too afraid to directly reference this game.

Others' political and commercial discomforts

To provide an example of the political pressures at work: *Holy Fire* was shortlisted by the student art prize of a European university. However, the organisers of that art prize, having contemplated the potential political and commercial pressures from mainland Chinese students (e.g., a reduction in admissions and the generation of tuition fees), decided not to promote *Holy Fire* as widely as it had intended, nor as widely as other shortlisted pieces from the same competition. In light of the outbreak of CO-

VID-19 and the racism that Asian (particularly, Chinese) people have experienced because of it, which rendered this time period especially politically sensitive, I agreed with the university's approach. However, such self-censorship sets a dangerous precedent.

This piece has made a European university and its mainland Chinese students uncomfortable. This highlights how the piece subverts the established, mainstream political and business systems which acquiesce to, if not outright allow, censorship and prevent people from learning important information about the political sufferings and discomforts of other cultures.

Cultural appropriation(?) and other *uncomforting* connotations

Further, I also had to grapple with a separate, uncomfortable inner conflict: the morality and ethical issues surrounding telling someone

else's story. The Tibetan culture is not my culture. A charge of cultural appropriation can reasonably be levied against me in relation to the creation of this piece. In fact, on the face of it, I actually belong to the Chinese culture that has oppressed and continues to oppress the Tibetan culture. I may well be seen by some as the 'enemy.' This ongoing story is not mine, but is it mine to tell?

There was also the concern that this game would achieve little else but merely exhibit a real-life culture's ongoing suffering as if it is 'art' and a human zoo. Given that my own culture is arguably the antagonist of this story, there may be suspicions of imperialism and colonialism in my taking the role of the storyteller. I decided to embrace this potential interpretation and, in my opinion, this legitimate critique by voicing the introductory video to *Holy Fire's* ICIDS 2020 exhibition using a text-to-speech software that spoke in a voice impersonating that of Sir Da-

vid Attenborough. I was and remain conscious of the connotations of my work.

In the end, I came to the view that no one else could or would make this or a similar game, or even attempt to tell this story in another medium. I think no one else would have spoken up, so I decided to act as a voice for what I saw as the voiceless. I endeavoured to be objective in my portrayal, and to present information and advocate for players to try to find out more about this real-life situation after the gameplay, rather than for them to merely shrug, think that they now know better and walk off without trying to do anything else.

Conclusion

This game does not simply make its viewers emotionally and physically uncomfortable through an accessible medium in order to best inform them of an uncomfortable current issue. Because of political and cultural reasons, the mere presence and existence of the piece make the totalitarian Chinese regime and anyone who potentially benefits from it extremely uncomfortable and worried about its implications, including me, the author...

Disclaimer

No expression of personal opinion on the morality, legality or politics surrounding the decisions to self-immolate is intended or should

be inferred. I simply want to bring peoples' attention to the fact that this is happening. Any references to Tibetan Buddhism are made with as much due deference and research as possible.

I apologise for any inaccuracy or offence. Artistic licence has been taken to portray certain religious concepts in a simplified, pixelated form. The story, all names, characters, and incidents portrayed in this game are fictitious. No identification with actual persons (living or deceased), places and buildings is intended or should be inferred.

References

- Baldwin, R. (2014). From Regulation to Behaviour Change: Giving Nudge the Third Degree. *The Modern Law Review*, 77(6), 831–857. <https://doi.org/10.1111/1468-2230.12094>
- Dubbelman, T. (2016). Narrative Game Mechanics. In F. Nack & A. S. Gordon (Eds.), *Interactive Storytelling* (pp. 39–50). Springer International Publishing. https://doi.org/10.1007/978-3-319-48279-8_4
- Fadiman, A. (2020, July 28). *The Chinese Town That Became the Self-Immolation Capital of the World*. The New York Times. <https://www.nytimes.com/2020/07/28/books/review/eat-the-buddha-barbara-demick.html>
- Falcon, A. (2019). *Holy Fire*. <https://abrahamfalcon.itch.io/holy-fire>
- Fernández-Vara, C. (2011). *Game Spaces Speak Volumes: Indexical Storytelling*. <http://www.digra.org/wp-content/uploads/digital-library/Game-Spaces-Speak-Volumes.pdf>
- Free Tibet. (n.d.). Self-immolation protests. Retrieved 11 December 2020, from <https://freetibet.org/about/self-immolation-protests>
- ICIDS 2020 Organisers. (2020a). ICIDS 2020 Bournemouth—The 13th International Conference on Interactive Digital Storytelling. <https://icids2020.bournemouth.ac.uk/>
- ICIDS 2020 Organisers. (2020b). ICIDS Exhibition 2020 ==>>> TEXTS OF DISCOMFORT ==>>>. <https://icids2020.bournemouth.ac.uk/exhibition/>
- Jenkins, H. (2004, October 7). Game Design as Narrative Architecture. *Electronic Book Review*. <http://electronicbookreview.com/essay/game-design-as-narrative-architecture/>
- Juul, J., & Norton, M. (2009). Easy to use and incredibly difficult: On the mythical border between interface and gameplay. *Proceedings of the 4th International Conference on Foundations of Digital Games*, 107–112. <https://doi.org/10.1145/1536513.1536539>
- Le Doux, A. (2017). Bitsy. <http://ledoux.io/bitsy/editor.html>
- Magnuson, J. (2011). *The Killer. Game Trekking*. <https://www.game-trekking.com/the-games/cambodia/the-killer>
- Sunstein, C. (2013). *Deciding by Default*. University of Pennsylvania Law Review, 162(1), 1.
- Thaler, R. H., & Sunstein, C. R. (2008). *Nudge: Improving Decisions about Health, Wealth, and Happiness*. Yale University Press.

Images

11. Screenshot of the School Playground Room;
12. A screenshot of one of the Mountain Rooms;
13. A screenshot montage of the Tibetan Buddhist motifs in Holy Fire;
14. A screenshot of the External Temple Room;
15. Screenshot comparisons of the Temple Square Room before and after certain events occur: the dark yellow-coloured guard characters prevent the player from revisiting certain rooms;
16. Screenshot of the Injured Monk Room;
17. Screenshot of one of the two potential endings: the player character has decided to self-immolate and is walking towards a bonfire;
18. A Buddhist monk sitting cross-legged (photograph, circa 1910–1930). Credit: Wellcome Collection. Licensed under Attribution 4.0 International (CC BY 4.0);
19. An under-the-hood look at the simple and accessible Bitsy game maker interface for Holy Fire.

Abraham Falcon is the pseudonym of an undergraduate student at Durham University. Their real identity cannot be associated with the piece because its contentious political nature may affect their future professional career.

Medium: Web-based

Year of Release: 2019

Link to the artwork: <https://www.veblenok.com>

Video artist: <https://vimeo.com/460609547>

Medium: Web-based

Year of Release: 2020

Link to the artwork: <https://mostpowerfulwords.net/>

Video artist: <https://vimeo.com/460610719>



The Data Souls

David Thomas Henry Wright

Most Powerful Words

David Thomas Henry Wright

"Sprawling, complex and surreal web-based work of pieces of flash-fiction whose texts are then reworked via a poetry generator. Each story is thought provoking and disturbing; together they create an atmosphere of discomfort."

On The Data Souls

"Thought provoking computer generated poetry experience about power dynamics, use and misuse of language, and propaganda."

On Most Powerful Words

ICIDS 2020 Jury

Data as language; language as data

Abstract

The born-digital creative works *The Data Souls* and *Most Powerful Words* treat language as data and data as language. Set in a distant future, *The Data Souls* imagines the discovery of seven rusted data storage devices that define our contemporary age. Their contents use various data sets to generate multiple text performances. This data is then used to 3D-model and print correlating artefacts. Each flash fiction or 'soul' contains images and recordings of the 3D-printed artefact. This work is discomfoting to the reader in that, while the data is knowable, its causes and reverberations are not. *Most Powerful Words* is a digital literary work comprised of 54 computer-generated poems. Using Montfort's algorithmically minimal JavaScript, this collection allows contemporary readers to lightly, quickly, precisely, visibly, and consistently traverse the infinite use and misuse of past and present language. The work uses controversial and at times discomfoting texts from contemporary and early Australian and Queensland history to generate poetry. This paper explores the creative processes used in the development of these two projects. In so doing, it explores the discomfoting and at times dystopian nature of data-driven culture and its impact on language and literature.

texts of discomfort

Keywords

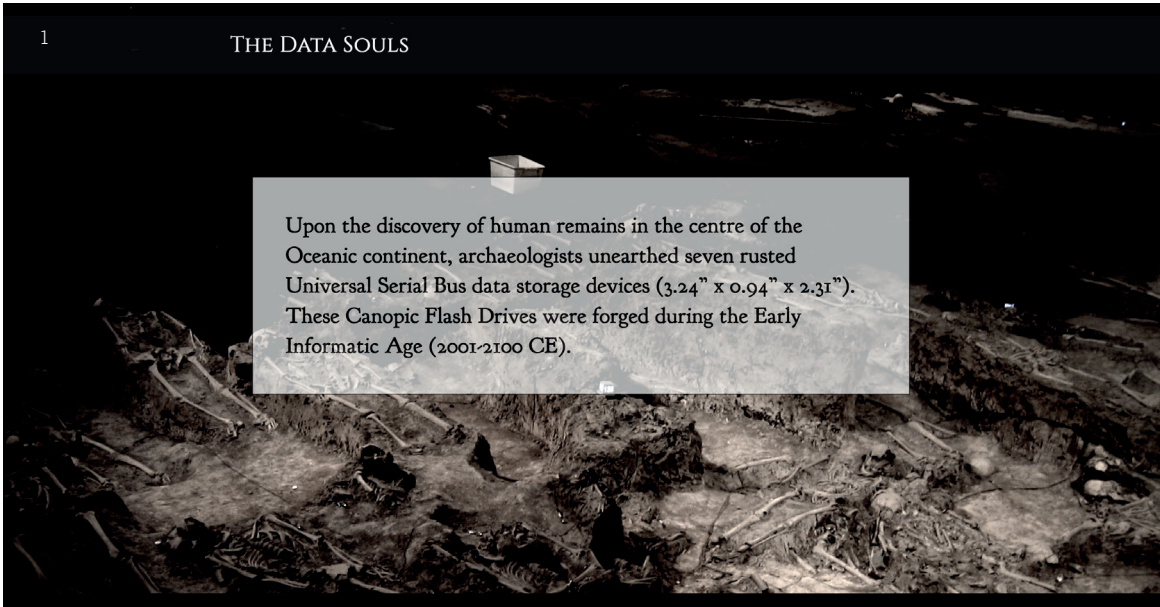
data, electronic literature, 3D-printing, digital Poetry, Italo Calvino, six memos for the next millennium

The born-digital creative works *The Data Souls* and *Most Powerful Words* both treat language as data and data as language. This paper explores the creative processes used in the development of these two projects. In so doing, it explores the discomfiting and at times dystopian nature of data-driven culture and its impact on language and literature. In both cases, a Calvinian method informed by Italo Calvino's *Six Memos for the Next Millennium* (1988) has been used to uphold the values of lightness, quickness, exactitude, visibility, multiplicity and consistency. These values, I argue, are requisite for navigating the posthuman weight of data-driven culture. Firstly, I will introduce Calvino's *Six Memos* as a creative model. Secondly, I will describe the creative processes used to create *The Data Souls* and *Most Powerful Words*. Finally, I will draw these works back to Calvino's values, arguing their necessity in contemporary digital literary practice.

1

THE DATA SOULS

Upon the discovery of human remains in the centre of the Oceanic continent, archaeologists unearthed seven rusted Universal Serial Bus data storage devices (3.24" x 0.94" x 2.31"). These Canopic Flash Drives were forged during the Early Informatic Age (2001-2100 CE).



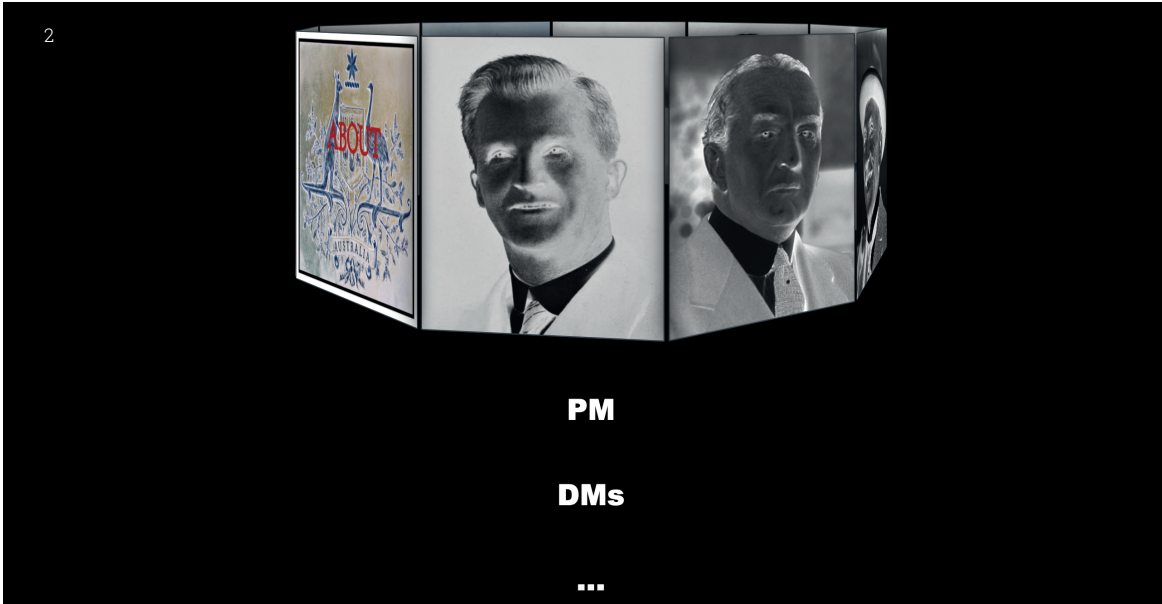
2



PM

DMs

...



texts of discomfort

Calvino's *Six Memos* as creative model

In *Italo Calvino's Six Memos as ethical imperative* in J.R. Carpenter's *The Gathering Cloud* (Wright 2019b), I argued for the importance of Calvino's Memos in relation to contemporary digital literary practice. In *The Data Souls* and *Most Powerful Words*, the larger work upholds Italo Calvino's values depicted in *Six Memos for the Next Millennium*: lightness, quickness, exactitude, visibility, multiplicity and consistency.

The *Six Memos* were written in 1985 as a series of lectures Calvino wrote for the Charles Eliot Norton Lectures at Harvard University. Calvino died before he ever completed or delivered them. Despite the title 'Six Memos', there are in fact only five memos that were written. It should be noted, however, that Calvino's creative method is such that the unwritten memo of 'consistency' can be inferred from the existing

memos.

The first value, lightness, is defined in opposition to 'weight'. Calvino's preference for lightness is driven by a desire to write in such a way to represent his own time without being 'weighed down' by the enormity of collective and individual energies propelling the events of the century. In an information age, the weight of data becomes overbearing. Calvino's solution, then, is drawn from Greek mythology. Weight is represented by the Medusa, whose stare paralyzes its subject, while lightness is represented by Perseus on his Pegasus. In defeating the Medusa and carrying its head, Perseus carries 'weight' without depicting weight itself. In both of these projects, the weight of 'too much' data or 'too much' language is made light.

Calvino's definition of quickness coincides with his unique hope for literature in this millennium. The function of literature, Calvino argues, is 'communication between things that

are different simply because they are different, not blunting but even sharpening the differences between them, following the true bent of written language' (p.45).

In discussing the literary value of exactitude, Calvino distinguishes between 'crystal' and 'flame' exactitude. These terms are borrowed from a debate between Jean Piaget and Noam Chomsky's debate on the philosophy of science. 'Flame' exactitude, Calvino describes as an obsession with the 'detail of the detail of the detail' (pp.68–9), whereas 'crystal' exactitude offers a structure composed of multiple clearly drawn lines or facets that clearly and minimally define the piece, from which the broader 'crystalline' structure can grow.

Calvino divides the visible imaginative process into two types, distinguishing between one that begins with the word and arrives at a visual image, and one that begins with the visual image and arrives at its verbal expression

(p.83). Fearing a use of language that would become suffocative and ephemeral, Calvino uses the Italian word 'icastic' to define his preferred use of the visual in literature. This word, literally meaning 'figurative', allows images to 'crystallize into a well-defined, memorable, and self-sufficient form' (p.92).

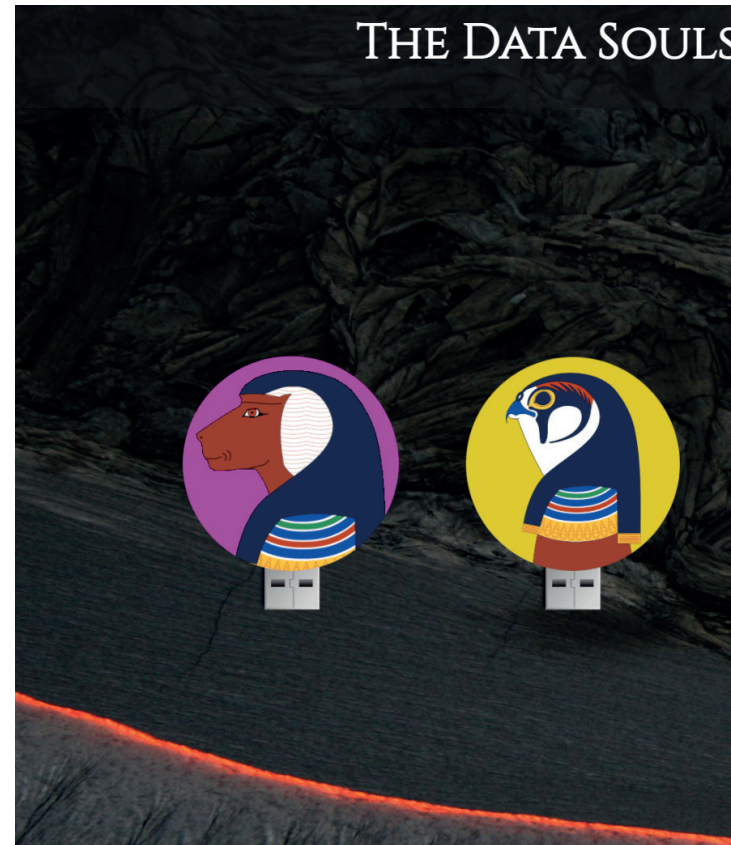
In valuing multiplicity, Calvino champions an encyclopaedic form, and opts for a literature that is encyclopaedic as a 'network of connections between the events, the people, and the things of the world' (p.105). Calvino's values themselves are such a network, in that each of the values work with the others towards an aesthetic objective. In the case of multiplicity, it functions with the value of exactitude. While the encyclopaedic aesthetic and approach Calvino prefers is not exhaustive, the network it forms creates a pattern that exhausts all types of variations, to the point that continuing to create new variations would verge towards narrati-

ve repetitiveness.

Calvino's unwritten value of consistency can be understood by examining his other values, notably crystal exactitude and multiplicity. Crystal exactitude provides a precise model that is replicated in multiple ways. In this sense, Calvino's works opt for a consistent level of controlled and varied inconsistency.

The Data Souls' Creative Process

The Data Souls was created in conjunction with the Toronto-based industrial automation company *Griffin Prototyping*. It imagines a distant future's discovery of seven rusted Universal Serial Bus data storage devices or 'souls' that define our current age. Their contents use various data sets to generate multiple text performances. This data is then used to 3D-model and print correlating artefacts. Each 'soul' contains images and recordings of the 3D-printed artefact. This work is discomfiting to the rea-





der in that, while the data is knowable, its causes and reverberations are not. Each fictional USB device also represents an imagined 'god' (for a more detailed description of *The Data Souls*' contents, refer to Appendix A).

The origin for this project was a 'print' piece of flash fiction titled 'The Veblen Good'. A Veblen good is a product that becomes more desirable/saleable to wealthy consumers when the price is increased, rather than decreased. For example, a Rolls-Royce automobile salesman would never offer ten percent off the asking price in the hopes of swaying a potential customer, as part of the appeal of the luxury product is its high cost. This term is attributed to American economist and sociologist Thorstein Veblen, who writes:

Conspicuous consumption of valuable goods is a means of reputability to the gentleman of leisure. As wealth accumulates on his hands, his own unaided effort will not avail to

sufficiently put his opulence in evidence by this method. The aid of friends and competitors is therefore brought in by resorting to the giving of valuable presents and expensive feasts and entertainments. (1899, p. 47)

In addition to this concept, the work was also inspired by the oldest companies in the world that still exist today. The narrative goal of the work was to tie together as much of history and geography in the shortest way possible through a meta-company behind all companies and human invention. This initial work is comprehensible to English-speaking readers, but it also utilises a handful of Japanese, Chinese, Latin, Russian, French, German, Georgian, Serbian, Russian, and Icelandic words and phrases.

The next iteration of this work was an animated text, titled ヴェブレン OK (*The Veblen Good*) published in *Griffith Review* (2019), in which the variations on language are enhanced. Va-

rious words have various translations which the text fluctuates between at various intervals. In this sense, the text 'breathes', i.e. it has a liquid/amorphous quality that transforms the work into a performative, born-digital form. The work is still comprehensible to English-language readers, but the suggestion of an unreachable force behind reality is better invoked. The next iteration sought to program this fluctuating language. Using currency values from 2011 to 2019, the language was programmed to change at various precise intervals. Teaming up with *Griffin Prototyping*, a 3D model of an egg imprinted with graphs of this data was produced. In this iteration, the work surrenders to data.

In *Collaboration and Authority in electronic literature* (Wright 2020a), I argued that within works of electronic literature, various media fragments hold varying degrees of authority within the piece. For example, the multimedial work novelling (2016) by Will Luers, Hazel Smi-



th, and Roger Dean combines text, film, sound design, and code. In this work, the code imposes a 'cinemagraph' quality on the text. Therefore, I argue that the cinemagraph form is the authoritative media in this particular work, because the code applies this form (i.e. temporality) to the text. The dynamic of this authority is unique to the work in question. Regarding writer authority, Said (1978) argues:

Every sort of writing establishes explicit and implicit rules of pertinence for itself: certain things are admissible, certain others not. I call these rules of pertinence authority – both in the sense of explicit law and guiding force (what we usually mean by the term) and in the sense of the implicit power to generate another word that will belong to the writing as a whole (Vico's etymology is auctor: autos: suis ipsius: propius: property). (p.16)

In *The Data Souls*, the data itself is the

'authority', i.e. the code applies the data to the text, making it behave according to the data sets. by creating an illustrative sculpture and a performative text programmed by the same data, data becomes the work's centre. If the data is removed, these two elements – text and sculpture – have no connection. The data ties everything together. (It should also be noted that the same could be said of 'code', however, as argued within the paper mentioned above, the code is not the text, merely the structure for the work to exist. The code of a work of electronic literature, therefore, is not the authority but a 'meta-authority' that empowers authority to the media fragment in question. In this instance, code allows data to be the authority).

From this third iteration, a form was established: text, code, data, sculpture. These were not only the components, but the process of development. A piece of flash fiction had code added to it, which was informed by data, which

was in turn used to create a 3D model. Text, image, visualisations of the print, and the model for the user to explore were then added. From here, the larger project, *The Data Souls* was created.

For the majority of these souls, the creative process was the same. The work was written as a ‘traditional’ flash fiction. Code was added. Data determined how the code functioned. The same data was then used to create a model. For example, with *Livre ♥ (Bibliophilia)*, I wrote a piece of short fiction, acquired data on the human freedom index, added code to censor the text at varying rates, and then used this data to 3D model a book that gradually had holes appear within it.

For the fifth soul, however, the process was different. The idea of using global temperature anomalies to grow an ‘exploding sun’ that consumed the text was the initial idea. I developed this functionality first and then wrote the story, Mes/s/se©. So the data informed the code,

which in turn informed the text and the 3D model.

In reading early 21st-century works of electronic literature, digital theorist Jessica Pressman argues that they represent a 'digital modernism', which is:



aligned with strategies of the avant-garde: it challenges traditional expectations about what art is and does. It illuminates and interrogates the cultural infrastructures, technological networks, and critical practices that support and enable these judgments. Digital modernism thus remakes the category of the avant-garde in the new media. (p.10)

So in *The Data Souls*, one could argue that the ambitions of the print text find their ideal aesthetic in a digital form. This process from print to text could also be regarded as an example of what Bolter and Grusin (1999) label 'remediation as reform':

The goal of remediation is to refashion or rehabilitate other media. Furthermore, because all mediations are both real and mediations of the real, remediation can also be understood as a process of reforming reality as well. (p.56)

In this case, the print texts have been refashioned. The print text cannot 'breathe', whereas the digital text can. The print text cannot be transformed by data in a kinetic way, whereas the digital text can. The digital form applied refashions and reforms both the work and reality. Bolter and Grusin also note that:

new digital media oscillate between immediacy and hypermediacy, between transparency and opacity. This oscillation is the key to understanding how a medium fashions its predecessors and other contemporary media. Although each medium promises to reform its predecessors by offering a more immediate or authentic experience, the promise of reform inevitably leads us to become aware of the new medium as a medium. Thus, immediacy leads to hypermediacy. The process of remediation makes us aware that all media are at one level a "play of signs," which is a lesson that we take from poststructuralist literary theory. (p.16)

This accurately describes my creative process. The digital format remade the 'print' or 'traditional' text of *The Veblen Good*. The form that I established then encouraged the development of a 'print' text for the purposes of the code, i.e. *Mes/s/se@*.

***Most Powerful Words'* Creative Process**

Most Powerful Words (2020) is a digital literary work comprised of fifty-four computer-generated poems or Taroko Gorge remixes (ELC, 2016). The original work is a nature poem

that was inspired by a visit to Taroko Gorge in Taiwan. Like the waterfalls of Taroko Gorge, the 'flow' of the recombinant nature of the poem always produced unique results. Montfort's 'procedurally-generated poem' has inspired a sub-genre of 'remixes, remakes, constrained writing experiments, and parodies'. Using Nick Montfort's source code (2009), this collection does likewise, by repurposing political language into poetry (e.g. Xi Jinping's 2020 New Year Speech is used to create an infinite, recombinant poem).

texts of discomfort

Government sets the complaints.
Meetings edge the foundings.

rest the national tough —

Number drops the storm.
Air forces celebrate the province.

people the Guangdong-Hong Kong-Macao tough concrete close —

Teammate accelerates the system.
Profiles live.
Establishments sweat the Tiananmen Square.

innovation the yellow coordinated Guangdong-Hong Kong-Macao steady —

Youth edges the cup.
Ties achieve the moons.

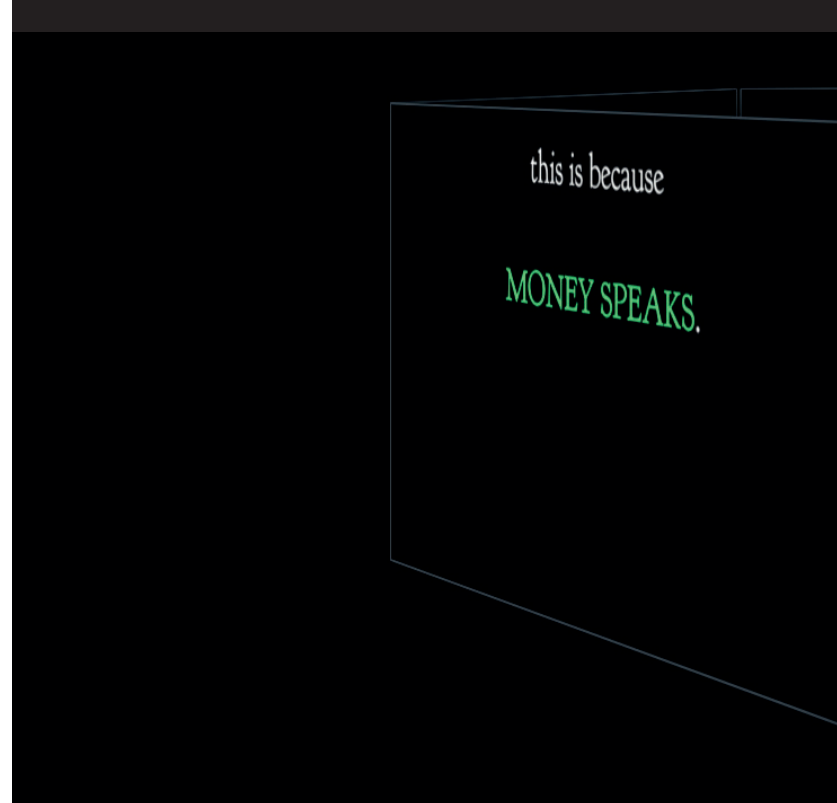
thousand the greater concrete —

[Return to Most Powerful Words](#)



The work is broken up into six sections. Each section contains nine recombinant poems (for a more detailed description of *Most Powerful Words*' contents, refer to Appendix B). All of this text is treated as 'found' data. Just as conceptual artists use found objects, this poetry operates the same way. When situated through Montfort's code, the 'found' text takes on poetic meaning, transforming/revealing the source text. The code therefore facilitates a posthuman way of broaching the enormity of archival and contemporary language.

This work embraces the long tradition of Taroko Gorge remixes to create not one, but fifty-four Taroko Gorge remixes using 'found' text. In multiplying this form, all language is treated equally, allowing contemporary readers to traverse the infinite use and misuse of past and present language. As political poems these digital creations literally 'speak as' by using the subject's own words.



For this work, I chose the perspective of myself, as an Australian living in Queensland in early 2020. The 'narrative' created in the carousel menu, asserts a position in relation to this language:

*Despite our history of PM DMs...
these are the MOST POWERFUL WORDS.
this is because MONEY SPEAKS.
this is why there is so much INDIGENOUS SILENCE.*

MOST POWERFUL WORDS.

8

*this is why there must be CONCESSIONS.
this is why there will be NEW BEGINNINGS.*

The work begins with colonial history. Then moves to contemporary global politics. Then it reflects on the images depicted on Australian currency. Next, it reflects on the impact on Indigenous history, by reflecting on 'silence'. While Indigenous history could be represented (and indeed is represented through the figures

of David Unaipon in the 'Money Speaks' section and Melissa Luchashenko, Alexis Wright, and Lesley and Tammy Williams in the 'New Beginnings' section), a decision was made not to appropriate Indigenous voices, but rather to acknowledge an absence of voice in Australian history. 'Concessions' looked at literal concessions by the most recent Queensland Premiers. 'New Beginnings', finally, looked at local texts that were in some fashion revolutionary or cul-

turally important to Queensland. As with *The Data Souls*, the Taroko Gorge remix forms a set model, that can then be repeated in order to represent the broader culture.

Conclusion: Italo Calvino and the posthuman

Through these two practice-led research projects, I hope to have shown the importance of Calvino's values of lightness, quickness, exactitude, visibility, multiplicity and consistency to contemporary digital literary creative practice, especially in light of the enormous amount of data networks our current lives are mediated in.

In the case of *The Data Souls*, lightness is depicted through the flash fiction or 'raccontino' form that depicts enormous subjects: the entirety of human innovation and enterprise, the history of censorship, Chinese politics, Australian and Cambodian colonial history, as well as the colossal energy put into stealing our attention in the contemporary age. In applying samples of

data to the text, the enormity of this potential data is depicted or suggested, without actually depicting the data itself. Furthermore, this data is visually represented using a unique 3D object. In *Most Powerful Words*, the history of language and power is lightly depicted by taking a small sample of unique vocabulary. In the case of a figure such as Vladimir Putin, the recombined vocabulary from Putin's 2020 Presidential Address to the Federal Assembly at the Manezh Central Exhibition hall in Moscow is used to represent Putin's entire political career and biographical history. Montfort's code also recombines this vocabulary in approaching-infinite combinations, yet engaging with the Taroko Gorge 'flow', this weighty possibility is lightly depicted.

The Data Souls depicts quickness by using data as a means to communicate between things that are different. The connection between the performed text and the performed sculpture is linked via data. Data therefore becomes

central to connecting these media fragments. *Most Powerful Words* draws connections between the various themes (this also shows the importance of Calvino's value of 'consistency', which will be discussed in more detail shortly). The repeated code and format put all these texts from various countries, periods, and perspectives on the same level. Additionally, the flow of the Taroko Gorge code encourages a quicker reading of the text, one that is constantly moving forward, deterring lingering on any one phrase or concept.

In *The Data Souls*, the structure of historical quote, raccontino, data set, data-determined coded text, and data-determined 3D structure forms the basic 'crystalline' structure, from which additional works can 'grow'. Furthermore, while the data souls are positioned as representing 'our' contemporary age, they are by no means presented as thorough, exhaustive, or representative of the entire age. Rather, becau-

se the work employs a crystalline structure, the implementation of the set structure provides enough examples for a reader to be able to use their algorithmic imagination to speculate on what additional souls could be like. *Most Powerful Words* similarly is grown out of a crystalline structure. One could very easily create another fifty-four (or indeed fifty-four thousand) Taroko Gorge remixes. The established system, however, has provided enough variance on the crystal structure to allow a reader/user to imagine additional variations. As the enormous genre of Taroko Gorge remixes illustrates, users can even take Montfort's code, apply their own vocabulary, and create their own version.

Visibility in *The Data Souls* is depicted through the souls themselves, which utilise images of Ancient Egyptian gods to represent the various sections. 'Data' is potentially a confusing, ephemeral concept. While we can use graphs, as is explained in the project descrip-

tion, 'while the data is knowable, its causes and reverberations are not' (Wright 2019c). In this sense, the work attempts to make not simply data, but also its abstract, confusing and ephemeral causes visible. This is done through the text performance and the 3D sculpture animation. By downloading the .stl file, users can also print their own sculpture and literally make this 'icastic' object. Videos of the 3D printing processes are also provided. The use of image in *Most Powerful Words* (e.g. the instantly recognisable images of the nine most powerful people) are used as a counterpoint to the text, to better situate the reader's relationship to the text. For example, without the portrait of Angela Merkel, the reader would be less able to connect the text to the person, especially since the reordered, recombined text presents something very different to anything Merkel has ever actually said. As with quickness, the movement and flow of the Taroko Gorge code gives an impression

of language as something constantly flowing, changing, and evolving, as opposed to a static, definitive concept. The Data Souls opts for six variations, as well as a poetry generator (which is itself, another variation). Most Powerful Words embraces exhaustiveness, presenting a thorough variation of fifty-four poems. As mentioned, however, despite this enormous amount of recombinant poetic variation, this process could be extended indefinitely.

Finally, *The Data Souls* employs a set consistent form – text, code, data, sculpture – that is replicated multiple times, utilising enough variations that the reader can algorithmically imagine (or indeed, adopt the code and actually create) further iterations of the same work. In the case of *Most Powerful Words*, it functions in the same way. The whole 'Taroko Gorge remix' genre is in fact an expression of Calvino's value of consistency, which here finds an additional level of consistency, in a set form of nine digital

poems on a particular topic using vocabulary informed by specific documents. As with *The Data Souls*, the work generates enough variations that the reader can algorithmically imagine or actually create further iterations of the same work.

These digital forms informed by Calvino's *Six Memos* highlight the importance of Calvino's Memos in writing, generating, creating, and reading digital literary works in an age of big data. Only through lightness, quickness, exactitude, visibility, multiplicity, and consistency can artists and readers navigate the enormity of contemporary and historical information. In digital literary practice, the use of code can be understood as an expression of Calvino's unwritten memo of consistency. Just as we are able to infer Calvino's unwritten value through his other written values, so too can contemporary code be utilised to algorithmically extend digital

literary practice in the current age.

Appendix A

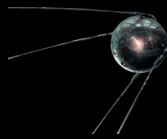
Description of The Data Souls

The first soul depicts \$olomon, the simian financial god, and tells the story of The Veblen Good. It uses fluctuating currency values from 2011 to 2019 to transform various words and phrases of a narrative involving a meta-company behind all human innovation. The currency values are used to sculpt a corresponding golden egg.

The second soul depicts Prudenc3, the aquiline god of privilege, and tells the story of *Livre ♥ (Bibliophilia)*. It uses the human freedom index to censor the work as it is being read. The text itself is about a European culture that burns books, only to be overthrown by an ideology that literally loves – or fetishizes – books. A marble book receives holes in

The Man Who Watched Cook

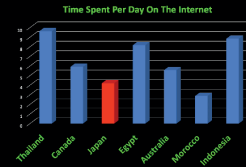
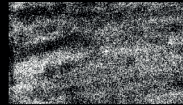
9



The liberation of human attention may be the defining moral and political struggle of our time. Its success is prerequisite for the success of virtually all other struggles. We therefore have an obligation to rewire this system of intelligent, adversarial persuasion before it rewires us.

James Williams

Stand Out of Our Light: Freedom and Resistance in the Attention Economy



k choy and soft-boiled quail eggs, Żubrówka and cloudy apple gelatine cubes with cheddar cheese ice-cream and crumbled butter cookies, agar-agar chocolate spaghetti with truffle meatballs and watermelon coulis), dishes I have never

sizes relative to the freedom index cited. The 3D model can be downloaded and explored.

The third soul depicts $\beta\alpha\theta\{\text{He}\Omega$, the hippopotamine god of childbirth, and tells the story of The Second Tiananmen Square Massacre. It uses provincial Chinese male/female ratios to fluctuate between three variations of the same

story, which concerns the failure of a mythical qilin to bring democracy to contemporary China. A 3D model of a human foetus is cut in half in correlation to the data.

The fourth soul depicts $\text{M}@lach!$, the canine populational god, and tells the story of the town the rabbit ate. It uses rabbit populations to

multiply the word rabbit in a narrative about a child abandoned in rural Australia; meanwhile 'growths' are added to a muscle-textured rabbit. The fifth soul depicts R%th, the human god of atmosphere, and tells the story of *Mes/s/se@*, an interdisciplinary Cambodian scholar who escapes Pol Pot's regime. It uses global temperature anomalies to grow an 'exploding sun'-like space that consumes the text. This data is used to cut craters into a desolate Earth.

The sixth soul depicts A8lshA1, the ibidine god of attention, and tells the story of The Man Who Watched Cook Australia, Cook!, an extended, unbroken sentence describing one man's addiction to a cooking reality TV show. It uses average time spent per day on the Internet to reposition the text. This data is represented by a laser on a rusty satellite.

The final soul depicts T&llm#th, the almighty metadata deity. It is a poetry generator that uses the vocabulary from the six other souls to

generate a three-line poem. Treating the text as 'data', data again becomes central to the work.

Appendix B

Description of Most Powerful Words

The first section 'PM DMs', takes the vocabulary from the first nine Australian prime ministers: Edmund Barton's speaking notes and handwritten amendments for a speech delivered at Maitland, January 17th, 1901; Alfred Deakin's speech delivered at Ballarat, October 29th, 1903; a press report of Chris Watson's speech delivered at Redfern, October 8th, 1906; a press report of George Reid's speech delivered at Melbourne, October 30th, 1903; a press report of Andrew Fisher's speech delivered at Maryborough, February 10th, 1910; Joseph Cook's speech delivered at Parramatta, April 3rd, 1913; Billy Hughes's speech delivered at Bendigo, March 27th, 1917; Stanley Bruce's speech delivered at Dan-

denong, October 5th, 1925; and a press report of James Scullin's speech delivered at Richmond, September 30th, 1929.

The second section, 'Most Powerful Words', uses the vocabulary from speeches delivered by the nine most powerful people in the world according to Forbes magazine in 2020: Xi Jinping's 2020 New Year Speech, Vladimir Putin's 2020 Presidential Address to the Federal Assembly at the Manezh Central Exhibition hall in Moscow, Donald Trump's 2020 State of the Union, Angela Merkel's 2018 Speech to the European Parliament in Strasbourg, Jeff Bezos's 2010 baccalaureate remarks to graduates from Princeton University, the Message of His Holiness Pope Francis for Lent 2020, Bill Gates's Commencement Speech at Harvard 2007, Crown Prince Mohammed bin Salman bin Abdulaziz Al Saud's 'Saudi Arabia's Vision for 2030', and Narendra Modi's address to the 74th session of the United Nations General.

The third section, 'Money Speaks', draws

vocabulary from texts written by those depicted on Australian currency: Queen Elizabeth II's public address regarding the spread of COVID-19, delivered on April 5, 2020; John Monash's letter to Major-General Sir A.J. Godley, 8 July 1915; the opening chapters of Dame Nellie Melba's *Melodies and Memories* (1925); Edith Cowan's words from the transcript of the Women's Legal Status Bill, Second Reading held in September 1923; the letter from David Unaipon to Dr Herbert Base-dow, 21 April 1914; *The Bushman's Companion* (1916) by John Flynn; the letter from Mary Reibey to 'dear aunt', dated 'Octb 8th 1792 bottany bay'; *No Foe Shall Gather Our Harvest* (1940) by Mary Gilmore; and *The Man From Snowy River* (1890) by Banjo Paterson.

The fourth section, 'Indigenous Silence', takes the vocabulary from historical policies, speeches, rulings, log-books, and Wikipedia entries that are about/have impacted Indigenous Australians. No words spoken or written by Indigenous Australians have been used in this

section. It uses the Wikipedia entry for 'History of Indigenous Australians, Early History'; Captain James Cook's description of Indigenous Australians in his logbook (23 August, 1770); the Aboriginals Protection and Restriction of the Sale of Opium Act 1897 (Qld); the Immigration Restriction Act (1901); *Milirrpum v Nabalco Pty Ltd* (1971); Aboriginal Land Fund Act (1974); *Mabo v Queensland (No 2)* (1992); and Kevin Rudd's Apology to Australia's Indigenous peoples, delivered on February 13, 2008. The final poem, titled 'Silence' is the only poem in this collection that I, the author, have provided vocabulary for.

The fifth section, 'Concessions', takes the vocabulary from concession speeches or regretful musings of the past nine Queensland Premiers: Joh Bjelke-Peterson's 1989 interview with Jana Wendt; Mike Ahern's 2011 interview with Rae Wear & Chris Salisbury; Russell Cooper's 2011 interview with Danielle Miller & Rae Wear; Wayne Goss's 2011 interview with Leigh Sales; Rob Borbidge's 2015 interview with Jessi-

ca Van Vonderen; Peter Beattie's 2012 interview with Chris Uhlmann; Anna Bligh's 2012 concession speech; Campbell Newman's 2015 concession speech; and Annastacia Palaszczuk's 2020 announcement that Queensland schools will close for non-essential workers' children.

The final section, 'New Beginnings', takes the vocabulary from the first pages of nine notable Queensland novels and works of non-fiction: *On Our Selection* (1899) by Steele Rudd; *The Slow Natives* (1965) by Thea Astley; *Johnno* (1975) by David Malouf; *Praise* (1992) by Andrew McGahan; *Carpentaria* (2006) by Alexis Wright; *Not Just Black and White* (2015) by Lesley & Tammy Williams; *The Daintree Blockade: The Battle for Australia's Tropical Rainforests* (2017) by Bill Wilkie; *We'll Show the World: Expo 88* (2018) by Jackie Ryan; and *Too Much Lip* (2018) by Melissa Lucashenko.

References

- Bolter, J. & Grusin, R. (2000). *Remediation: Understanding New Media*. Cambridge: MIT Press.
- Calvino, I. (1988). *Six memos for the next millennium*. London: Vintage.
- Montfort, N. (2009). Taroko Gorge. Retrieved March 5, 2021, from website: https://nickm.com/taroko_gorge/
- Pressman, J. (2009). THE AESTHETIC OF BOOKISHNESS IN TWENTY-FIRST-CENTURY LITERATURE. *Michigan Quarterly Review*, 48(4), 465.
- Pressman, J. (2014). *Digital Modernism: Making It New in New Media*. Oxford: Oxford University Press.
- Said, E. (1978). *Beginnings: intention and method*. Baltimore: John Hopkins Press.
- The Electronic Literature Collection: Volume III. (2016). Retrieved March 5, 2021, from website: <https://collection.eliterature.org/3/collection-taroko.html>
- Veblen, T. (1899). *The Theory of the Leisure Class: An Economic Study in the Evolution of Institutions*. Michigan: Macmillan.
- Wright, D.T.H. (2019a). ヱブレン OK (The Veblen Good). Retrieved March 5, 2021, from Griffith Review website: <https://www.griffithreview.com/articles/the-veblen-good/ヴェブレン-ok-the-veblen-good-david-thomas-henry-wright/>
- Wright, D.T.H. (2019b). Italo Calvino's Six Memos as ethical imperative in J.R. Carpenter's *The Gathering Cloud*. *Digital Scholarship in the Humanities*, 35, 652–660.
- Wright, D.T.H. (2019c). The Data Souls. Retrieved March 5, 2021, from website: <http://veblenok.com>
- Wright, D.T.H. (2020a). Collaboration and authority in electronic literature. *TEXT Special Issue Number 59*. Retrieved March 5, 2021, from TEXT website: <http://www.textjournal.com.au/speciss/issue59/Wright.pdf>

- Wright, D.T.H. (2020b). Most Powerful Words. Retrieved March 5, 2021, from website: <http://mostpowerfulwords.net>.

Images

1. The Data Souls;
2. Most Powerful Words;
3. The seven 'found' USB data storage devices in The Data Souls;
4. The 3D model of an egg imprinted with graphs of financial data;
5. The final, textured 3D model of an egg imprinted with graphs of financial data;
6. The contents of the fifth soul, R%th;
7. An example of a recombinant poem generated by Most Powerful Words;
8. The carousel menu of Most Powerful Words;
9. The contents of the sixth soul, A8lshA1.

David Thomas Henry Wright has won multiple international literary prizes/grants, and been published in various academic and creative journals. He has a PhD (Comparative Literature) from Murdoch University and a Masters (Creative Writing) from The University of Edinburgh, and taught Creative Writing at China's top university, Tsinghua. He is currently co-editor of *The Digital Review*, a narrative consultant for Stanford University's Smart Primer research project, and Associate Professor (Comparative Literature) at Nagoya University.

<https://www.davidthomashenrywright.com>

Medium: Online video-conferencing platform, video
Year of Release: 2020

Dr Tulp and the Theatre of Zoom

Wendy Bevan-Mogg, Carina Westling, Annja Neumann

"Participating in the real-time theatrical performance via the online video conference platform generates an unique experience of intimacy and immersion."

ICIDS 2020 Jury

Dr Tulp and the Theatre of Zoom: virtual dramatic production

Abstract

On 16 and 17 July 2020, we produced and performed the short online theatre production *Dr Tulp and the Theatre of Zoom*. The piece was performed 16 times, online via Zoom, to audiences of 4 at a time, which we followed with a Q&A workshop for an audience of c. 80 people on the opening night, also on Zoom. The experience of making this piece raised challenges and questions that endure beyond the live performances, particularly against the background of the Covid-19 pandemic lockdowns of 2020-2021, which relegated much, if not most personal and professional communication outside of narrow domestic groups to online spaces. Questions of embodiment and space, presence/absence and the role of framing and occlusion in the creation and experience of meaning insinuated themselves in the process of making the work and took centre stage in the writing as well as the production of *Dr Tulp and the Theatre of Zoom*. The processes of making the piece, including the perversity of connecting, in such a sterile environment, with a cast and production team that never met in person, became an exploration of a particular failure of representation that is most salient to theatre, but also relevant to the wider discourses of mediated performance and mediatisation.

texts of discomfort

Keywords

alienation, mediatisation, online, performance, theatre, zoom

Backstage

When we were commissioned to create an interactive media artwork during the first Covid-19 lockdown with Annja Neumann for Cambridge Digital Humanities, we found ourselves in a three-week laboratory for exploring the phenomenology of online spaces, in particular video conferencing platforms. Video conferencing platforms that were previously a secondary option had become the only way of continuing activities in key sectors, from education and the civil service to the creative industries. In comparison with pre-existing studies of virtual environments that have often been framed as novelty add-ons, even after decades of use, these technologies became critical infrastructure in a very short space of time. We decided to put them to test in a medium that traditionally depends on profoundly human, embodied practices and connections – theatre.

The production team not only had to make a new piece of theatre within three weeks from concept to performance, but also to navigate how to achieve collaboration without the opportunity to meet in person. In addition to the off-screen key creative team (including members of Cambridge Digital Humanities, sound designer Gary Hayton and production assistant Camille Gerstenhaber), we had to cast, devise, rehearse and present a performance with a cast (Martin Edwards, Reynah Rita Oppal and Paul Panting) who would never meet us or each other in physical person. Rather than building on any real-life encounters, the entire setting of the project and our collaboration was the digital platform on which the work would ultimately be presented. We had to learn how to interact and collaborate closely as we had to get to know each other, the work and the setting all at once. Collaborative creation depends so much on informal communication and the subtle signals

that circulate freely in physical interaction. On video conferencing platforms every interaction is a meeting, and serendipitous exchanges are rare. At the same time as devising a new piece of work, then, we also had to develop a new way of working.

A play of space and place

In order to meet this challenge head on, during these three weeks, we worked within key parameters. The poetics of the theatrical space afforded us (CDH's remit for the piece relied on us using Zoom as our method of delivery), drew more on that of commercial property, developed for hot-desking and empty of human support staff, than it did on spaces where actors and performers had trod and sweated in countless repetitions of dramatic productions. Using this format for theatre is not a novel idea, and over the summer of 2020 numerous readings, perfor-

mances and even television shows were devised to be either performed or created using this method, including the sitcom *Staged* by Simon Evans for BBC One (2020), *What Do We Need to Talk About? The Apple Family: Conversations on Zoom* by Richard Nelson for Public Theatre (2020) and *A Spell at Home with Hester*, written by Carrie Marx and directed by Chris Lince for Hermetic Arts (2020). However, extending the use of a format designed for limited face-to-face interaction to create a dramatic experience was still very much in its infancy, and extensive theoretical examinations on or reflections on this practice were not available to the creative team.

While the intimacy of space that is produced "by and for the body, taking form from the inside" (Bachelard, 1994, p.101) was absent, the medium of Zoom is not short on opportunities for fragmentary dialectics (1994, p.53) and lends itself to a script that would "move elsewhere without difficulty; into other times, and on dif-

ferent planes of dream and memory (p.53). We decided that the lack of tethered geographical location allowed us great flexibility within our piece and presented us with the opportunity to play with audience perception of where the action was taking place. Just as Zoom technology allows a conference caller to blur or play with their background, we were able to place and re-place our actors in different environments. In doing so we did not want to rely on visual cues, and instead used conceptual frame shifts, with action moving subtly between settings in ways cued by allusions in the script and subtle soundscape shifts. In this way our story location was “reduced [...] flattened out, confined to a surface, to a single plane” (Lefebvre, 1991, p. 313) and in a quite literal sense asking “[...] what escape can there be from a space thus shattered into images, into signs, into connected-yet-disconnected data directed at a ‘subject’ itself doomed to abstraction?” (p.313).

We asked in turn whether this abstraction, taken to the ‘ou-topian’ (no-place) extent that Zoom did, could support a play of spaces and fragmentary dialectics, with a nod to Piscator’s timeless acknowledgement of the entanglement of writing for theatre and “the complexity, dividedness and incompleteness of our age” (Willett, 1979, p.108). Given the certainty of failing to produce a piece of theatre in the legacy of live performance, we embraced the opportunity to ‘fall away from exterior representation and replication of the so-called “real world” towards the ‘space produced from within itself” (Bailes, 2011, p.27). This demanded more of its audience than might be typical in traditional theatrical performance in which the audience is a more passive observer. In our piece, the audience is required to pick up on the contemporary references to which the script alludes in order that the space in which the action is taking place can be identified and so understood. For

example, in the first scene, Dr Tulp is delivering a lecture:

DR TULP

Good. What's the pathological process that gets us there?

MED STUDENT 1

The virus inflames the air sacs in the lung.

Tulp shoots them a look. 'Air sacs' - we're not at school...

Without visual cues, we then take the conversation about the process that the students are observing to one where the observation is being done in a professional environment:

DR TULP

Induced coma, organ failure, etc., etc.

Not much fun. But back to the beginning again, to the lungs.

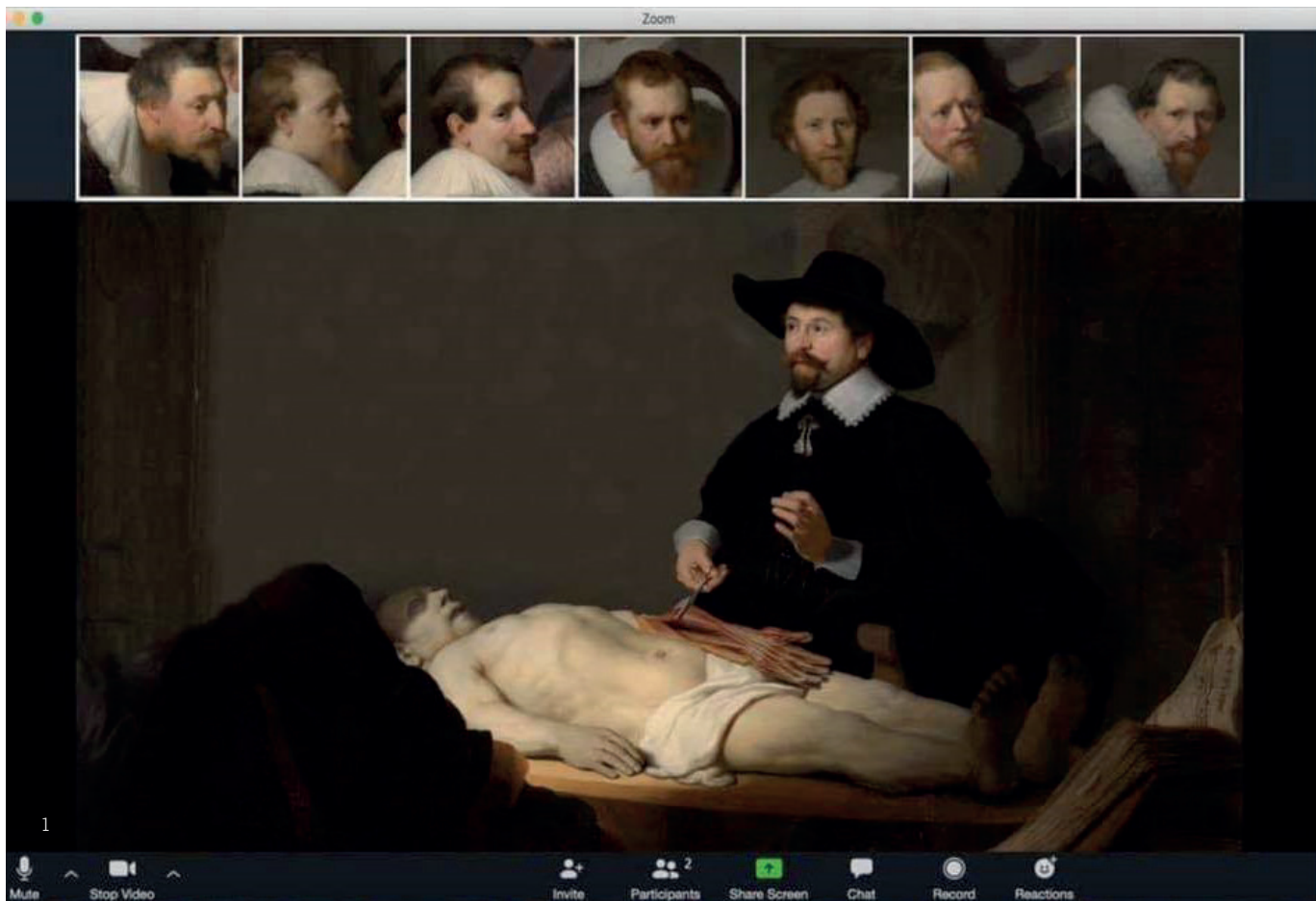
Shift: We're now in a Government facility in the US.

DR TULP (CONT'D)

The lungs. Clear evidence of trauma.

This is done mid conversation; but a shift of tone and background soundscape subtly alerts the audience to the fact that a change is taking place.

We worked with sound designer Gary Hayton to overlay the performance with a series of room tone sounds to help differentiate the different spaces in which our characters appeared. The first, clinical training room sound changed into a smaller space with outside traffic – American, if you listened carefully – and then back to a committee room in the 'native' UK setting of



the performance, with the dulled sound of a ticking clock carrying an institutional atmosphere between scenes. In the final scene, when the audience is directly addressed, we shifted from a tiled room sound with low ceiling to a less reverberating and more intimate space to enlist

auditory spatial perception to direct the experience of where the action was taking place.

A play of dramatic spaces on Zoom invited story itself as the central character in our drama, casting all human participants (audiences included) as bit players – not just the story

of the play, but story *as* play. The behaviours that we call play exist and emerge in relation to boundaries in time and/or space (Westling, 2020, p.155), and, as 'freeplay', in relation to the fixity of systems (Westling, 2020, pp. 82, 86). Our bounds, and the story-play that push against and away from them, were shared by the creative team and our prospective audience members, and the challenge that emerged 'from within' was how to rely on the story to both connect and hold us. We planned and rehearsed the event on Zoom without ever meeting in person and so shared

the same affordances as our audiences would. Referencing the meme of Rembrandt's famous painting that was created by Andrea Kastner and Colin Lyons (2020) in our publicity materials, we placed audience members alongside actors in 'the gods' or the upper row of Dr Tulp's operating theatre, as he conducts a series of autopsies (see figure 2).

This situation prompted a corresponding flattening of hierarchies within our team. The roles of scriptwriter, producer, director, sound designer and actor came to bleed into



each other, as we strove to establish the kinds of connections that make theatre and its many levels of dialogue ‘work’ as a live experience and which might be described as ‘circulating energies’ (Fischer-Lichte, 2008: 59). Milieus that have developed or been adapted to support such work typically bear the multi-sensory, layered marks of those who went before you, with every structure carrying traces of previous plans, routines and material practices employed in the craft of make-believe. Even the space itself can be or feel charged with this craft, as suggested to Serge Férat by Guillaume Apollinaire when instructing him on the design for *Parade*: ‘The décor [...] will be the air in the theatre’ (Brandon 1999, p. 10). Theatre and other performance arts are deeply embodied, material practices with stages and venues that act as frames, into which audiences are invited and ‘abducted’ to complete the artwork (Chow, 2012, pp. 41-43). Even traditionally seated audiences play a role in the

totality of spectacle and the auditorium is part of, not separate from, the stage environment (Aronson, 2018, p. 10). For this production, our attempts to create Fischer-Lichte’s circulating energies were relegated by a global pandemic and the parameters of Zoom to the digital equivalent of a hot-desking warehouse in an industrial estate, designed to be impervious to touch so that temporary visitors make no mark, and no change, to the structure itself or its surfaces.

The staging, inspired by the meme in which the attending physicians to Dr Nicolaes Tulp’s anatomy lesson are relocated to the boxes reserved for audiences in Zoom’s speaker view, limited the number of attendants in the top row to six, two of which would be actors. We did not want audience members to be able to participate vicariously or unseen, and thus limited the number to four in each performance. The confrontational honesty of this boxed-in flatness in the face of the tacit perversity of creating ‘con-

nectedness' under these circumstances appealed, as did the inescapable reminder of boundaries and frames as the condition of possibility for play (Westling, 2020, p.146). Here, we understood play as the craft of storytelling which, in the words of de Certeau, creates space:

Space occurs as the effect produced by the operations that orient it, situate it, temporalize it, and make it function in a polyvalent unity of conflictual programs or conflictual proximities. On this view, in relation to place, space is like the word when it is spoken, that is, when it is caught in the ambiguity of an actualization, transformed into a term dependent upon many different conventions, situated as the act of a present (or of a time), and modified by the transformations caused by successive contexts (Certeau, 1988, p. 117).

The conventions that we were dependent on limited our capacity to unmediated, direct

interaction and included those that limited the immediacy of dialogue (spoken or gestural); those that confounded our attempts to control the position of participants in the upper row; those that restricted control over sound quality and the layering of simultaneous sound from two or more sources, all hard coded into the Zoom milieu to make it fit for its designed purpose, as well as those that allowed us to somehow connect and, after two weeks of working together in this fashion, 'feel' each other. While we achieved this in the creative team, the question of whether this would carry across to audiences remained unanswered until, and quite possibly beyond the two nights of tightly scheduled performances on the 16th and 17th of July 2020.

We relied on the staged theatricality of Rembrandt's painting with a tacit request that audiences understood the necessity of failure; not simply failure to produce a 'theatre play' but failure of representation and its entangle-

ment with the mythos of presence. The challenge of comprehending the reality of death at the subjective level is present in the original painting, as well as in the meme that we drew on. The historical moment in which we found ourselves made the question of how to make sense of death an inescapable subject matter, from the rapidly growing score of pandemic death to the concurrent, intensely mediated deaths that sparked a wave of Black Lives Matter protests. Just as news media, art and public autopsies did, we would, a priori, fail to represent death and in our play, the cadaver is never shown. Instead, death became a metaphorical frame for a shifting cast of actual and imagined instances of deaths; flattened along with the other hierarchies among our participants to deny ourselves and our audiences the opportunity to give it a stable location.

Death is a problem of the subject

[...] the dying man raises once again the question of the subject at the extreme frontier of inaction, at the very point where it is the most impertinent and the least bearable (Certeau, 1988, p. 191).

The first Covid-19 lockdown, which began and gradually tightened from late March 2020, had us all sequestered in our homes for many weeks and limited to very local movements within a global situation that we, as yet, didn't understand very well. The Covid-19 pandemic was narrated by a seemingly endless stream of mediated deaths and the exhausted and exasperated witness accounts of health care providers with bruised faces marked by the pressure of face masks, who held the front line against an invisible foe. The promise of a vaccine seemed nearly two years away and the ways in which the disease spread were debated. The sheer sca-

le of the pandemic and the numbers of mortalities around the world were sharply contrasted by our suddenly and significantly limited physical circumstances, which emphasised the abstraction and almost perverse theatricality of mediated deaths. In addition, events around the death of George Floyd on 25 May 2020 triggered a sustained wave of Black Lives Matter protests around the world. In the UK, the public enquiry into the Grenfell Tower fire tragedy was also ongoing, bringing yet more lives, lost in the most desperate of circumstances, to widespread attention. Death and its attendant analyses of causes dominated our screens when we looked at the challenge of reimagining Rembrandt's *The Anatomy Lesson of Dr Nicolaes Tulp* (1632) for Zoom.

The reversal of the terrain on which beliefs develop results from a mutation in the paradigms of knowledge: the ancient postulate of the invisibility of the real has been replaced by

the postulation of its visibility (and thus by its scientific or political representativeness); it articulates on this new postulate (the belief that the real is visible) the possibility of our knowledge, observations, proofs, and practices. On this new stage, and indefinitely extensible field of optical investigations and of a scopical drive, the strange collusion between believing and the question of the real still remains. But now it is a question of what is seen, observed, or shown (Certeau, 1988, p.187).

With a view of the painting as another screen; a window on the post-mortem as performance, the screenplay somehow needed to reflect these inescapable (in both the literal and psychological sense) circumstances. The mediation of death, while bringing events to our awareness, simultaneously creates layers of abstraction that removes and reduces their impact, rendering death yet another media product

in an ever-changing landscape of competing distractions and attractions (Jacobsen, 2020, p.7). The scaling effects and commodification of emotion by networked media dovetailed with the vastness of a global crisis and the groundswell of rage at the legacy of racism to create an extraordinary media tapestry that flattened the personal and the historical and enveloped us all in enforced isolation.

But in producing an image of the dying man, I proceed in the same way. I am participating in the illusion that localizes death elsewhere, in the hospital or in the last moments: I am transmogrifying it into an image of the other; by identifying this image with the dying person, I make it the place where I am not. Through the representation, I exorcise death, which is shut up next door, relegated to a moment that assume is not mine. I protect my place. The dying person whom I speak about remains ob-scene if he is not myself (Certeau, 1988, p.194).

Suffocation emerged as a theme that connected these critical contemporary events. It resonated with the Grenfell Tower tragedy in 2017, with which it shared the problematics of race and class, factors that were front and centre in the events surrounding George Floyd's death and also insinuated themselves, together with age and the comorbidities of obesity, diabetes and heart disease, in the search for what it was that made Covid-19 more deadly for some and not others. The reimagination of The Anatomy Theatre of Dr Nicolaes Tulp (1632) for Zoom had to honour the present, and these themes came together quickly in a screenplay that took the anatomy lesson of Dr Tulp and made it the autopsy first of a Covid victim, then of George Floyd, a moment in the enquiry into the Grenfell Fire and finally into the realm of the projected autopsy of the audience itself.

Questions of death and its realness at the subject level in a play drawing on these catacly-

smic events converged could not be addressed without keen awareness of race, class and, to a lesser extent, sex. We workshopped the script with our cast, and were fortunate to work with an actor (Martin Edwards) who had a deeply personal connection to the Grenfell Towers disaster, having spent some of his childhood in the surrounding area:

DR TULP (CONT'D)

I've seen some things. I mean you see some things in this job, but this is something else. It's almost as if... I'm sorry. I try to stay detached, it's the only way to do this job and do it well.. But my mum lived next door for twenty years, she's only just moved away. That was a good area. It IS a good area. There are so many families there. Old families. You know.

Ones that've been there for a really long time. Everyone knows each other, looks after each other. It sounds like a cliché but it's true.

He moves.

DR TULP (CONT'D)

I'm sorry.

The compressed timeframe did not allow us to benefit as much as we could have from the collaboration, but devising and co-creation emerged as immediately constructive approaches in remote theatre-making, particularly where it is possible to engage several dimensions of presence, as suggested by Riva et al. (Berger, 2020, p.609) – proto presence, core presence and extended presence.

Embodied processes in confinement

The decision to allow the piece to take place in an unstable in-between place or out-

pia came out of an initial conversation about embodiment. “Telecopresence is a distinct phenomenon, giving rise to peculiar kinds of interaction rituals, styles and knowledge” (Berger, p.2020), and the process of developing projected co-presence and ‘circulating energies’ was supported by repetition. It noticeably bound not just the characters, but the actors playing them, together. Through conversing, devising and rehearsing together, we could access the three dimensions of presence proposed by Riva et al. (Berger, 2020, p.609): ‘proto presence’ or awareness of ‘being there’ in an embodied sense; ‘core presence’ or a conscious experience of the here and now; and ‘extended presence’ or the sense of being present as a continuous identity that persists over time. A focus on devising, fluidity of production roles and inviting informality allowed us to establish a sense of ourselves and each other in a *détournement* of the ‘flattening’ described by Lefebvre (1991, p.313); not to escape, but to create elastic spatio-temporal bonds

within the present limitations; a story of space within place (Certeau, 1988, pp.115-117).

By contrast, we could only reliably access one of the three dimensions of presence of our audiences: core presence or a sensory focus on the present events. For a deeper sense of engagement via the other two dimensions of presence, proto- and extended presence, we relied on audiences to ‘self-capture’ (Chow, 2012, p.41-43), and we attempted to do so by way of frame shifts that drew on their imagination. We decided early on that we did not want the audience to interact with the actors as we didn’t have the time or scope to manage this. Instead, we emphasised containment and frames when scripting the role of audience members, visually and through instructions before, during and after the performance. We set up a separate Zoom room as a lobby or waiting room, in which we interrogated audiences about their health status and instructed them, in the spirit of the restricted movement imposed by the pandemic lock-

down, on safety precautions during the performance. Audience members were instructed in advance to arrive wearing masks as a MacGuffin device to limit interaction with the cast in the tight timeframe of each performance. Instead of attempting to conceal the frustration of containment and frames, we made it a feature, from the introduction in the waiting room, through the many shifts that left audiences with the challenge to identify and re-frame, for themselves, the different scenes, to the final shift in which it becomes apparent that the body on the table is no longer someone else's, but your own, making you a witness to your own autopsy.

In Tulp's final monologue, he invites the audience to consider themselves in the frame just out of frame; the cadaver:

DR TULP

So what do we have? There is trauma; that's definite. An extended period of trauma. That

wasn't just life, but life had a huge amount to do with it.

Judging by the lungs, I think there were things that took your breath away. You used your lungs, but maybe there were ways you could have used them more. Did you sing often enough? I don't know. You touched things. You made things, I'm presuming.

It's hard to judge a life by its body. Maybe it's a side effect of the job, but I quite like my bodies to have a bit more movement in them. You know, for dancing. You look like you could have done some dancing. Some slight tendon damage. Your knees were ok. You broke a bone as a child. You healed well; you were lucky - someone loved you. The mark

of the civilized society, that; isn't it: if you've got someone who'll keep you alive while you mend a broken bone. I can't remember who said that. It's good though, isn't it? Says a lot if there's someone who'll take care of you. Bring you things. That doesn't bring me to the end point though. I don't know, with you. It's still quite hard to tell how you went, in the end. What you came to. But look at the neck. Look at the lungs. At the end of it all you just couldn't breathe.

We wanted the play to reflect the re-ritualisation of death (Jacobsen, 2020, p.10) and acknowledge the memento mori, a gesture many relegated to irrelevance on the back of a decade of modernity, particularly in the Global North, which increasingly can be found with its counterpart within societies divided by class, rather than distance. With this device, we solicited the other two presences from our audiences; those

we could not reach, but which we might invite audiences into. The first, via the discomfort of imagining your own body as the cadaver, and the third, your experience of having a persistent identity, via the vertigo of displacing the subject positions of subject and object; in this case the 'you' that perceives, and the body on the slab.

During the performance our audience were asked to come with us on our journey and to accept the shifts in place that occur within the piece, and we risked losing them in order that they might catch up with us. In the audience workshop after the opening performances on 16 July 2020, we received feedback that 'lurching' between confusion and understanding what was going on was common, but effective. Our audiences were a self-selected group of scholars and practitioners who were interested to see how a new piece worked, and the setup of the script meant that throughout, our audience were learned people – students, lab technicians, committee members. Were we to have created the piece for general audiences, we may well

have made other choices at various stages of its development. Although much could be refined with more time to devise, rehearse and work with live audiences, we found that our audience not only coped but that the effect of the ending was enhanced by this journey.

Reflections

In looking back on the screenplay some months later it is clear that we expected a lot both of our cast and our audience. The restrictions of the rectangular boxes meant that our actors were limited in terms of their movement (Paul and Reynah's images were confined to matchbox sized boxes on a regular lap top screen) with even Martin's relative closeup limiting his movement within the room in which he was performing. He could not move more than one or two steps in either direction; Paul and Reynah could not move at all. Body language was therefore severely limited. Facial and vocal expression were our only real tools, and it was not a

coincidence that the actors we cast were all specialists in voice work. Even though we dedicated proportionally significant amounts of time to sound design and found the results more or less satisfying within the given parameters, it is an aspect of video conferencing platforms that requires further development. The quality of the sound is relatively poor, and the distortion that occurs when different channels cross, including when two or more people talk simultaneously, hamper the emergence of instinctive, informal communication.

Each of our cast brought a particular energy to their performance and to the room between readings. Balancing this was a crucial part of building a team that could work together in this irregular medium. After a few rehearsals, we noted that something like the a 'circulating energy' theorised by Fischer-Lichte did develop – but how this was done, and the mechanics of this process when the cast were not physically present requires further investigation. A possible focus of further research could be the impact

on this type of emergence by the narrowing of communication channels by technical limitations, including the compression of sound. After the third rehearsal, the cast began to generate and maintain a 'centre stage' that was not located in any of their physical spaces, but rather an ou-topia where the projected presence of the cast converged. Metaphorically, lines spoken became lines thrown and entangled in temporary co-presence, allowing the cast members to "share and feel things in common" (Dolan 2005, p.22).

Our cast needed this to support each other, as well as the audience experience. The timing of each performance had to be tight, as we could only accommodate four audience members at a time. We ran the performance eight times on both evenings in order to accommodate just over 60 bookings. The programming of the event was brutal for our actors, as back to back performances every 15 minutes meant that our actors had to go through the same tight cycle

of high energy levels on rapid turnaround as well as managing any arising technical issues in between performances. For Martin, who is in the central frame of every scene, this schedule was especially tough, and we were very aware of the demands that we were making of him.

The whole process, starting with ideas generation and concluding with a post-show debriefing meeting (also on Zoom) underscored the value of the very human need and desire to meet and create in person both in its absence, the desire to compensate for its absence, and the relative success of perseverance. Though as a creative team we came to trust each other and were aware of the bonding energy created by and during the performance, we very much missed the opportunity to be together as people. Arguably, this was the central experience, and not without a poetic dimension that resonated with the wider theme of the performance: our experience and comprehension of death, and thus life. The final performance came and went and though

we shared a drink at the end, the key celebration of the wrap party was missing in every sense. We missed the warmth and opportunity to share appreciation for the mutual generosity that remains core to acting and theatre, as a profession and cultural domain. What's more, the experience of creating the piece and yet not being able to be present when it is being performed is – while not unique to work on Zoom – alienating. It was strange for all of us to be in our kitchens or offices around the country knowing that this event was taking place, but at the same time not being there. None of us could not escape the poignancy of the gap between the virtual and what we wanted to experience and share.

The use of video conference platforms for performance work is in its infancy. The technology has many limitations, some of which may be ameliorated with further developments, and comparisons with the experience ingrained within the practitioner of in-body, in-person work will always be invited and relevant. Our experience

of working with this format has shown its potential not for liberation from the physical space, but accentuating through real and poetic removal and absence the very human need for creating together. Questions of whether theatre will become a native in virtual spaces and what audience will make of attempts to explore their potential will unfold and be answered in practice, but it is unlikely to be practice as escape from the physical domain. The scenography of theatrical worlds includes the interpretative space that its audiences may, if minded to, contribute with, and in which stories take on a life of their own. Rather than an exercise in efficiency, virtual theatre must thus be an exploration of the effective.

References

- Bachelard, G. (1994). *The Poetics of Space*. Boston: Beacon Press.
- Bailes, S. J. (2011). *Performance Theatre and the Poetics of Failure: Forced Entertainment, Goat Island, Elevator Repair Service*. London: Routledge.
- Berger, V. (2020). Phenomenology of Online Spaces: Interpreting Late Modern Spatialities. *Human Studies* (2020) 43:603–626.
- Certeau, M. de (1988). *The Practice of Everyday Life*. Berkeley: University of California Press.
- Chow, R. (2012). *Entanglements, or Transmedial Thinking about Capture*. Durham, NC: Duke University Press.
- Dolan, J. (2005). *Utopia in Performance: Finding Hope at the Theatre*. Ann Arbor: University of Michigan Press.
- Fischer-Lichte, E. (2008). *The Transformative Power of Performance: A New Aesthetics*. London: Routledge.
- Jacobsen, M.H. (ed.) (2020). *The Age of Spectacular Death*. London: Routledge.
- Lefebvre, H. & and Nicholson-Smith, D. (1991) *The Production of Space*. Oxford: Blackwell.
- Westling, C. E. I. (2020). *Immersion and Participation in Punchdrunk's Theatrical Worlds*. London: Bloomsbury.
- Willett, J. (1979). *Theatre of Erwin Piscator: Half a Century of Politics in the Theatre*. 1st ed. London: Bloomsbury.

Images

1. The Anatomy Lesson of Dr Nicolaes Tulp is on Zoom now, a meme created by Andrea Kastner & Colin Lyons (2020) based on *The Anatomy Lesson of Dr Nicolaes Tulp* by Rembrandt, 1632;
2. Screenshot from *Dr Tulp and the Theatre of Zoom* (2020) with Martin Edwards as Dr Tulp, Reynah Rita Oppal (1st from left) and Paul Panting (4th from left), sharing the top row with four audience members.

Annja Neumann is an Affiliated Lecturer in Modern German Studies and Isaac Newton Trust Post-doctoral Research Fellow in Digital Humanities. Her practice-based research explores the staging of spaces and politics of embodiment, with a particular interest in the theatricalisation of medical spaces.

Wendy Bevan-Mogg is Senior Lecturer in Fiction Filmmaking at the University of the West of England. She began her career working for the distributors Artificial Eye and sales agent Pathé International, before moving into production. She has worked as a producer, exec producer, co-producer and line producer.

Carina Westling is Senior Lecturer in Cross-Platform Media at Bournemouth University. She researches cross-platform scenography, embodiment in relation to virtuality, and agency as a material in interaction design. Carina worked with leading immersive theatre practitioners Punchdrunk for her PhD research at the University of Sussex.

Medium: Discord

Year of Release: 2020

Link to the artwork: <https://meanwhilenetprov.com/fantasyspoils/>

Video artist: <https://vimeo.com/460917332>

Fantasy Spoils: After the Quest

Rob Wittig & Mark C. Marino

"The concept is intriguing, calling for the participant's attention to the painful after-math of every battle, be that mental or physical, taking place in the game or in one's everyday life."

ICIDS 2020 Jury

Fantasy Spoils: a netprov of injury and recovery

Abstract

Fantasy Spoils: After the Quest is a netprov, a collaborative writing game, inspired by the tabletop role-playing game (TTRPG) *Dungeons and Dragons*, that uses storytelling to travel a quest of emotional recovery. *Fantasy Spoils* can be played online or in-person and was featured as an ICIDS experience during the 2020 conference. In this paper, we present *Fantasy Spoils* as a means of imaginative relief from the trauma of the COVID-19 pandemic through shared improvisational play. In playthroughs that stress collective, creative problem solving, we offer players an opportunity to face and overcome internal, psychological monsters.

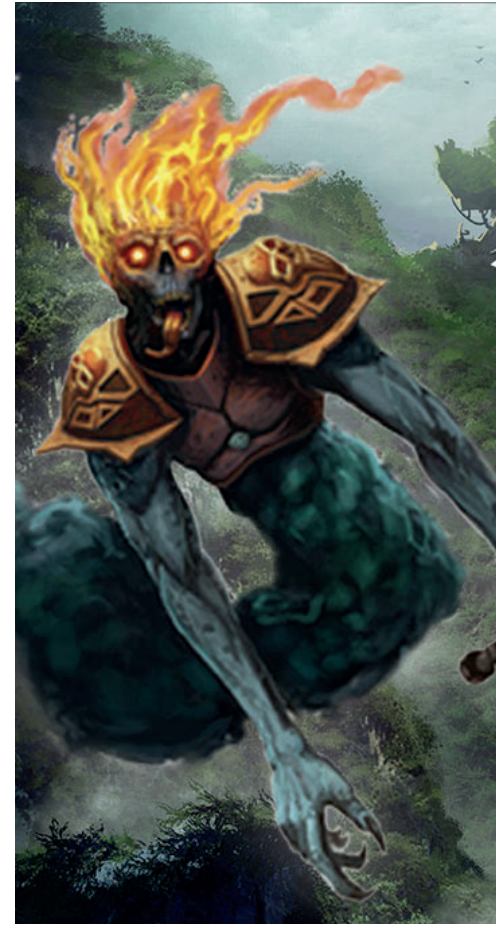
Keywords

role-playing games, trauma, netprov, storytelling, Dungeons and Dragons, collaborative writing

Having just completed the glorious epic saga, Ultimate Final Victory!, you have now returned home to deal with the aftermath: *Fantasy Spoils*. Gone are the orcs, hobgoblins, and dragons. In their place, you must contend with your wounds, property damages, and ensuing lawsuits. How will you deal with life here in Muddled Earth after the glorious quest? Are you hero enough to face your most daunting enemy: your own irritation? Because at the end of every epic quest, you will find fantasy spoils!

So began our 2020 netprov, which was featured in the ICIDS 2020 art exhibition.

Fantasy Spoils (2020)^[1] is a new netprov that takes a playful tilt at the role-playing game Dungeons & Dragons. However, rather than focusing on glorious bloody battles, this netprov focuses on the not-so-glorious aftermath. First played in spring 2020, *Fantasy Spoils* arrived as a parodic play on epic, Tolkeinesque role-playing at the moment when much of the world, including our own students, were under lockdown orders due to the COVID-19 pandemic. As mankind stared blan-



^[1] <http://meanwhilenetprov.com/fantasyspoils/>



kly through the windows of teleconferencing software, we invited them to enter into an imaginary world for some collaborative narrative play focused on loss and recovery.

Netprov is the name we give online collaborative writing. The form was first labeled in 2011 by Rob Wittig. At the time, he had been developing such netprovs for years, but he also recognized that social media platforms were making collaborative writing a regular part of our digitally mediated lives. After staging in-person collaborative writing games as part of composing *Invisible Seattle*, the first novel created by a city, and developing writing games on a mainframe computer with *IN.SOM.NIA* (Wittig 1994), by 2011 he now had at his disposal the Internet's writing platforms, content management systems, ready for play.

Previous research

Scholars studying the psychological ef-

fects of role-playing games, particularly tabletop role playing games (TTRPGs), have found that given a purposeful management and direction, the games can be quite therapeutic for participants. Rosselet and Stauffer's study (2013), for example, suggests that role-playing games can help adolescents with their social emotional development. An earlier study by Rubin and Enfield (2007) found a superhero themed RPG was beneficial to adolescents 11-13 years-old who needed help controlling impulsivity and boundary issues. Similarly, Gutierrez (2017) and Koren (2018) have explored the efficacy of *Dungeons and Dragons* and live action role play (LARPs, which are the ludic cousins of role-playing games) as drama therapy. Another study by Causo and Quinlan (2021) showed how *Dungeons and Dragons* contributed to players' well-being, including giving players a safe space from and to engage with mental health symptoms. Marginalized communities can also find benefits in role-playing games. Also, Bayes' (2021) examina-

tion of the therapeutic potential for role-playing games for LGBTQ+ youth suggested their potential for helping players develop resilience and coping skills.

However, that is not to say that role-playing games are inherently therapeutic. While role-playing games offer a means of healing, they can also devolve into emotionally hostile environments. Sarah Lynne Bowman (2013) notes how misogyny, stereotypes, and other forms of social hostility can harm players and impact communal play. Similarly, one long-term inpatient study suggested that role playing games could reinforce negative pathologies (Ascherman 1993). Bowman, along with DeRenard and Kline (1990), suggests a need for careful management by game masters (GMs). One therapist Gutierrez interviewed cautioned that role-playing games are not inherently therapeutic but instead can be used as therapeutic tools. Heeding these warnings, we take great care in creating positive and nurturing spaces for

play in all over our netprovs, including Fantasy Spoils.

***Fantasy Spoils* and the D&D renaissance**

Fantasy Spoils: After the Quest takes up a middle earth role-playing motif alongside the contemporaneous resurgence of the TTRPG Dungeons and Dragons. Podcasts and other live stream play, from *Critical Role* to the McElroy's *Adventure Zone*, have returned the game to popularity with a new eye toward expanded cultural inclusion. Performers and artists, such as the improvisers of College Humor's *Dimension 20* have adapted the fifth edition system (aka 5e) into new adventures where it is not uncommon to find a transexual drug dealer turned wild magic sorcerer or his counterpart Kingston Brown, the middle-aged nurse and cleric (Burns 2020). Moving beyond the world of Tolkein and its uptake by cisgender white male audiences (two of

whom are writing this paper), the game has become a place of inclusion where even the notion of races, like Elves and Orcs, has been challenged in recent years (Limbong 2020). The transition has also been marked by a more self-conscious expansion of the game from an emphasis on points and levels to the creation of collective powerful emotional experiences (Robinson 2019). Contemporary expansions have also diversified the source material for the gameworlds. For example, *Wagadu*, by Twin Drums, brings African mythology into what was previously a world of middle Earth drawn mostly from European folklore. *Dungeons and Dragons* is surely changing from what it was 30-40 years ago.

In the midst of that rebirth, *Fantasy Spoils* arrives as an alternative to glorious escapism and game-mechanics-driven leveling up by focusing not on the epic battles but instead on the aftermath, the recovery. Whether dealing with lawsuits over the decimated lands, the long road to physical recovery for injuries, or repairs to weapons and other property, players of *Fantasy Spoils* must find their way through the less pleasant parts of heroic life.

Fantasy Spoils lives on a Discord server, though it can equally be adapted for Zoom teleconferencing software or in-person play. Discord is a platform for digital interaction in the form of hubs for communities (called “servers”) via discussion forums (called “channels”), including video and voice over Internet protocol (VOIP). Although Discord has a video channel,

ENDLESS ENNUI

Huge feline, unaligned

2



Armor Class 13 (general disinterest)

Hit Points 73 (7d12 + 28)

Speed 30 ft.

STR	DEX	CON	INT	WIS	CHA
18 (+4)	10 (+0)	18 (+4)	10 (+0)	19 (+4)	10 (+0)

Skills Deception +5

Damage Vulnerabilities vulnerable to inbox notifications

Damage Resistances resistant to activities that used to fill its days with joy and light

Damage Immunities immune to overly enthusiastic creatures.

Senses smells how uninteresting you are, passive Perception 14

Languages Common, blah, blah, blah

Challenge 1 (200 XP)

Relishing Reluctance. A spell that keeps players from taking any initiative because, well, what’s the point?

Innate Spellcasting. The endless ennui’s innate spellcasting ability is Wisdom (spell save DC 8, +0 to hit with spell attacks). It can innately cast the following spells, requiring no material components: Relishing Reluctance

At will: *Relishing Reluctance*

ACTIONS

Boulders of Boredom. *Melee or Range Weapon Attack:* +4 to hit, reach 5 ft., or range 30/120ft., one target. *Hit:* 9 (2d6 + 2) bludgeoning damage in melee or 5(1d6+2) bludgeoning damage at range

Arrows of Apathy. *Ranged Weapon Attack:* +6 to hit, range 80/320 ft., one target. *Hit:* 8 (1d8 + 4) piercing damage. These arrows have a bonus damage of removing a player’s desire to fight. (Constitution Saving Throw)

REACTIONS

Yawn. Whenever attacked, EE lets out a yawn that is so contagious it occupies the entire party.

DESCRIPTION

This monster is bored of you already, and you are consequently bored of all things. Your desire to conquer it is persistently dissipated by a general disinterest in all things that used to put a gleam on your chainmail armor.

ALACK OF MOTIVATION

Medium humanoid, lawful neutral

3



Armor Class 13 (hiding hoody and sweatpants of resignation) Hit Points 60 (8d12 + 8) Speed 30 ft.					
STR	DEX	CON	INT	WIS	CHA
18 (+4)	15 (+2)	12 (+1)	16 (+3)	10 (+0)	18 (+4)

Saving Throws Str +1
Skills Deception +3
Damage Vulnerabilities slight vulnerability to motivational posters.
Damage Resistances resistance to high stakes testing. takes half damage
Damage Immunities immune to lofty goals., immune to tales of past glory.
Senses Can sense disinterest a mile away. Perception 18, passive Perception 10
Languages Common, Mumble
Challenge 1/2 (100 XP)

Comforter Creep. Comforter Creep: Has the effect of pulling the bed linens over their head. Causes reticence to move and extreme coziness

ACTIONS

Snooze Bar Slam. *Melee Weapon Attack:* +2 to hit, reach 5 ft., one target. *Hit:* 3 (1d6 + 0) Zzzzzz damage: Takes turn away as player sleeps for just 5 more minutes.

Verve Sucking. *Melee Weapon Attack:* +6 to hit, reach 1 ft., one target. *Hit:* 8 (1d8 + 4) biting damage plus draining enthusiasm damage, next turn is done with disinterest

DESCRIPTION

A vampiric monster that drains its opponents of their will to adventure.

AMBIENT AMBIVALENCE

Large gaseous, unaligned

4



Armor Class 13 Hit Points 63 (6d12 + 24) Speed 30 ft.					
STR	DEX	CON	INT	WIS	CHA
18 (+4)	17 (+3)	18 (+4)	10 (+0)	10 (+0)	16 (+3)

Skills Persuasion +5
Damage Vulnerabilities fifty-fifty: vulnerable to coin tosses.
Damage Resistances ambidextrous resistance: advantage on two-handed attacks
Damage Immunities immune to general perkiness
Senses passive Perception 10
Languages Common, Race
Challenge 1/2 (100 XP)

Unxious Uncertainty. Creates a cloud over the entire field of battle, reducing visibility to 0. Players are not even certain that the monstrosity released this cloud, or that the monstrosity is even there, or that there is even there. I am uncertain why I am writing this.

ACTIONS

Flying Flip Flop. *Melee or Ranged Weapon Attack:* +6 to hit, reach 5 ft. or range 80/320 ft., one target. *Hit:* 7 (1d6 + 4) flipping damage in melee, or 10 (1d12 + 4) flopping damage at range, or 8 (1d8 + 4) flapping damage if used with two hands to make a melee attack.

REACTIONS

Indecisivation. When attacked causes the player to ask whether or not that was a good idea, Wisdom saving throw, loss of a turn.

DESCRIPTION

More of gas than a solid monster, it can take over an entire party, taking away their forward movement by making every option seem equally good or bad.

our *Fantasy Spoils* play sessions often started out on Zoom for video documentation of the adventure, which we later used just for voice.

On the Discord Server, we invited players to introduce their characters and to narrate their escapades in the just-completed campaign *Ultimate Final Victory!* After laying out the basis for a longer narrative arc, they were encouraged to narrate their daily recovery slog on the three channels: #recovery, #repairs, and #lawsuits (hashtags here indicate channel names). We encouraged participants on these asynchronous platforms to reference events, settings, characters, and objects from other participants' contributions, following the principle of "yes, and." Discord also affords notifications of other player's references to them via their handle (e.g., @user), an affordance that facilitates collaboration and dialogue during asynchronous play.

Against the backdrop of the asynchronous narratives, players also participated in synchronous narratives called camplaingns (a portmanteau of complaints and campaigns). Modeled on *D&D*, the camplaingn, prepared by a

Drudgeon Master, thrusts the players into a pitiable field of plight and then confronts them with one or more of our monstrosities. available in the *Manual of Monstrosities*.

These Monstrosities were likewise built out of psychological and emotional terrors, including Alack of Motivation, an enthusiasm vampire; Ambient Ambivalence, a fog of doubt; Babbling Bureaucracy, a slinger of red tape; Endless Ennui, a harbinger of extreme boredom; and Desolate Despair, a depressing blob. Although not intended to be limited to the COVID-19 experience, these psycho-emotional horrors became proxies for much of the malaise that attended lockdown. The *Fantasy Spoils Manual of Monstrosities* can currently be found on Critterdb.com for use on other games. One goal of our netprov was to ensure that even the more playful, parodic elements, such as these made-up monsters, are playable when following the 5e game mechanic. Such additions are often referred to as "homebrew" in *Dungeons & Dragons* circles.

A typical camplaingn in *Fantasy Spoils* compels atypical role-play. Although partici-

pants could also roll-play, using virtual dice driven by the Avrae bot Discord plugin and even character sheets for the monsters and themselves (using *D&D Beyond*), Drudgeon Masters or DMs (in a separate manual) were encouraged to reward creative narrative solutions born of collaboration aimed at emotional matters. So, while players might roll for an attack or a dice challenge, they had to use more than their crossbow to free themselves from Verve Sucking or Unctuous Uncertainty. In other words, they would have to -- as Del Close co-founder of Chicago Improv put it -- play and go deep (qtd. in Wittig 2011). Bowman (2013) identifies the way conflicting playing styles, such as focusing on game mechanics as opposed to role-play can cause group play to deteriorate. In our adaptation, our Drudgeon Masters actively steer players to storytelling, a play-style Bowman calls "narrativism."

Camplaigns

A camplaign is a quest through the malaise of malady. Modeled on conventional *D&D* campaigns, camplaigns often began with a zero

episode in the Proving Grounds Coffee Emporium, with a nod to the early video game *Wizardry: Proving Grounds of the Mad Overlord*. There, misadventurers could meet, form parties, and get their daily dollop of caffeinated mud. Players were also encouraged to declare their readiness to join a misadventuring parties in the Bureau of Camplaigns, which we offered as a channel for recruiting teams. Once thoroughly acquainted with one another, participants were whisked off to some dismal setting, beset by some plague. In the university course settings, these camplaigns began often on the main college green, where the players would encounter their classmates in various states of infirmity. Ennervated, unmotivated their fellow students moaned from discarded couches and bean bag chairs that seemed to be sucking all the life out of them. Of course, during the early waves of the global pandemic and lockdown, this scene was not as fanciful as it might be otherwise.

Narrating in typical GM style, the Drudgeon Master would slowly unveil the scene, eventually offering clues as to what monstrosity had besieged this area.

COMBAT

Though the Avrae Discord bot enabled traditional dice-rolling combat scenarios, complete with weapons and spellcasting, our emphasis on netprov meant we emphasized imagination over might. After falling prey to an Alack of Motivation, one party revived their classmates by summoning the newly elected university president who was toting armfulls of corgis. Another group roused their classmates by playing some pop hits over a massive sound system. The unspoken agenda of the Drudgeon Master was to gently lead the players away from combat into creativity. In the following example, Mark was Coach Ela, the Drudgeon Master.

First, here are a quick set of characters:

Charlie H: Busby "Buzz" Bee-Beard is the servant of the transdimensional hive

Wailing Edmund: Half-Elf Sorcerer

Kali: a bookish Half-Elf Sorcerer

Zephyryne Piper is a water genasi ranger

Elwick the Magnificent: rock gnome wizard.

Coach Ela (Coach) 11/04/2020

"Listen, locals, you realize there's no point in fighting me with weapons and spells and the like," it says.

Wailing Edmund 11/04/2020

I'm wailing.... it's in my nature....

Coach Ela (Coach) 11/04/2020

"I mean," says the creature, "that's so cliché."

"You think I'm going to fall to clichés?"

Coach Ela (Coach) 11/04/2020

The creature turns perturbed to Buzz -- "oh, I see. One of you has some enthusiasm. That's novel."

Elwick the Magnificent (Joey) 11/04/2020

"I know just the thing!" Elwick pulls out a page from his spell book and quickly scrawls a quick motivational poster which he proffers to the Alack. YOU CAN DO THE THING!(edited)

Coach Ela (Coach) 11/04/2020

The creature cocks its head at Wailing's Wailing.

Charlie H 11/04/2020

Buzz follows the taunt with more enthusiasm - enthusiastic hitting with the staff to be precise

Coach Ela (Coach)

"There's always one," the Alack says in the vague direction of Buzz

The Alack seems a bit distressed by the poster.

To overcome this Alack, this team relied rather heavily on bees:

Charlie H

Buzz runs over to Elwick and pours bees in his robe - That will motivate most people!

AvraeBOT

Elwick the Magnificent makes a Constitution Save!

*1d20 (9) + 2 = 11**

(This simulates a roll of 9 on a 20-sided die plus a constitution bonus of 2.)*

Charlie H

There he goes!

Zephyryne (naomi)

jumps up from the bench and throws Inigo's ball of yarn from the folds of her robes Inigo, fetch!

Charlie H

Buzz is proud

Elwick the Magnificent (Joey)

Elwick yelps as is robes fill with bees.

Kali (Ashwathy)

Rounds up all the puppies in the neighbourhood

Elwick the Magnificent (Joey)

His hastily casts a light cantrip on the bees, so they glow merrily.

Charlie H

Quick my gnomish friend - no time to worry about bees - give us some fun!

Though Charlie H calls for fun, it is clear that the campaign has indeed found its fun, and it's made of bees, creatures who have suffered their own pandemic in recent years but here were a symbol of anarchic fun and creative play.

After the combat scenarios and long recovery story arcs, the players had a chance to narrate their epilogues in a Discord Channel called "the aftermath." This was a chance to reflect on their recovery process but also either to alleviate their woes or cause a bit more misery for their characters.

Accentuating the negative

It might seem from the outside that dragging a group of traumatized players through the muck of scenarios emphasizing misfortune might be the last thing someone should do during a pandemic. Even university administrators were shifting their emphasis away from the language of "rigor" to the rhetoric of compassion and student support. Or should we say, the balance shifted from talk of challenging academic curricula to the challenges of students in lockdown.

However, we found the opposite was true. By placing students in a parallel scenario, in a magical mirror of their pandemic plight, we were able to give them an opportunity to work their way through their challenges, creatively, collaboratively, and indeed remotely.

Also, references to the COVID-19 pandemic were at most oblique, not that students or other participants needed to be reminded why they were playing a table-top game online over Discord and Zoom. For example, Rob opened a number of campaigns, playing a coughing pangolin who runs across the scene, pangolins being one of the suspects in the chain of transmission of the COVID-19 virus to humans in the first place. This light touch helped us keep the game in the realm of healing rather than re-traumatizing our students by dwelling on more serious or literal mappings of their own plight onto this scenario. Here I am referring to the concept of "mapping" as described in improv as a process of producing one scenario by implying parallels to an analogous yet very different one. For example, a woman is upset that her husband is cheating on her with another Netflix series he

is binging-watching. Breaking his streaming loyalty in this case is mapped onto breaking his relationship loyalty.

This concept of “mapping” relates to another concept in role-playing games, “bleed.” “Bleed” refers to the tendency of in-game events to affect real-world emotions and vice versa (Bowman 2013). Bleed happens when friends squabble in real life about the offenses of their characters in game. It can also include moments when in-game actions or events trigger harmful, real-world psychological responses, especially prevalent with players who have pre-existing vulnerabilities (Bowman 2013). During the time of this global pandemic, wary of this phenomenon, we directed our DMs to keep a careful eye on the bleed. If we were to offer a salve for the isolation of lockdowns, for example, we might not want to have the Endless Ennui ultimately succeed in overwhelming the parties on their campaigns. If we did not want to reinforce the anxiety and depression of the traumatic closure of in-person learning environments, we probably should not let the Desolate Despair’s attacks of Dreary Drear or Crumpled Hope overwhelm our

players. No doubt, losing such a game could be psychologically beneficial or even enjoyable, depending on a person’s disposition toward play or how the defeat was narrated and received, but given the severity and uncertainty of the crisis, we tried to be especially mindful of the players’ states of well-being and how this mapping and the challenges of the DMs were impacting them.

One sign of the students’ positive response to this experience could be seen in their enthusiasm and creativity during their campaigns. Another, were their additions to the game, including the King of Deals Pawn Shop and Junkery, created by Rob’s students. Rob’s students also created their own heist-centered campaign independently called the Glitter City Bank at Knifepoint. This creativity, we argue, is a key to the healing balm we were trying to offer, not in the form of escape and distraction, but in the form of processing through creative play, laterally connected to the source of player woe.

Further study would be needed to examine the psychological effects, but student feedback suggests their experiences were positive.

student1:

This exercise was coOoOol. It was interesting to combine the elements of storytelling with literary devices in a cooperative and communal manner, when much of writing is solitary and, naturally, not interactive. Fun way to wind down the semester, especially with the circumstances as numbing and neurally-constipating as they are. Specifically, I valued the creativity in how we could choose to combat monsters, and the intuition in crafting our characters and configuring them literarily in contrast to our classmates'. AAA+

student2

I enjoyed the netprov. I remember seeing certain people play Dungeons and Dragons in my high school. I kinda understand the hype now. It's all about creating your own story in an established world. It's a scary but freeing thing. I am a Creative Writing Major and I'm taking a Fiction class this semester. That's not the main thing I'm trying to get into but it was interesting to write in a more mythological way. But I used real life aspects to inform it. I wouldn't say it's for

everybody. You have to become invested in your character, the story, and the world.

Thus far, we have staged Fantasy Spoils in 3 distinct seasons in games from one player (and a DM) to over one hundred, separated into smaller breakout rooms for the campings. So far, five to eight players have been optimal sizes. The majority of games thus far have been played with undergraduate students as part of their writing courses but it has been played at two conferences, including ICIDS 2020 in Bournemouth. In addition to the games sessions we have coordinated, the game has also been staged by Paul Eccheverria (Wayne State University) and Astrid Ensslin (University of Alberta). Game play varied widely based on the collective imagination of the players.

Because (real life) experience levels with role-playing games varied widely, game-play followed suit. Those who had played similar games before were quick to take up the comical or parodic play environment, and matching this tone, described their characters' actions with humor and detail. Newcomers were a bit more reti-

cent, answering prompts from the DM or NPCs in shorter or more plain-spoken descriptions. While an experienced player might have their half-Orc fighter, slam his hand on the counter of our in-game coffee shop, Proving Grounds, and demand an artisanal caffeinated beverage, the newer players would meekly accept the generic cup of sludge and then take it to a table to sit.

Similarly, combat play also varied depending on experience level. Newcomers to the game tended to be more tentative with their actions, whether trying a traditional attack or some alternative intervention, such as asking the monster a question. More experienced players tended to choose more elaborate or absurd choices, particularly once they realized that traditional combat techniques, such as swinging swords or shooting arrows, would not succeed as indicated by the responses of the DM. In the same way, while more experienced players read even subtle cues about the nature of the gameplay, newer players needed to be told explicitly that these types of conventional attacks probably would not succeed.

The biggest challenge to the DMs in all

of these play throughs was to convey this message that these psychologically based monsters would not be defeated through traditional combat approaches. Though TTRPGs may be “quantified interactive storytelling), as Schick (1991) calls them, *Fantasy Spoils* campaigns are not so much about high dice roles, powerful weapons, and high skill checks. In fact, our training for the DMs explicitly eschewed such play. We wanted to ensure that Fantasy Spoils campaigns hinge on collective, collaborative problem solving. An Alack of Motivation can no more be slain by arrows than its psychological counterpoint. Endless Ennui cannot be defeated with the simple swing of an ax. Like our other netprovs, Fantasy Spoils is meant to disrupt or counteract the cultural logic of scoreboards and bank tallies. The treasure, in the terms of the games, is not discovered once the dragon has been slain, but when the players are drawn out of their own dread into creative engagement. And in our quantified, gamified world, to turn away from such scoreboards, we argue, is a radical and therapeutic act.

Each game varies, but what remains constant is a sense of overcoming some dreadful in-

ternal malaise not through combat but through creativity. In that way, *Fantasy Spoils* was born as a COVID-19 pandemic coping strategy, though we suspect it can serve any moment of denouement because after any quest, fantasy spoils.

Conclusions

Our experience with *Fantasy Spoils* supports a growing body of research around the therapeutic benefits of carefully managed role-playing games. However, this netprov may have been particularly beneficial to players because of the context in which it was played. Staged as collaborative play during the time of a global pandemic, *Fantasy Spoils* offered an opportunity for connecting with fellow students, online conference attendees, colleagues, and other creative writers at a moment of devastating and traumatic separation. As our in-person gatherings were replaced with visually deman-

ding video-conference sessions, *Fantasy Spoils*, along with other Discord-based games, offered collaborative, creative play through less taxing audio and text-based media. As opposed to the resource-intensive strain of the high-definition video dream, the world of *Fantasy Spoils* was generated by the collective imagination of the players. More importantly, in the digital world of likes and levels and other scoreboard achievements, *Fantasy Spoils* focused on repair and reconnection with others. In place of button-mashing and power fantasies, it offers a collective reflection on recovery. In place of simulations of terrifying monsters with overwhelming hitpoint counts, it offered internal monsters, who could be overcome only through creative, collective storytelling. *Fantasy Spoils* brings players out of the world of levelling up in hopes to help us all level off in this unusual tempestuous time.

Note: We are currently developing a manual to give others the materials they need to stage their own playthrough of *Fantasy Spoils*.

Acknowledgements: We would like to thank ARDIN and the ICIDS community and all those who have helped us stage *Fantasy Spoils*, either as a Drudgeon Master or player. Special thanks to Laura LaBounty who designed the *Fantasy Spoils* logo and font.

References

- Burns, K. (2020, October 29). How to Get Started With Dungeons & Dragons. Wired. <https://www.wired.com/story/how-to-get-started-dungeons-and-dragons>
- Limbong, A. (2020, June 29). "Dungeons & Dragons" Tries To Banish Racist Stereotypes. In All Things Considered. <https://www.npr.org/sections/live-updates-protests-for-racial-justice/2020/06/29/884824236/dungeons-dragons-tries-to-banish-racist-stereotypes>
- Seattle, I. (1987). Invisible Seattle: The Novel of Seattle, by Seattle. Function Industries Press.
- Wittig, R. (1994). Invisible Rendezvous: Connection and Collaboration in the New Landscape of Electronic Writing (1st ed.). Wesleyan.
- Wittig, R., & Marino, M. C. (2020). Fantasy Spoils | After the Quest, a netprov. Meanwhile Netprov Studios. <http://meanwhile-netprov.com/fantasyspoils/>
- Wittig, R. G. (2011). Networked Improv Narrative (Netprov) and the Story of Grace, Wit & Charm [University of Bergen]. <https://bora.uib.no/handle/1956/6305>

Images

1. The Fantasy Spoils logo created by Laura LaBounty
2. Selection from the *Manual of Monstrosities* online via CritterDB.com
3. Selection from the *Manual of Monstrosities* online via CritterDB.com
4. Selection from the *Manual of Monstrosities* online via CritterDB.com

Rob Wittig plays at the crossroads of literature, graphic design and digital culture. A Silicon Valley native, he co-founded the early, legendary IN.S.OMNIA electronic bulletin board with the Surrealist-style literary and art group Invisible Seattle. Rob is a proud Master of Digital Kultur from the University of Bergen, Norway, and is Assistant professor in the Art & Design and English, Linguistics and Writing Studies departments of the University of Minnesota Duluth. His latest work Netprov, Networked Improvised Literature for the Classroom and Beyond is forthcoming from Amherst College Press.

Mark C. Marino is a writer and scholar of electronic literature living in Los Angeles. He teaches writing at the University of Southern California where he Directs the Humanities and Critical Code Studies Lab. He is also the Director of Communications for the Electronic Literature Organization. His most recent book is Critical Code Studies (MIT 2020). He is co-director of Meanwhile... Netprov Studio with Rob Wittig.

<https://www.markcmarino.com>

<https://www.haccslab.com>

Medium: Digital game, UI

Year of Release: 2020

Link to the artwork: <https://spelafort.itch.io/menu-new-game-plus>

Video artist: <https://vimeo.com/460608969>

MENU NEW GAME PLUS

Steven Sych

"An original and thought-provoking artwork. The participant will deliberately volunteer for experiencing the discomfort of not being able to play the game that one mentally constructs in the process of menu selection."

ICIDS 2020 Jury

Let's not play: main menu creation as method for speculative game design

Abstract

Speculative and critical design practices have found broad interest in the academic design world, and yet have not been widely taken up by game designers. This chapter argues that a reason for this lack of engagement is that the non-real, imaginative status of speculative objects can be difficult to reconcile with the need for the playful interactivity particular to games. In response to this dilemma, this chapter presents the creation of main menus for games that do not exist (menuization) as a way of reconciling these speculative and interactive requirements. The exploration of menuization as a method for bringing the tools and insights of speculative design into game design involves a design case study of MENU NEW GAME PLUS, a video game consisting of a series of main menus for games that do not exist. This chapter presents the development of the four existing MENU NEW GAME PLUS prototypes before going on to identify insights for those wishing to explore speculative game design through menuization.

texts of discomfort

Keywords

speculative design, speculative play, interactive fiction, design fiction, game design

Introduction: the ontology of the speculative between game design & speculative play

Speculative design as proposed by Anthony Dunne and Fiona Raby (2014) points to the important role of design as mode of interrogation of the socio-political imagination. Their *Foragers* series exemplifies this (Dunne & Raby, 2009). Through a series of designed objects, photographs, and texts, *Foragers* sketches an imaginative future where prosthetic devices act as external and at times transhumanist digestive systems. The objects themselves range between the mechanical and synthetic-biological, but each responds to an all-too-likely scenario involving overpopulation and nutritional precarity, and each do so by imagining a grassroots solution to the problem in more than one sense of the phrase.

Such Speculative and Critical Design

practices (SCD) have been a driving force in academic design research for over a decade (Bardzell et al., 2012; see also Bleecker, 2009). During this period, Raby and Dunne's picture of the designer as a social practitioner has traversed the lifecycle of academic ideas, having been adopted by many, widely critiqued (Martins, 2014; see also Kiem 2014), digested by industry and reduced to corporate truism (Salmon, 2018), reinvigorated within art and academia, and critiqued again (Martins 2017); along the way it has been deployed in a variety of design contexts (DiSalvo, 2021) and resulted in a huge number of objects with the peculiar real-unreal status of the speculative. Objects produced by speculative design are objects of imagination as opposed to function, and indeed are quite often freed from function entirely (*Foragers* is a case in point), yet they still stake a claim on our world. Hereafter I use the term 'irreal' to denote this real-unreal status.

Despite this broad interest, the uptake of SCD has not been evenly distributed amongst the subfields of design. In particular, speculative design has not found a broad application within the field of game design. There are notable exceptions to this, both within the academic design world as well as those game designers deploying speculative and imaginative methods (broadly construed) as a means of ideation (Barr, 2018).

Yet games are first and foremost playfully interactive objects. It follows that the field-specific application of SCD to game design is one in which the playful interactions themselves act as grist for the mill of speculative imaginings, as opposed to (say) the SciFi world in which a game narrative takes place, or the aesthetic and worldbuilding which give rise to said world. Speculative play, a term coined by Rilla Khaled and Pippin Barr (2017), describes an approach to speculative design utilizing the parti-

cular, playful idiom of games. The term denotes works of speculative design where the driver of speculative worlding and ideation rests primarily upon playful interactivity itself. This is the difference between Pippin Barr's *It is as if you are doing work* (2018), which uses the untapped interactive potential of jQuery user interface (UI hereafter) elements to expose a dystopian future, and the yearly Famicase competition (2018), which asks designers around the world to create evocative but non-interactive cartridge art for games. The latter is akin to concept art, in that its speculative designs are not themselves interactive.

Speculative play, in contrast to speculative design broadly, attempts to capture the unique potential of game mechanics and interactivity to operate on the imagination. Despite the existence of the term, this playful nexus between SCD and game design has yet to be fully prospected. As to the reasons for this we

may also speculate: perhaps it is that the initial presentations of speculative design—embedded as they were in a set of particular objects and seeking to avoid a ‘theory first’ approach—came to be marked by the material and disciplinary backgrounds of Raby, Dunne, and other non-game designers; perhaps the more grandiose pronouncements of Raby, Dunne, and their inheritors (the idea of transforming our relationship to reality as such) were difficult to meaningfully absorb and apply for those making ‘non serious’ games; perhaps the departmental variety within which academic game developers and designers find themselves led to less cross pollination between their own discursive situations and that of design at large.

Beyond these possibilities, I would add to the list of reasons for the general lack of engagement of game designers with SCD. The reason I have in mind here is that the very ludic requirement of playful interaction may itself conflict

with the peculiar, unreal ontological status of speculatively designed objects (Auger, 2013); that is, there is a clear tension between the speculative (hence not of-this-world, not fully functional or fully operative) status of objects arising from SCD and their ability to be concretely interactive. While designers working in other fields can avail themselves of renders or mockups, one-of-a-kind instantiations of designed objects, performative video prototypes, etc., the very status of games as interactive implies a different and perhaps difficult to imagine relationship between the real and the speculative. To be interactive, it might be assumed that a game must simply exist as the interactive object that it is; and yet to perform the work of SCD, a game must not simply exist.

The broader point here is that speculative play finds itself needing to answer each time over the question of ‘how much’ reality and interactivity is needed for a project to operate on the

imagination, and that the answer to this question is far from trivial: caught between the particular requirements of concrete interactivity on the one hand and the exigency of irreality on the other, we're left with the question of just how, and by what means or method, to think SCD into game design practices. One way to frame this issue is by way of quantity: if reality, interactivity, and completeness can be opposed to irreality, imaginativeness, and incompleteness, we might then ask as speculative game designers, what is a just interactive enough object?

MENU NEW GAME PLUS

Project description

In response to this question, this chapter takes up *MENU NEW GAME PLUS* (MNG+ hereafter), a game presenting main menus for a series of video games which do not exist. The hypothesis of MNG+ is that the menu is such a 'just interactive enough'-object: a speculative menu is a real menu and therefore truly and playfully interactive; at the same time, a speculative menu is only a sketch of a projected whole—it bears only the promise of its game as opposed to requiring the game itself to exist in complete form.

Menus are the first thing a player sees upon starting a game, and the menus of MNG+ on first glance look no different; the speculative menu is therefore a 'normal' menu (consisting of recognizable buttons, sliders, toggles, and so on) that allow players to enter the game or to use other features within the project (changing

options etc.); yet speculative menus are also expressive of the entire game through these very same potential inputs, and aim to gracefully truncate the interaction rather than allow the menu to act as a mere passing point on the road to ‘the game itself’.

Menuization as speculative method

The speculative menu is accordingly an object that allows for concrete interactivity to coexist alongside the pregnant irreality of the speculative. With the menu comes a world, but it is not the static world of the architectural maquette, or of illustrated concept art; rather, since all of the UI elements are ‘real’ and interactive, and since they already exist publicly as a sub-idiom of games themselves, the speculative menu both presents a game and bears the possibility for an audience’s unique ludic experience. By critically making menus, new game possibilities can thus be concretely imagined and

explored. MNG+ presents therefore a method—call it menuization—for approaching speculative design within the field of game design. Menuization, making the menu for a non-existent game, allows designers a way of creating an intermediary object that captures the benefits of SCD for both designer and player while putting the interactive idiom of games in service of this very end.

With this idea of menuization as a method for the ideation, prototyping and dissemination of speculatively playful objects, two questions emerged: the first was simply what game was to be imagined; the second was the more thorny topic of how a main menu—a real main menu, following or at least citing the inherited conventions thereof—could best be used to express a game.

It quickly became obvious that, given its reliance on the expressive potentiality of menus themselves, MNG+ would necessitate the criti-

cal examination of specific menu tropes and UI elements. Hence the project's trajectory doubled: not only would MNG+ act as a test case for a novel speculative method within the field of game design, it would also necessarily act as a critical look at user interfaces, employing the latter as a creative constraint as well as reservoir of inspiration. Straddling these two positions led to each menu of MNG+ focusing on a specific UI element as much as a specific, imagined game. In what follows, I share the results and generalized findings of the four existing speculative menu prototypes.

Menuization as method: case 1 Jitterburg

The first speculative menu prototype was made for a game called Jitterbug. The imagined game puts players in the role of a chameleon-like, color-shifting insect, with the graphics adopting an ASCII style; while a kind of 'retro' aesthetic may initially seem an odd choice for a

project that is self-avowedly future-oriented, the decision to use this was not a capricious one. Working with a limited palette of UI elements and sounds, music, and 'background' images, my thinking was that it would be useful to drive the experience through familiarity (hence to utilize the knowledge and expectations that players bring to games) before providing a degree of estrangement (Nodelman, 1981; see also Gaver et al. 2013).

Jitterbug is imagined to play out as follows: as time passes, you (insect) move slowly up a leaf; at intervals you are faced with predators such as birds or mammals who arrive on the scene; upon such an encounter, you are asked to change colors to match the ambient background in an act of computational camouflage. In more than a single sense, the colour-change interaction demanded of the player is manual: the player must type in hex codes that match their background in order to evade their hunter, and

they must do so while referring to the accompanying paper manual.

The menuistic expression of *Jitterbug* relies on a 'How to play'-screen. Since games already have an element of self-explanation built in, usually in the form of a tutorial, this was an obvious place to start in exploring how a humble menu could express the totality of its irreal interaction. While a tutorial takes place within the game, the UI analogue of the tutorial—the 'How to play'-screen—has instead a reliance on telling over showing. In contrast to games of recent years which attempt to render their tutorials all but painless through diegetic context or playfulness, the 'How to play'-screen allows for only minimal interaction; it aims not for immersiveness or painlessness but rather bare efficiency, ie, to provide a quick orientation for the in-game UI or heads up display, as well as the broad goals of gameplay. It is commonly found in mobile apps. This tutorial-made-menu is surely not a favori-

te of players, but nevertheless seemed a clear place to begin exploring the ability of menus to express entire gameworlds.

Questions arising from prototype 1

Jitterbug's speculative menu thus presents clearly, albeit in a rather didactic 'showing over telling' manner, the mechanics of an imagined game; likewise, through the styling of the experience itself, the speculative menu posits a clear mood for the game and even an art style. Yet *Jitterbug's* menu raised a number of design-related questions as well.

First was the aforementioned question of extensiveness, ie, how much of a main menu should be made in order to maximally explore and express an irreal game. Surely not all menu components allow for the expression of a game in equal measure and in all situations; this means that creating, say, a 'Graphical options'-screen in addition to a 'How to play'-screen—while

surely working in some sense to further define our ideations—also generates a degree of potentially disruptive noise for the player. Walking a line was then necessary between following through with the menu enough to allow for a suspension of disbelief, but not creating so much that the more fundamentally expressive UI elements come to be lost in the mix.

The second question raised by Jitterbug concerned the rather didactic nature of this 'How to play'-screen itself, which essentially operates as a series of PowerPoint slides. While this does the work of expressing the mood, mechanics, and experience of the unreal game, it was not clear that such a minimally interactive approach truly enacted the concept of MNG+ as a method for speculative play; that is, rather than using the playful interactivity afforded by main menus to express the game, Jitterbug's menu snatches outright the one UI trope that tells users how to approach an interactive object.

The third was how to present a main menu for a game that by definition does not and will not exist without simply trolling one's audience. A menu is, after all, a highly ignorable, often completely skipped part of the game's experience; menus are normally sought out only in moments of breakdown where the mechanics are opaque, or where some error has been encountered, etc. This insight was borne out in reality, as playtesting showed that most people's inclination, even the inclination of those who had some of the context for the project, was simply to click the "Start new game" button and immediately test their luck on the game. If they attempted to do so, or likewise when they attempted to change the resolution or toggle other inoperative inputs, Jitterbug's menu would tell them that they needed to restart their computers for their choices to take effect.

We may call this the "Start new game" reflex: the inclination of players to skip past the

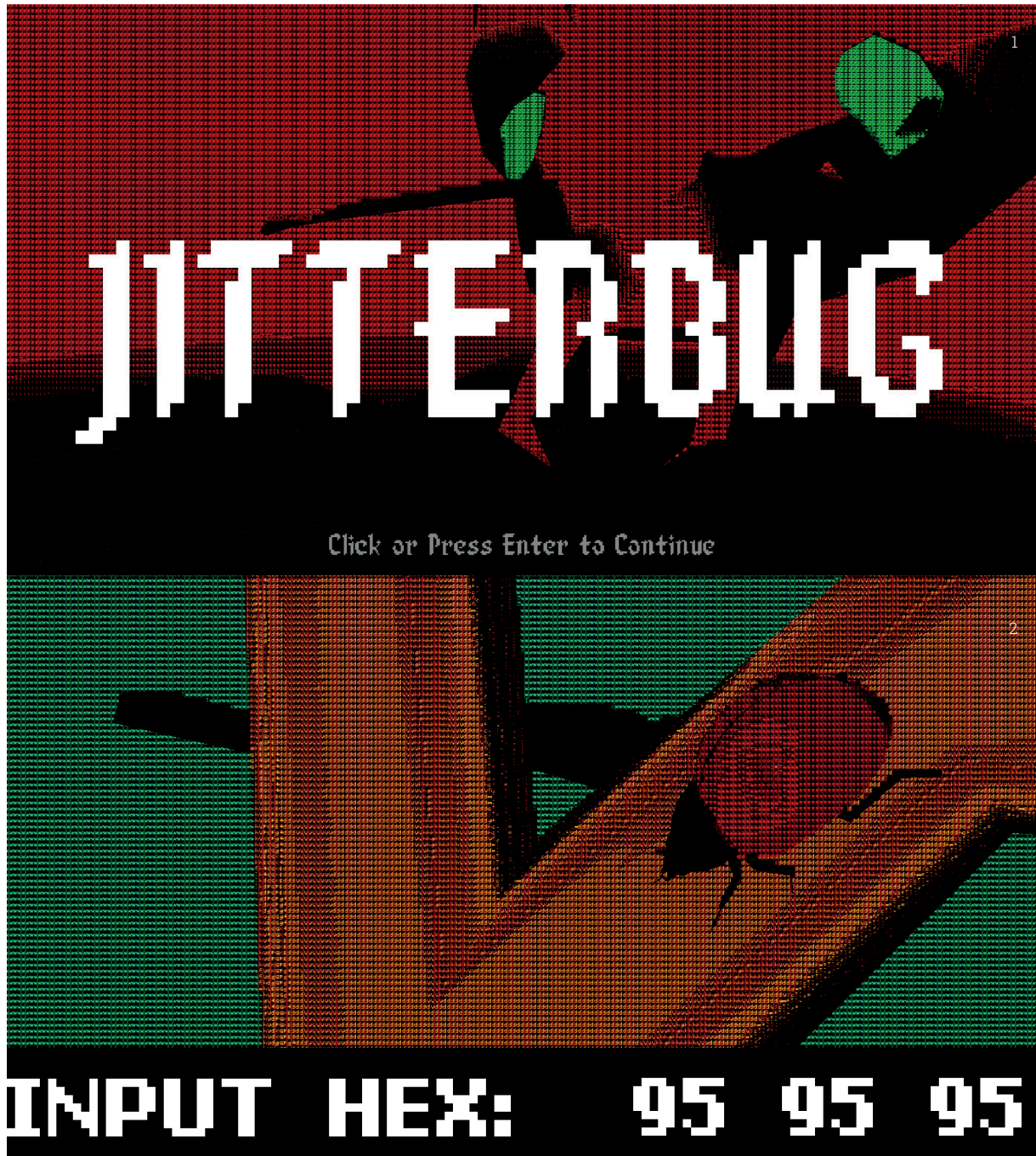
menu is surely something to be grappled with for a project whose precise goal is to draw attention to and traction from the marginal corner of the game world that is the menu; and yet to declare such reflexes incorrect, to render such inputs null with a slap on the wrist, led to an unsatisfying, frustrating, and confusing experience—even with the additional diegetic text explaining this frustration in terms of the game world and DOS-era computation.

How can this reflex be dealt with, presuming that menuization is thought as a vehicle of communication as much as speculative ideation? The solution to this problem arose upon beginning work on a second menu. MNG+ would take the player's inclination to 'Start [a] new game' seriously, but also literally: clicking on this option would take the player to a menu for a new—or rather another—game, which in this case means sending them to another speculative menu. The whole experience would then

loop in a manner that allowed the first (hence likeliest to be skipped) menu to be returned to painlessly. The reference to the new game plus mode in the title arose from the recursive, self-amplifying nature of the 'Start new game'-button interaction (TV Tropes, 2015).

UI as ideational reservoir: prototype two 8 Tons of Oxygen

The second prototype proceeded with similar goals and starting questions: what irrational game, and what menu trope to deploy for the maximal expression of this game? This time work proceeded with the further insight that *Jitterbug's* menu was wrought with the same tension between interactivity and speculation as described in the introduction to this chapter: it was more inert than interactive, more speculative design than speculative play. It would not be enough therefore to ask after menu tropes in general; rather, in order to enact the playfulness



of the speculative play, it was necessary to begin asking after what menu tropes might allow for more fulsome and satisfying modes of interactivity.

Furthermore, while *Jitterbug* was imagined with a very simple and singular mechanic, I hoped to test the menu method's ability to express a narrative-based game. The most salient menu trope capable of approaching plot progression and playful interactivity was the level selection screen, and the irreal game to be expressed became a narrative piece called *8 Tons of Oxygen*. A late-nineties styled me-troidvania, the game takes on the story of three (playable) characters in the far future working to terraform a distant planet. The plot unfolds as follows: as the three human characters (each controlled in turn by the player) work to tame and terraform the alien planet, they encounter greater and greater environmental dangers; meanwhile, one of the indigenous life forms, an ae-

roplankton covering most of the surface and forming a semi-sentient neural network, pleads to and struggles with the player for its existence in what is becoming an increasingly inhospitable environment for it, chemically speaking; indeed, when a certain crucial threshold of atmospheric oxygenation is reached (the eponymous 8 tons), every individual aeroplankton will perish.

Here, similar questions arose to those mentioned for the first prototype. How fulsome a main menu was to be created? Would having an options screen (for instance) reveal crucial information about the irreal game as well as providing more potential for interesting interactions, or would it simply add to the noise and confusion? This time I decided on quite a detailed menu; because I was aiming to show and not tell in a greater degree to that of *Jitterbug*, these details would work to reveal such things as the basic elements and mechanics of the game (shooting, lives, etc.).

The focus remained on the level select screen. Yet while the level select screen surely is capable of showing something like the broad arc of such a narrative, it too felt less than interactive; it suffered from the same kind of inertness as the 'How to play'-screen. At best, it seemed like a kind of wordless, abstract graphic novel. This problem was amplified by the fact that I had actually written the plot beats for this story, replete with twists and perspectival shifts; having the story as the horizon of my work drove home the dim opacity of the level select screen itself. How would it be possible to allow players to circumnavigate this plotline without abandoning the 'level select' pretense?

Player as editor: the divisibility of the level

In order to add a deeper mode of interactivity that would at the same time allow the player to fully explore the narrative, a novel mechanic was introduced: while the plot was conceived to

be more or less linear, the 'line' constituting said plot would be divisible by the player in multiple ways and on the basis of their own chosen criteria; this interaction would be built-in to the level select screen itself, since a level is nothing more than a meaningfully divided chunk of a plot or experience. 8 Tons' speculative menu therefore puts the player in the position of being a kind of book editor.

To elaborate: in normal games a level is similar to a book chapter in that is conceived to be something like a meaningful, yet relatively bounded and self-contained, piece of a plot (for plot driven games); for other games that focus more on exploration, what constitutes a level might be conceived more in spatial terms, ie, a relatively bounded environment; for some games these two become mixed; in still other games it is simply a matter of the length of probable playtime. Yet in broader terms this appeared to me a question that few had asked in

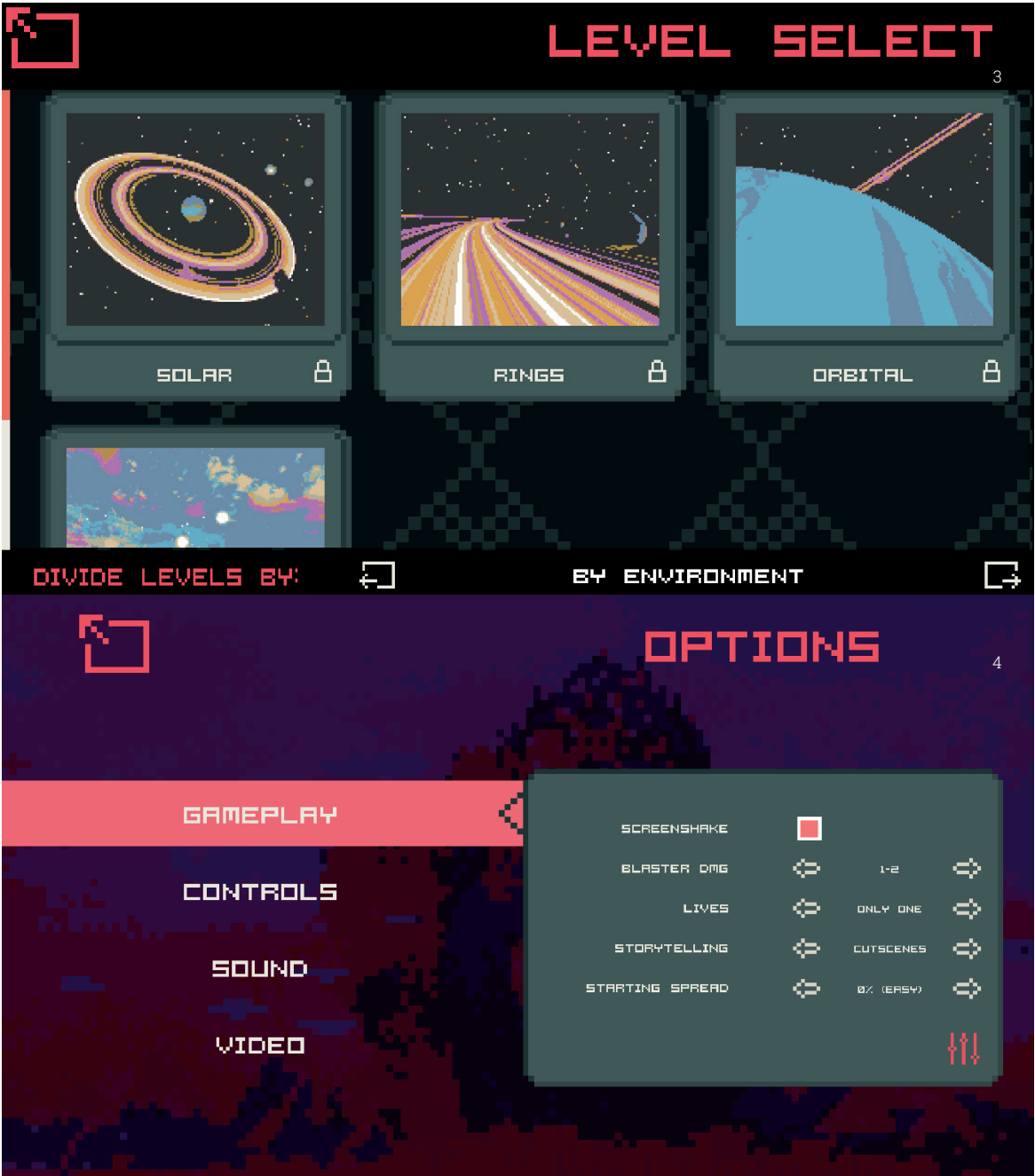
the abstract: what constitutes a level? On what terms does one divide a presumably continuous plot or experience into pieces?

We can imagine, for instance, a game being divided arbitrarily into ‘days’ that all have the same length; we can imagine a game’s levels being bounded by place, or by environment (tileset etc); we can even imagine a plot-driven game being divided *thematically* and aiming towards didactic ends, like some versions of the Christian Bible, or the ‘Art of War’ training campaign in Age of Empires II (Age of Empires Wiki, 2019). All of these and more are possible interpretations of what a level is. Furthermore, each of these possibilities of division implies a particular emphasis, indeed a particular hermeneutical approach, towards the whole: division and organization creates meaning.

What is a game level, and how has this concept been thought and rethought historically? No fulsome study of this topic has ever been done. For the speculative menu for 8 Tons of

Oxygen, players are put in the role of answering just this question; the level select screen is not the inert ‘press and proceed to play’ of most level select screens, but rather an archive of a world in need of the editor-player. This means that the player has the ability to toggle what a level is, ie, how the plot/game arc is segmented and on the basis of what principle of division: environment; place; time; perspective; non-interactive cutscenes, and even endings. Circulating around the plot—the *same* plot—the player sees it therefore from a variety of perspectives of possible interpretations. Call it a divide your own adventure novel.

Yet, while the goal is to provide a glance at the whole through the reflection upon a different cutting instrument (as it were), the very level select screen format also implies that the plot can be leapt into at any of these moments. This provides a huge variety of hooks and imaginative platforms from which the player’s imaginings may leap.



texts of discomfort

UI before game, or game before UI?

With 8 Tons, both the power and limitations of MNG+ had begun to coalesce, and it became clear that the two questions stated above for both prototypes—what unreal game to express, and what menu element(s) to use that would best do so—could not be separated so neatly. A third question arose only thereafter, and had to do with the primacy given to the answer of the first and second questions: do we begin with a game idea, or do we begin with a menu trope?

By this point it had become clear that, as much as being a speculative exploration of games and gameworlds, MNG+ is equally an exploration of the expressive potential of UIs; accordingly, beginning with just any game idea was, while perhaps possible, not ideal to see through the concept fully. MNG+ would need therefore in each case to consider the game and UI of choice

as co-implicative.

Indeed, this co-implication of menu and speculation may prove to be a limit to the idea of menuization as a broadly applicable method; that is, this co-implication may imply that the speculative ideations of the designer are not allowed to roam in a truly free-form way, constrained as it is to pass through UI tropes. Nevertheless, while menuization as enacted by MNG+ may not set the conditions for completely free-roaming of the imagination, what it surely does provide is a proof of the imaginative power to be found even in the most marginal aspect of games— their menus. 8 Tons' menu places the player in the position of biblical-editor, and it does so by utilizing an otherwise ignored part of the ludic experience. Through MNG+'s acute attention to the menu, a reservoir of untapped possibility is discovered. In turn, this allows for the creation of meta-awareness and criticality towards games and menus for both players and

developers. There is power to be found through attention towards the margins.

World generation: prototype 3 empires of idleness

Following work on *8 Tons*, it became absolutely clear that the most evocative and interactive instances of menuization would be where the menu-concept and the game-concept are most intertwined and co-implicative; such an object would be a prime example of speculative play's hypothesis that playful interactions themselves can do the work of worlding sought by SCD.

Thereafter, study for a third menu began. Bearing in mind the need to think menu and game together, this time I took up the world generation screen, seen in so-called '4X' games such as *Civilization* or deep simulations such as *Dwarf Fortress*. The idea here was that giving the ability to actually set the meta-parameters

of the world would be an excellent way to explore the playful possibilities within an unreal management game; at the same time, the intuition was that the creation of this world was itself a satisfying interaction (as anyone who has spent too much time looking for a starting position in *Dwarf Fortress*, or anyone who drew imaginative maps as a child, may attest).

The idea of world creation acted as a conceptual through-line, and with this I proceeded to a third prototype. In addition to the exploration of the possibilities and limits of the world creation screen, my broader goal here was to aim for a more focused menu. While *Jitterbug* and *8 Tons* both attempted to use the ambient menus (graphics and control options etc.) to further create a sense of reality and context, I wanted here a minimal test case that would not allow the player's attention to stray. The formal desire for minimalism, as well as the growing desire to differentiate each game from all the others in

this tiny but growing Borgesian library, led to the adoption of an equally 'minimalist' aesthetic: the flat-shaded/mobile aesthetic of the mid 2010 indie game (think Kentucky Route Zero or the Monument Valley series).

The mood of these indie games is anathema to the 4X genre, the latter pushing the player towards the imperialist mindset exploring, expanding, exploiting, and exterminating. Combining this aesthetic with the 4X genre, the speculative menu for *Empires of Idleness* was born. *Empires* is a playful re-imagining of a 4X game where the goal is to be as idle, hence as inactive and unproductive, as possible; the choices in the world-generation screen reflect this play space, allowing the user to change the 'geographical' parameters of a bed scene (roughness being the number of pillows, water coverage being the number of cups on the nightstand), the number and type of the starting factions (Romantic imaginer, spiritualist meditator, or


someone paralyzed by the anxiety of precarious labour), and so on.

Twice the world over: games and world building

Empires is a 4X game, but a 4X whose mechanics imply the polar opposite of the capitalist and colonialist impulses of the genre; what matters in the gameworld, and hence the world generation screen, of *Empires* must shift in an equally drastic manner. In broader terms, the whole notion of world creation led my thinking in another direction; specifically, I began to realize that, if the goal of speculative design/play is to set the conditions for a glimpse of a world that is not ours and the increased malleability of the critical imagination that should result, then speculative games do this twice over. First we have the world in which the unreal game is real, and then we have the diegetic world of the game.

The diegetic world of the game is not un-

Generate World



click hex to rotate

IDLER 1:

◀ Romantic imaginer ▶

◀ Player controlled ▶

Random seed

crabcakes⁵

Terrain roughness

34%

Water coverage

18%

Number of starting idlers

◀ 1 ▶

Start new game with world

real in the same sense as speculative objects. Yet it is possible that this already-speculative status of games presents another reason why SCD has not been applied broadly to game design, as it may appear on the surface that such work is always already being done. Here, it is important to point out that we must not confound these two levels of worldbuilding: to do so would be to confuse purely fictional worldbuilding for the peculiar real-unreal status of the speculative object; while the former presents a fictionalized elsewhere, the latter presents a concrete object to rethink reality with (Coulton et al., 2016).

Yet the realization persists that games promise a world, and that speculative games (hence speculatively playful menus) promise a world in more sense than one: if speculative design gains its traction in part by positing a world in which the designed object can be contextualized and understood, speculative play posits a double elsewhere, a possible world wherein the

game exists (as marketable, sellable, historical, fun, etc.), as well as the fictional world of the game itself. How do these two levels of 'world' flow into one another? How can they best support, or productively undermine, one another? And how can game designers working speculatively best capitalize on this apparent peculiarity of speculative play? Such questions arose directly from the creation of *Empires*, but they present a fruitful site of intervention for future investigations into speculative play.

An infinite speculation: an AI-assisted dwarf fortress

Following the first three menu prototypes, work began on a fourth that would strive to combine some of the most relevant insights of the prior: the most effective use of menus as a communicative tool would be one where a *specific* speculative world is maximally expressible from within a *specific* UI trope; furthermore, this

trope would allow for a playful form of interactivity and would not fall to the level of concept art. Attempting to combine these insights, a fourth menu prototype was born: Peon Caravan is a kind of base-building game along the lines of *Dwarf Fortress* or *Rimworld*.

This genre of game aims to give the player a unique, emergent narrative (Eladhari, 2018). It does so partly on the basis of its extensivity, that is, by creating things that are notoriously huge, complicated, and (quite often) opaque. James Ryan's dissertation (2018) presents arguably the most fulsome study of the topic to date. Ryan connects the emergent narrative to non-fiction, claiming that-- much like the work of a historian-- the emergent narrative only comes into being when raw materials are curated by a person. The player is, in other words, put in the position of historian of the idiosyncratic, procedural gameworld. While looking to explore this genre critically, I also hoped to capture at

least some sense of this 'scholarly' enjoyment-- the enjoyment of discovery.

Which menu trope might allow for the exploration of this genre? The obvious place to begin was with the patch log, the place where-- in a real game-- the developers update the playerbase on the most recent changes to the game. *Dwarf Fortress's* bizarre patch notes already have a kind of cult following, even amongst those who have not played the game itself (Livingston, 2016); indeed, they continually reveal some of the incredible complexity of the procedural interactions that can take place therein. But while simply writing patch notes would be an option, it would have meant that the sense of extensivity and the emergent quality would be lost; no longer would the player be able to 'find' some interesting and idiosyncratic detail about the world, since it would be purely scripted and already curated by the author (myself).

Seeking such extensivity and this paral-

lel between the genre and the menu, I turned to Artificial Intelligence. A neural network called GPT-2 (OpenAI, 2019) was trained on a collection of patchlogs from existing games. The dataset consisted of *Dwarf Fortress* and *Rimworld* patchlogs, as well as patchnotes from other base building games: *Oxygen not Included*, *Kenshi*, *Crusader Kings*, and *Gnomoria*. Ultimately the dataset comprised roughly 8,000 separate patchnotes, tweaked using few strategic find-and-replace commands to give *Peon Caravan* a sense of unity. Finally, in order to flag the AI-backbone of *Peon Caravan*, a contrivance was developed: players are told that *Peon Caravan* is a game created by an AI that was trained on a *Dwarf Fortress* 'Let's play' from 2011. The game is patched continuously by this AI, and so players are tasked with calling up continuous patch notes from a seemingly infinite reservoir, thereby putting them in the position of historian-detective.

In many ways the menu for *Peon Caravan*

is the most accomplished of the four prototypes. It deploys a specific UI-trope that deftly expresses its gameworld; from this, it derives a new playful mechanic that analogizes the games it explores and parodies (the exploration of procedural extensivity through exploring patches); finally, it raises critical questions about design and about genre, such as the continual references to slavery, the imperialist overtones derived from the dataset of patches and--perhaps most importantly-- the very question of *where* players find joy in such emergent discoveries.

Discussion

Over the course of four prototypes, MNG+ developed menuization as a method for game designers wanting to explore their work speculatively.

←←←←
Back

Goblins dropping their spoons
and only eating with their
teeth is now weirdly effective.

{G}enerate
New
Patchnote

Each prototype allowed the development of a clearer understanding of both the potential and limits of menuization. To speak in general terms of some of the insights of the above project and chapter:

Main menus can act as an effective vehicle of ideation

Like most works of SCD, MNG+ aims to create a more pliable future for games through the effects of tangible creations. Yet this also means the creation of a series of design prospecti for a number of games which could (in principle) exist, and which could (in principle) be played and even be fun. In this sense menuization is a method not only of approaching speculative play, but also a tool for ideation in general: one makes a menu as the game's manifesto; this can subsequently either be shared as it is and act as a pivot for thoughts and conversations or, if it is developed into a whole and 'actual' game, then it can act as a design document—a far more interactive and open-to-conversation object than the design document as

ordinarily construed. This implies also that the creation of main menus for non-existent games could find use beyond academic and speculative design work; for instance, it could present an interesting assignment for a game design course, a contrivance for a game jam, an exercise for a company, etc.

Menuization as a mode of expressing a game may be overly attached to games expressible through UI elements

MNG+ is a test case for its own concept, and therefore acts in three directions at once: it explores imagined games, it critically explores UI elements and menu tropes, and it explores the latter's ability to express the former. These three directions together implied co-implicative status of the choice of UI element with the imagined game, and often this meant beginning with a specific UI trope rather than a free roaming of one's imagining. In other words, menuization here implied that creative speculation passed through UIs as the medium. This may indeed prove to be a limit to menuization as a

method.

Menuization allows for speculative inspiration to arise from an unexpected source (UIs)

The flipside of the menuization's grounding in (or shackling by) UI elements is the reminder of the importance of creative constraints. Even the main menu—arguably the most formalized and routine, as well as the most boring and skippable, aspect of games—acted as a reservoir for the development of both game ideas and ludic criticality. Here we can point to the creation of the player-as-editor role for the divisible level select screen of 8 Tons, or the purely practical patch note updates from Peon Caravan.

The doubling of fictional worlding in objects of speculative play is a site of necessary future inquiry in further developing speculative play

Games promise a world, and speculative games enact worlding on two levels. Though the interconnections between these variegated modalities of 'worlding' are too complex to delve into for the scope of this chapter, disentan-

gling these levels and their interconnections will be crucial for further investigations into the methods and applications of speculative play.

Conclusion

MNG+ presents four speculative menu prototypes, each acting as a kind of test case for menuization; menuization is a method of ideation and prototyping to be used by speculative game designers looking to deploy the unique tools of games (playful interactivity). This chapter has explored the development of MNG+'s four current prototypes; in reflecting on the development of each, this chapter has set into relief five insights about menuization: as a method for enacting speculatively playful interactions, as a tool for ideation, its potential overattachment to UIs, as a way of using UI tropes as inspiration, and as a starting point in the investigation of the complexities of 'double worlding' found in speculative games.

References

- Age of Empires Series Wiki (2019). The Art of War (Age of Empires II). [https://ageofempires.fandom.com/wiki/The_Art_of_War_\(Age_of_Empires_II\)](https://ageofempires.fandom.com/wiki/The_Art_of_War_(Age_of_Empires_II)).
- Auger, J. (2013). Speculative design: crafting the speculation. *Digital Creativity*, 24(1), 11–35. <https://doi.org/10.1080/14626268.2013.767276>
- Bardzell, S., Bardzell, J., Forlizzi, J., Zimmerman, J., & Antanitis, J. (2012). Critical design and critical theory. *Proceedings of the Designing Interactive Systems Conference on - DIS '12*. <https://doi.org/10.1145/2317956.2318001>
- Barr, P. (2018). Pippinbarr/itisasifyouweredoingwork. Retrieved March 03, 2021, from <https://github.com/pippinbarr/itisasifyouweredoingwork/tree/master/press>
- Bleecker, J. (2009). *Design Fiction: A Short Essay on Design, Science, Fact and Fiction*. Near Future Laboratory.
- Coulton, P., Burnett, D., & Gradinar, A. (2016). Games as Speculative Design: Allowing Players to Consider Alternate Presents and Plausible Features. *DRS2016: Future-Focused Thinking*. <https://doi.org/10.21606/drs.2016.15>
- DiSalvo, C. (2021). FCJ-142 Spectacles and Tropes: Speculative Design and Contemporary Food Cultures. *Why Food Matters*. <https://doi.org/10.5040/9781350011465.ch-020>
- Dunne, A., & Raby, F. (2009). *Foragers*. <http://dunneandraby.co.uk/content/projects/510/0>.
- . (2014). *Speculative everything design, fiction, and social dreaming*. MIT Press.
- Eladhari, M. P. (2018). Re-Tellings: The Fourth Layer of Narrative as an Instrument for Critique. *Interactive Storytelling*, 65–78. https://doi.org/10.1007/978-3-030-04028-4_5
- Gaver, W. W., Beaver, J., & Benford, S. (2003). Ambiguity as a resource for design. *Proceedings of the Conference on Human Factors in Computing Systems - CHI '03*. <https://doi.org/10.1145/642611.642653>
- Khaled, R., Barr, P., Moore, C. (2017). *About. Speculative Play*. <http://www.speculativeplay.com/about/>.
- Kiem, M. (2014, November 28). Is a decolonial SCD possible? Medium. <https://medium.com/@mattkiem/is-a-decolonial-scd-possible-30db8675b82a>.
- Livingston, C. (2016, August 8). The most ridiculous patch notes from 10 years of Dwarf Fortress. *pcgamer*. <https://www.pcgamer.com/the-most-ridiculous-patch-notes-from-10-years-of-dwarf-fortress/>.
- Martins, L. (2014) Privilege and Oppression: Towards a Feminist Speculative Design, in Lim, Y., Niedderer, K., Redström, J., Stolterman, E. and Valtonen, A. (eds.), *Design's Big Debates - DRS International Conference 2014*, 16-19 June, Umeå, Sweden. <https://dl.designresearchsociety.org/drs-conference-papers/drs2014/researchpapers/75>
- . (2017) Questioning the “critical” in Speculative & Critical Design. Medium. <https://medium.com/a-pare-de/questioning-the-critical-in-speculative-critical-design-5a355cac2ca4>.

- MENU NEW GAME+ by spelafort. itch.io. (n.d.). <https://spela-fort.itch.io/menu-new-game-plus>.
- New Game+. TV Tropes. (n.d.). <https://tvtropes.org/pmwiki/pmwiki.php/Main/NewGamePlus>.
- Nodelman, P. (1981). The Cognitive Estrangement of Darko Suvin. *Children's Literature Association Quarterly*, 5(4), 24–27. <https://doi.org/10.1353/chq.0.1851>
- OpenAI. (n.d.). openai/gpt-2. GitHub. <https://github.com/openai/gpt-2>.
- Salmon, F. (2018, May 30). The Creepy Rise of Real Companies Spawning Fictional Design. *Wired*. <https://www.wired.com/story/the-creepy-rise-of-real-companies-spawning-fictional-design/>.
- TV Tropes. (2015). New Game+. <https://tvtropes.org/pmwiki/pmwiki.php/Main/NewGamePlus>.
- Famicase Exhibition (2018). わたしのファミカセ展. <https://famicase.com/>.

Images

1. Title screen for the game Jitterbug
2. The unwieldy color input mechanic in Jitterbug
3. The subdivided level select screen for 8 Tons of Oxygen
4. One of the options screens found in 8 Tons of Oxygen
5. World generation and mechanic building in Empires of Idleness
6. Example patch note from the game Peon Caravan

Steven Sych is a digital artist and academic currently based in Tiohtià:ke/Montréal, Canada. He holds a B.A. (Honors) in Philosophy (University of Alberta 2009), a Master's in Design from Concordia (2021) and a PhD. in Philosophy from McGill University (2016). His work places the techno-quotidian realities of 2021 into surprising contexts and configurations and aims to open up novel pathways for meaningfully re-approaching the role of the digital in our everyday lives. Currently, he is a faculty member at John Abbott College where he has taught everything from documentary film to science fiction to game design to sexual ethics.



Medium: Web-based piece and application for smartphones

Year of Release: 2010

Link to the artwork: <http://lossofgrasp.com> / <http://deprise.fr>

Video artist: <https://vimeo.com/453009501>



Loss of Grasp

Serge Bouchardon

"A high quality interactive work that makes us reflect on the connection between control and lack of control... Playful and disturbing."

ICIDS 2020 Jury

Loss of grasp and state of bliss

Abstract

In the interactive narrative *Loss of Grasp*, the reader's gestures fully contribute to the construction of meaning. The reader can experience the character's feeling of loss of grasp in an interactive way. The reader can then feel a form of "bliss" – to quote Barthes' expression – in this interactive experience, which helps him/her fully identify or be empathetic with the character. However, this bliss based on a state of loss can also be experienced by the author, whose piece is bound to disappear (because of the disappearance of Flash for instance) and who has to recreate and give birth to it again and again. And this bliss can also be experienced by the translator (*Loss of Grasp* is available in 11 different languages). Although having to translate unexpected aspects – such as different semiotic forms and gestures – may be unsettling at first, it can turn out to be an opportunity for the translator to find a way to counter global digital cultural homogeneity and give life to cultural diversity again. This link between loss of grasp and state of bliss that can be experienced by the reader, but also by the author and by the translator, is rooted in the Digital.

texts of discomfort

Keywords

Loss of grasp, bliss, digital literature, gestures, obsolescence, translation

Introduction

In *Le Plaisir du texte* (Barthes, 1973: p.25), Roland Barthes makes a distinction between the text of pleasure (“texte de plaisir”) and the text of bliss (“texte de jouissance”). This text of bliss is “the text that imposes a state of loss, the text that discomforts... unsettles the reader’s historical, cultural, psychological assumptions” (Barthes, 1973, p.25). It is also the text – and the world – which we lose grasp of. This is the theme of the literary interactive narrative *Loss of Grasp* (<http://lossofgrasp.com>)¹, an online digital creation (and also an application for smartphones since 2019) available in 11 different languages.

This screen-based work contains visual elements (mainly words) and sounds (voices and music). The piece requires headphones (or loudspeakers) and a webcam (for the fifth scene). The visual design is quite minimalist: words

written in white on a black background. This narrative is not a hypertext playing with non-linearity (it contains six scenes that follow one another), but it is nevertheless fully interactive. The reader’s gestures play an important role in the construction of the meaning of the narrative, as we will see later. The interaction with the piece lasts about 10 minutes.

This creation won the *New Media Writing Prize*² in 2011 and received the Runner up for the *Coover award*³ in 2020. It is part of the *ELMCIP Anthology of European Electronic Literature*⁴ (2012) and is included in the *Electronic Literature Collection volume 4*⁵ (2021). It is taught in several universities (curricula in electronic literature and creative writing), but also in secondary schools (Bouchardon & Brunel, 2019; Brunel & Bouchardon, 2020).

In the literary narrative *Loss of Grasp*, six scenes feature a character who is losing grasp on his wife, his son, his own image..., and who

¹ Bouchardon Serge and Volckaert Vincent, Déprise, 2010, <http://deprise.fr> (Loss of Grasp for the English version, 2010, <http://lossofgrasp.com>). Video captures of the interactions: https://youtu.be/nd6_b158qOs. Official selections, articles and pedagogical material: <http://www.utc.fr/~bouchard/works/deprise.html>;

² https://newmediawritingprize.co.uk/archive/?tx_category=winner&prize-year=2011;

³ <https://eliterature.org/2020/09/3707/>;

⁴ Engberg M., Memmott T. and Prater D.: <https://anthology.elmcip.net/works.html> (2012);

⁵ Rui Torres, Kathi Inman Berens, John Murray, Lyle Skains & Mia Zamora, <https://collection.eliterature.org/> (to be published, 2021).

is feeling manipulated. The Barthesian “state of loss” in *Loss of Grasp* will be analyzed at three levels (reader, author and translator). The tension on grasp and loss of grasp experienced by the fictional character also mirrors the reader’s experience of an interactive digital narrative (first level, the reader’s level). This tension between interaction and narrative felt by the reader has its equivalent in the tension between interaction and narration experienced by the author. Besides, for the author, the rapid obsolescence of digital hardware and software may in some cases also lead to another state of loss; the author has to consider the piece as a continuously reinvented one if he/she wants the piece to remain available (*Loss of Grasp* was first developed in Flash in 2010, then recreated in JavaScript in 2010). This is the second level, the author’s level. Finally, in order to touch a large audience, with its cultural and linguistic diversity, it is important for a digital creation to

be accessible in different languages. However, translating an interactive and multimodal piece into another language is something so unusual that it also brings a state of loss for the translator (third level, the translator’s level).

Can these three states of loss, rooted in the Digital, lead to a “state of bliss” insofar as they “discomfort... unsettle the reader’s [and author’s and translator’s] historical, cultural, psychological [and technical] assumptions” (Barthes, 1973, p. 25)?

The reader's discomfort

Numerous interactive works of digital literature, notably interactive narratives, largely call upon what I call *figures of manipulation*, meaning gestural manipulation (Bouchardon, 2013). Since antiquity, figures have been a significant part of rhetoric, even though rhetoric should not be reduced to rhetorical figures. Figures are generally divided into four main categories: figures of diction (e.g. anagram and alliteration), figures of construction (e.g. chiasmus and anacoluthon), figures of meaning (tropes, e.g. metaphor and metonymy) and figures of thought (e.g. hyperbole and irony). The rhetorical figure is traditionally defined by Quintilian as a reasoned change of meaning or of language vis-a-vis the ordinary and simple manner of expressing oneself⁶. Jean-Marie Klinkenberg (2000) defines a rhetorical figure more precisely as a *dispositif* consisting in the production

of implicit meanings, so that the utterance is polyphonic⁷. In interactive and multimedia writing, the polyphonic dimension of the figure also relies on the pluricodal nature of the content. I have identified rhetorical figures specific to interactive writing: *figures of manipulation*, meaning gestural manipulation (Bouchardon, 2018). It is a category on its own, along with figures of diction, construction, meaning and thought.

Throughout the whole narrative of *Loss of grasp*, the reader is confronted with *figures of manipulation*: the reader is facing a manipulation based on a difference between his/her expectations and the display on the screen. For example, in the first scene, the reader advances in the story by rolling with the mouse over the sentence which is displayed on the screen, thus allowing the next sentence to appear. The speaking subject – the narrator – talks about the control he has had over his life so far. But after a while, with the sentence “*Everything escapes*

⁶ “un changement raisonné du sens ou du langage par rapport à la manière ordinaire et simple de s’exprimer” (Quintilian, *De institutione oratoria*, IX, 1, 11-13);

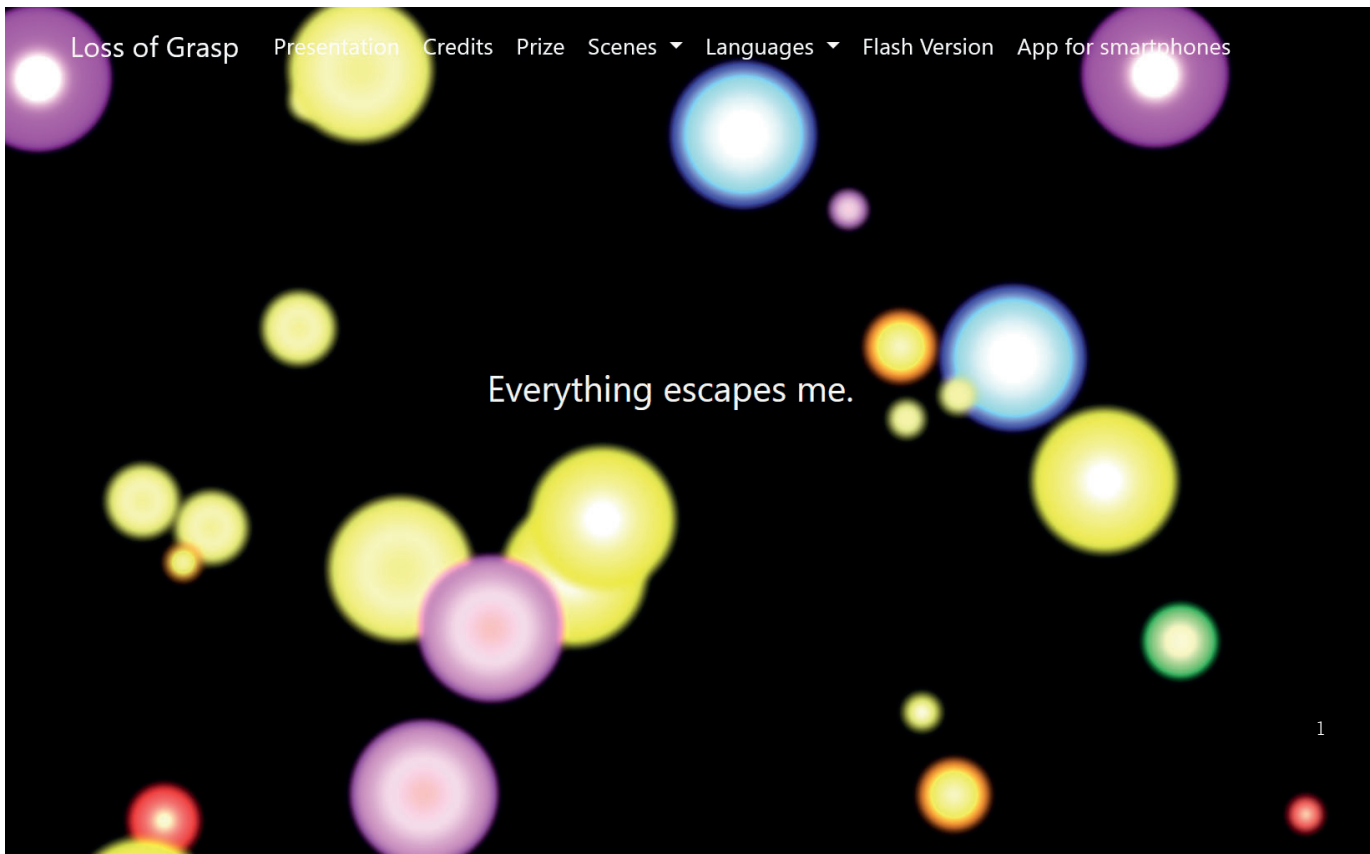
⁷ “un dispositif consistant à produire des sens implicites, de telle manière que l’énoncé où on le trouve soit polyphonique” (Klinkenberg, 2000: 343).

me", the mouse pointer disappears (Fig. 1). The reader can continue to roll over each sentence to display the following one, but without the help of the mouse pointer on the screen. The reader can start experiencing the loss of grasp through his or her gestures. The text becomes a "text of discomfort".

The second scene stages the encounter between the character and his future wife, twenty

years earlier. While the character "ask[s] questions to reveal her", the reader can discover the face of the woman by moving the mouse pointer. These movements leave trails of questions which progressively unveil her face. The questions themselves draw the portrait of the woman.

In the third scene, the character cannot seem to understand a note left by his wife: "love poem or breakup note?" The reader can experience



rience this double meaning with gestures. If the reader moves the mouse pointer to the top, the text will unfold as a love poem; but if the pointer is moved to the bottom, the order of the lines is reversed and the text turns into a breakup note. As in other scenes, the Barthesian “state of loss” can be based on the staging of an appearance/disappearance (“la mise en scène d’une apparition-disparition”, Barthes, 1973, p.23).

In the fourth scene, the teenage son asks his father (the narrator) to read his written assignment on the theme of the hero. However, instead of concentrating on his son’s essay, the father reads between the lines. The reader clicks on the text and sentences appear (Fig. 2), made up with the letters from the text, such as:

I don’t love you.

You don’t know me.

We have nothing in common.

I don’t want anything from you.

You’re not a model for me.

I want to make my own way.

Soon I will leave.

Don't have a her
have never had a
value one quality
them, but I don't l
considers that wh
his herbic acti ns
over? Nothing but
shines through hi
to live a life of its
finding o their w

a a t
h e T
t
h
sh e t h
t
w

In the fifth scene, even the own image of the character seems to be slipping away as the image of the reader appears on the screen via the webcam. The reader can then distort, manipulate his/her own image. The character confesses: "I feel manipulated."

In the sixth and last scene, the character decides to take control again. A text input window is proposed to the reader, in which he/she can write. But whichever keys the reader presses, the following text appears progressively: *I'm doing all I can to get a grip on my life again. I make choices. I control my emotions. The meaning of things. At last, I have a grasp...* Here again, the reader is confronted with a figure which relies on a gap between his/her expectations and the result of his/her manipulations on screen. Thus through his/her gestures and through various figures of manipulation – which could as a matter of fact appear as variations on a *figure of loss of grasp* – the reader experiences the cha-

acter's *loss of grasp* in an interactive way.

In this interactive narrative, the gesture fully contributes to the construction of meaning: the reader experiences in an interactive way the character's feeling of loss of grasp. This interactive narrative is a "text of discomfort" that makes us reflect on the feeling of loss of grasp that we can sometimes experience in our life.

The author's discomfort

The author's discomfort can be analysed at two levels: the tension between narration and interaction, and the disappearance of some works due to hardware and software obsolescence.

Firstly, we can draw a parallel between the interaction/narrative tension experienced by the reader, and the interaction/narration tension experienced by the author. Insofar as the piece is interactive, the author expects certain gestures from the reader. But nothing guarantees that the reader will know what gestures to make. While the author of a printed narrative may wonder whether the reader will be able to interpret the content of his/her narrative, the author of an interactive narrative may wonder whether the reader will be able to manipulate the content (this manipulation being closely related to the question of interpretation as seen previously). With the Digital, it is indeed not

only the medium, but the content itself which becomes manipulable. Thus in the first scene of *Loss of Grasp*, I was not sure whether having the mouse cursor disappear would still get most of the readers to continue, or whether manipulating content without a cursor would turn out to be too difficult and even lead some readers to think there was a bug and just leave the narrative.

Secondly, the author's state of loss of grasp can also be linked to the disappearance of some of his or her online pieces, especially pieces developed with the *Adobe Flash* software which are no longer available since January 2021. Given the obsolescence of devices and software, should an author strive to preserve his/her works at all costs, or promote the "aesthetics of ephemerality" (Saemmer, 2009)? There are three options for managing the perennity or non-perennity of a digital creation, depending on the type of creation and the author's aesthe-

Loss of Grasp



tics: archive the work along with all the records of its life cycle (including the design process, the sources, and all the different versions); let it go (the aesthetics of ephemerality); continuously recreate and reinvent it. The three options are legitimate (and sometimes combinable), depending on the artistic project.

Having to decide between these three options can be very discomforting for an author. Concerning *Loss of Grasp*, I decided to reinvent/recreate this interactive narrative – originally programmed with Flash in 2010 – as a web-based creation but also as an app for smartphones, both in JavaScript⁸. This led me to take a stand as an author and to rethink the digital age itself.

Regarding preservation, the digital age is undoubtedly and against all expectations the most fragile and complex context in the history of humanity. The added-value of digital technology is thus not where one expects it to be. The digital medium is not a natural preservation me-

dium. However digital technology makes us enter another universe, a universe of reinvented memory. From an anthropological point of view, this model of memory seems more valuable and more authentic than the model of printed media which is a memory of storage (the book that one stores on a bookshelf or the memory that one would store in a compartment of one's brain). Indeed, cognitive sciences teach us that memory does not function according to the model of storage. From this point of view, digital literature can be regarded as a good laboratory to address digital preservation: it makes it possible to raise the appropriate questions and presents the digital age as a shift from a model of stored memory to a model of reinvented memory (Bouchardon and Bachimont, 2013).

The initial state of loss (the anxiety to see the piece disappear) actually led me to a "state of bliss", inviting me to rethink some of the design and the interactions of the piece, making me feel

as if I was giving birth to this narrative once again. This recreation also paved the way to new and unexpected translations.

The translator's discomfort

The original version of *Déprise* (in French, 2010) was first translated into English, Italian, Spanish and Portuguese (2010-2013), and then into Arabic, Chinese, German, Hungarian, Polish and Russian (2020-2021). María Mencía, Søren Pold and Manuel Portela (2018) have identified four dimensions involved in translating digital literature: translinguistic, transcoding, transmedial and transcreational. With the researcher Nohelia Meza, we interviewed the translators of *Déprise / Loss of Grasp* and wrote an article in which we underline that these dimensions are found in the translators' experiences with the piece (2021).

The translator of digital literature is so-

metimes in a state of loss of grasp when trying to translate the specific aspects of a digital literary piece. Such a piece is indeed not only linguistic, but is also multimodal as it contains images, sounds, animations and interactions. Besides, insofar as a digital piece is first and foremost a programmed piece, the translator may have to look at the code – which can be for him or her a “Text of Discomfort” – to understand the randomized, generative or timed dimensions of the piece.

The interplay of semiotic resources (words, images, sounds, gestures) plays an important role in digital literature translation practices. Can we truly achieve intersemiotic cohesion in the translation of a piece, for example when recreating similar literary effects (i.e. figures of speech and rhetorical figures)? In *Loss of Grasp*, such literary and rhetorical effects are possible thanks to “figures of manipulation” (meaning gestural manipulation, as we have

```

File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
texts.en.xml
33 <rendezVous>
34   <phrases>
35     <phrase>But the meeting was trumped.</phrase>
36     <phrase>I only realized it later.</phrase>
37     <phrase>The woman in front of me seemed so perfect, I was flabbergasted.</phrase>
38     <phrase>I couldn't say anything coherent.</phrase>
39     <phrase>I was distraught.</phrase>
40     <phrase>I had to ask questions to reveal her.</phrase>
41     <phrase>Without my being aware of it, this stranger became my wife.</phrase>
42     <phrase>We shared everything.</phrase>
43     <phrase>But I never got to truly know her.</phrase>
44     <phrase>Today, I still wonder.</phrase>
45     <phrase>Who is following whom?</phrase>
46     <phrase>When I love her, she loses me.</phrase>
47   </phrases>
48   <questions>
49     <question>Who are you?</question>
50     <question>Do you like...</question>
51     <question>What do you think about...</question>
52     <question>Where are you from?</question>
53     <question>Where are you going?</question>
54     <question>Do you think...</question>
55   </questions>
56   <sounds>
57     <sound value="Have you lived around here for a long time?" alteration="Have you used the wrong ear for a long time?" />
58     <sound value="What do you do for a living?" alteration="What do you do fall and evening?" />
59     <sound value="You are very pretty!" alteration="You all very picky!" />
60     <sound value="You have gorgeous eyes" alteration="You have girly size" />
61     <sound value="I feel we have a lot in common" alteration="I feel we have a lottery, come on" />
62     <sound value="Do you come here often?" alteration="Dew comes here often?" />
63     <sound value="Can I get you another drink?" alteration="Caning gets you into the drink" />
64     <sound value="I like the way you smile" alteration="I light the west aisle" />
65     <sound value="Shall we go for a walk?" alteration="Shall the gopher talk?" />
66   </sounds>
67 </rendezVous>

```

6

```

D:\Users\bouchard\Desktop\en.json - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
en.json
50 "SCENE_2": {
51   "phrases": {
52     "ph0": "2",
53     "ph1": "But the meeting was trumped.",
54     "ph2": "I only realized it later.",
55     "ph3": "The woman in front of me seemed so perfect, I was flabbergasted.",
56     "ph4": "I couldn't say anything coherent.",
57     "ph5": "I was distraught.",
58     "ph6": "I had to ask questions to reveal her.",
59     "ph7": "Without my being aware of it, this stranger became my wife.",
60     "ph8": "We shared everything.",
61     "ph9": "But I never got to know her truly.",
62     "ph10": "Today, I still wonder.",
63     "ph11": "Who is following whom?",
64     "ph12": "When I love her, she loses me."
65   },
66   "questions": {
67     "q1": "Who are you?",
68     "q2": "Do you like...",
69     "q3": "What do you think about...",
70     "q4": "Where are you from?",
71     "q5": "Where are you going?",
72     "q6": "Do you think..."
73   },
74 },
75 "SCENE_2 FLATTERIES" : {
76   "Vous habitez la région depuis longtemps ?": "Have you lived around here for a long time?",
77   "Vous évitez la légion depuis longtemps ?": "Have you used the wrong ear for a long time?",
78   "Et vous travaillez dans quoi ?": "What do you do for a living?",
79   "Et vous travaillez l'envoi ?": "What do you do fall and evening?",
80   "Je vous trouve vraiment très jolie !": "You are very pretty",
81   "Chevaux, brousse, bêlement... près jolis": "You all very picky!",
82   "J'ai l'impression qu'on a beaucoup de points communs": "I feel we have a lot in common",
83   "Chemins pression en Allemagne point comme un...": "I feel we have a lottery, come on",
84   "Vous avez des yeux somptueux": "You have gorgeous eyes",
85   "Vous avouez des notions de tuesus": "You have girly size",
86   "Vous venez souvent ici ?": "Do you often come here?",
87   "Vous avez l'absent acquis": "Dew comes here often?",
88   "Puis-je vous offrir un autre verre ?": "Can I get you another drink ?",
89   "Pigeon oulr un Notre Père ?": "Caning gets you into the drink",
90   "J'aime votre façon de sourire": "I like the way you smile.",
91   "Gène, votre garçon mourir": "I light the west aisle",
92   "Vous voulez marcher un peu ?": "Shall we go for a walk ?",
93   "Nouveaux-nés barges et il pleut": "Shall the gopher talk?"
94 },

```

7

JSON file

length: 8870 lines: 221

Ln: 50 Col: 6 Sel: 0|0

Windows (CR LF)

UTF-8

INS

seen in the first part of this paper). These figures rely on a gap between the reader's expectations while manipulating the text and the result on the screen. The translatability of the literary effect of the figures of manipulation calls for a careful intersemiotic translation in the target language, and there is sometimes some friction with the original work. For example, in scene 2 (the rendez-vous when the protagonist meets his wife), the reader can click on a question mark (or roll over with the mouse) for a series of questions to appear randomly on the screen: "*Who are you?*", "*Do you like...*", "*What do you think about...*", "*Where are you from?*", "*Where are you going?*", "*Do you think...*" The questions progressively unveil the image of the woman's character (cf. figure 6). In this case, the translation process aims to create a harmony between manipulation, animation, and the linguistic texts in different languages that construct the same image. The aim is not only to grasp the meaning of the aesthetic elements of expression but also to search for literary patterns (Bouchardon & Meza, 2021).

[illegible]

I had to ask questions to reveal her.

Also in scene 2 of *Loss of Grasp*, there is a play with what I call “alterations” or misunderstandings between what is heard and what is seen on the screen. A speech recognition software program was used to generate these alterations or misunderstandings in French. For example: *Vous habitez la région depuis longtemps?* (*Vous évitez la légion depuis longtemps?*). The translators tried to reproduce this effect in the other versions. Most of them said that they had to look at the source code to translate this scene. Translating the dichotomy of meaning and sound is indeed one of the greatest challenges in the translation of scene 2. The translators’ imagination and stylistic strategies proved a true process of transcreation, considering that the original version was made with a speech recognition software program. Certainly, the linguistic and phonetic exercise triggered the following questions: how can cultural humour be rendered in a work of digital literatu-

re? How do different cultures interpret *Loss of Grasp*? On the one hand, the voices in scene 2 belong to different cultural contexts and individuals; and on the other hand, random cultural elements were used in the translations to fit each individual context. Moreover, these translations show that the inextricable connection between multilingualism and multiculturalism is a challenge when translating a digital piece.

A source of discomfort for the translator can actually be found in the necessity to take into account the cultural dimension of a digital piece. *Loss of Grasp* contains passages strictly related to Western culture. For instance, in scene 3, the reading from left to right of the love/break up letter in comparison to reading from right to left in the Arabic version; also in scene 3, the inclusion of Georges Bizet’s *Carmen* as background music; in scene 4, the concept of “hero” expressed by the protagonist’s son; to name but a few examples. The adaptation to the different

versions of such aesthetic and poetic effects raise the following questions: how do we substitute or compensate for such cultural aspects in the targeted culture? How do we deal with cultural transferences when translating works of digital literature? In the example of the love/breakup letter in the Arabic version, we find that the double meaning and visual effect of the linguistic text is relevant to the meaning of the work, but not culturally consistent with the target language. A similar thing happens with Bizet's *Carmen* opera. This aria plays an important role in the construction of the literary atmosphere of the scene – as the protagonist reads the letter, but it might not be suitable for the different contexts of the translations.

Some scholars put forward the idea of a global digital cultural homogeneity based on digital technology. It is a question raised by Erika Fülöp:

Leonardo Flores highlights that elit depends more on (global) technological developments and international influences than on national or regional traditions. Digital technologies represent such a radical change of paradigm, he argues, that we should consider electronic literature as an international or even postnational phenomenon (Fülöp, 2018, p.271).

In response to this vision of digital literature as an international and postnational phenomenon, Erika Fülöp expresses a desire to “counter the stereotype of a homogenous global culture in the Digital Age” (Fülöp, 2018, p.276), insisting on the fact that digital literature preserves the traces of pre-digital cultures. This potential shift also raises the question of the translation of the creations of digital literature. Should the role of the translator (into English, for example) be to dilute cultural references so that an English-speaking audience may *identify*

with the work, or on the contrary to reproduce any traces of cultural specificity, thus emphasizing the cultural diversity of the productions of digital literature more than their international dimension?

Moreover, how is such cultural diversity expressed? Is it unique through the linguistic dimension of digital literature? We might put forward the hypothesis that the fact that the creations of digital literature are not merely based on words, but also on gestures and animations, reinforces the impact of cultural specificities and the importance of taking these into consideration (Di Rosario & Barras, 2012). The state of loss (loss of cultural diversity in the global digital cultural homogeneity) can then be experienced as a “state of bliss” (rendering of cultural specificities).

Conclusion

In the interactive narrative *Loss of Grasp*, the reader’s gestures fully contribute to the construction of meaning. The reader can experience the character’s feeling of loss of grasp in an interactive way. The reader can then feel a form of “bliss” – to quote Barthes’ expression – in this interactive experience, which helps him/her fully identify or be empathetic with the character. However, this bliss based on a state of loss can also be experienced by the author, whose piece is bound to disappear (because of the disappearance of *Flash* for instance) and who has to recreate and give birth to it again and again. And this bliss can also be experienced by the translator. Although having to translate unexpected aspects – such as different semiotic forms and gestures – may be unsettling at first, it can turn out to be an opportunity for the translator to find

a way to counter global digital cultural homogeneity and give life to cultural diversity again.

This link between loss of grasp and state of bliss that can be experienced by the reader, but also by the author and by the translator, is rooted in the Digital. The Digital always stages a tension between grasp and loss of grasp, proximity and distance, transparency and opacity. The Digital is fundamentally ambivalent, and is consequently a milieu of discomfort which “unsettles [our] historical, cultural, psychological [and technical] assumptions.”

References

- Barthes, R. (1973). *Le Plaisir du texte*. Paris: Seuil.
- Bouchardon, Serge and Meza, Nohelia. (2021). « Translating a work of digital literature into several languages: a case study », *Hybrid*, to be published, <http://labex-arts-h2h.fr/revue-hybrid-627.html>
- Bouchardon, S., Brunel, M. (2019). « Exploring Didactic and Literary Approaches to the Introduction of Digital Literature in French High Schools », *Journal of Comparative Literature and Aesthetics*, volume 42, n°4, 49-62, http://jcla.in/wp-content/uploads/2020/10/JCLA-42.4_E-Lit_Serge-Bouchardon.pdf [accessed 4th June 2021].
- Bouchardon, S. (2018). « Towards Gestural Specificity in Digital Literature », *Electronic Book Review*, décembre 2018, <http://electronicbookreview.com/essay/towards-gestural-specificity-in-digital-literature/> [accessed 4th June 2021].
- Bouchardon, S. (2013). « Figures of gestural manipulation in digital fictions », dans Bell, A., Ensslin, A., Rustad, H. (dir.) *Analyzing digital fiction*, Londres: Routledge, 159-175.
- Bouchardon, Serge and Bachimont, Bruno. (2013). "Preservation of digital literature: from stored memory to reinvented memory", *Cibertextualidades* N°5, 184-202.
- Brunel, M., Bouchardon S. (2020). « Enseignement de la littérature numérique dans le secondaire français : une étude exploratoire », *R2LMM* (Revue de recherches en littérature médiatique multimodale), vol.11, sept. 2020, https://litmedmod.ca/sites/default/files/pdf/r2-lmm_vol11_brunel.pdf
- Di Rosario, Giovana and Borràs, Laura. (2012). "Translating Digital Literature: Two Experiences and a Reflection", *Texto Digital*, 8(1), 2012, 138-162.
- [Online] <https://doi.org/10.5007/1807-9288.2012v8n1p138> [accessed 4th June 2021].
- Eco, U. (1979). *Lector in fabula*. Paris : Grasset.
- Fülöp, Erika. (2018). "Digital cultures: A view from French studies and literature", *Explorations in Media Ecology*, 17(3), 2018, 271-277.
- [Online] https://doi.org/10.1386/eme.17.3.271_1 [accessed 4th June 2021].
- Klinkenberg, J.-M.: *Précis de sémiotique générale*. Brussels: De Boeck (2000).
- Mencía, Maria, Pold, Søren and Portela, Manuel. (2018). "Electronic Literature Translation: Translation as Process, Experience and Mediation", *Electronic Book Review*, 2018.
- [Online] <http://electronicbookreview.com/essay/electronic-literature-translation-translation-as-process-experience-and-mediation/> [accessed 4th June 2021].
- Saemmer, Alexandra. (2009). "Aesthetics of surface, ephemeral and re-enchantment in digital literature. How authors and readers deal with the lability of the electronic device". *Cyberliteratures of the world, Neohelicon*, 477-488.
- Strickland, Stephanie and Hatcher, Ian. (2017). "Loss of Hover: Re-creating Shockwave Vniverse as an App for iPad", *Przegląd Kulturoznawczy*, 2017, Numer 3 (33), 364–371.

Images

1. Loss of Grasp, first scene;
2. Loss of Grasp, fourth scene;
3. Three different versions of scene 2: the Web version in Flash (2010), in HTML / JavaScript (2018) and the smartphone app (2019);
4. Example of XML code for scene 2 (for the Flash version in 2010);
5. Example of JSON file for scene 2 (for the smartphone App version in 2019);
6. Loss of Grasp, scene 2.

Serge Bouchardon is Professor at the University of Technology of Compiègne (France), where he teaches interactive writing. His research focuses on digital creation, in particular digital literature. As an author, he is interested in the way the gestures specific to the Digital contribute to the construction of meaning. His creations have been exhibited in many venues in Europe, America, Africa and the Middle East. They have been selected in various online reviews (bleuOrange, Hyperrhiz, SpringGun, The New River).

<https://www.utc.fr/~bouchard/>
<https://www.sergebouchardon.com/>

Medium: VR and 3D

Year of Release: 2019

Link to the artwork: <https://sketchfab.com/models/3a6f8f31dbb74754b-cf8ec6c353f1503/embed>

Video artist: <https://vimeo.com/460943869>

Medium: VR and 3D

Year of Release: 2018

Link to the artwork: <https://perpetual-nomads.com/#play>

Video artist: <https://vimeo.com/460943260>

V[R]ignettes

Mez Breeze

Perpetual Nomads

Mez Breeze

*"Really intriguing and mesmerising piece
of Virtual Reality poetics."
on V[R]ignettes*

*"This piece offers a remarkable storytell-
ing experience, not only on the enter-
tainment side of experience but also on the
educational side."
on Perpetual Nomads*

ICIDS 2020 Jury

Navigating XR literature: examining *Perpetual Nomads* and *V[R]ignettes*

Abstract

Exploring the possibilities of the creative potentials of XR, this paper traverses one artist's creative history of working with emergent spatial technologies including Augmented Reality, Virtual Reality and Extended Reality, with applied instances examined within the scope of this grounding. Two projects in particular are examined: *Perpetual Nomads*, an interstitial Virtual Reality Episode of the *Inanimate Alice* digital story series, and *V[R]ignettes: A Microstory Series*, a example of digital literature designed and developed in Virtual Reality where each individual microstory, or vignette, is designed to encourage a kind of 'narrative smearing' where traditional story techniques are truncated and mutated into smears (kinetic actions and mechanics, collagelike layered building blocks, visual distortions, dual-tiered text annotations) that require a reader/interactor to make active choices in order to navigate each microstory space.

Keywords

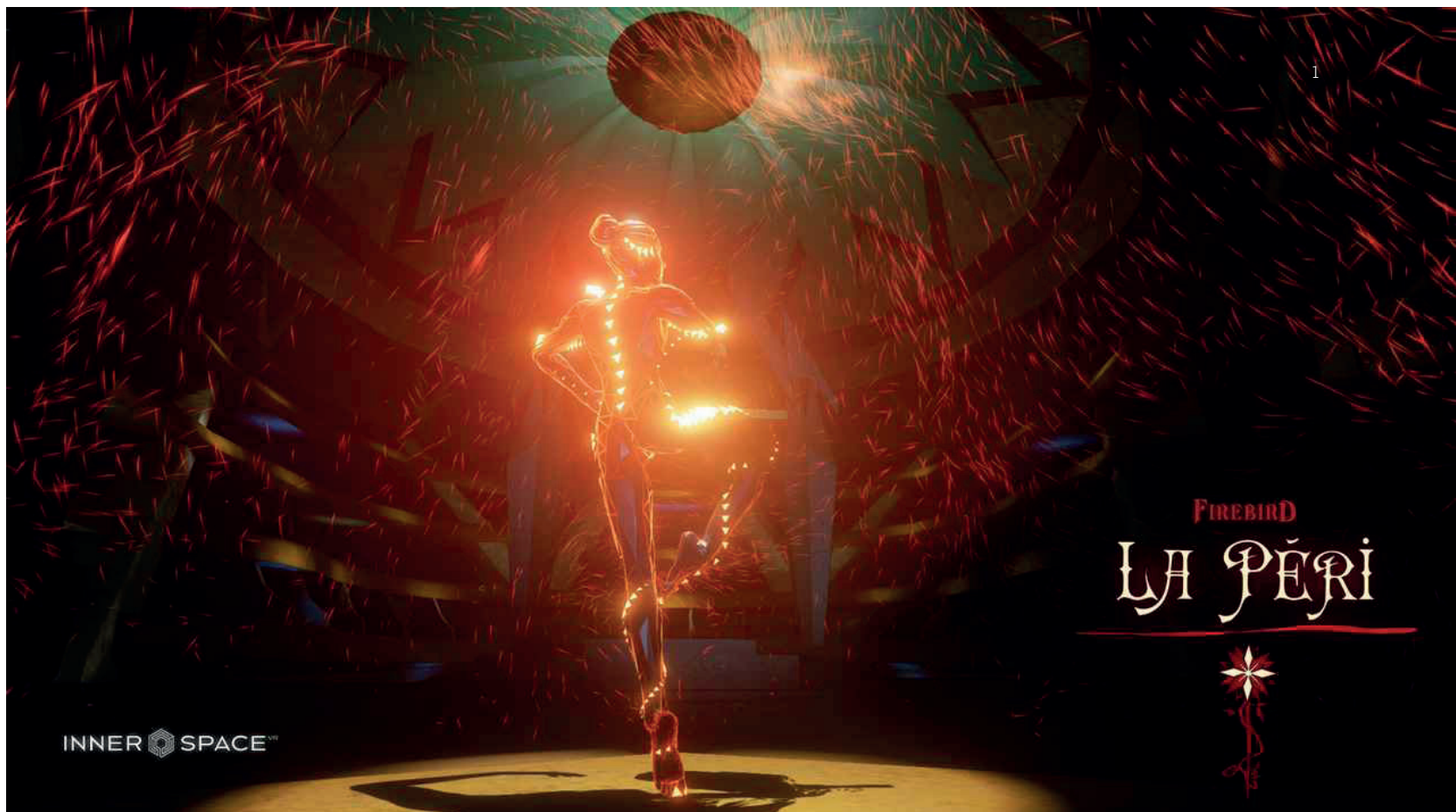
XR/VR, digital literature, narrative smearing, microstory

Back in the middle of the year 2008, artist and theorist James Morgan and I engaged in an animated discussion about Augmented and Virtual Reality. At that time James and I were collaborators-in-crime in the *Third Faction Collective*, a group of digital artists intent on constructing game interventions in Massively Multiplayer Online Spaces. During this discussion, I pitched to James an idea to establish an online space devoted to all things Synthetic Reality based (my umbrella term for Virtual Reality, Augmented Reality, and Mixed Reality). This space, called *Augmentology 101*, intrigued James to the point where a decision was made to sponsor it through the Ars Virtua Foundation and CADRE Laboratory for New Media. What followed was an amazing foray that outlined injecting the creative potentials of Synthetic Reality - what's now known as XR (Extended Reality) - into the realm of electronic literature.

It's now been over 10 years since the ini-

tialisation of the Augmentology 101 project. During this decade, there's been a major upswing in VR and AR production and development, with impactful XR content such as *Firebird - La Péri* (2016) [Video Game] and *Queerskins VR* (2016) [Video Game] becoming available.

My own attempts at merging digital literature into developing XR fields have been multiple and varied. Initially I began delving into VR in the 1990's when VRML, or Virtual Reality Markup Language, was the shiny new thing. Surprisingly enough, the creative and technical challenges that VR creators faced back then are similar to those faced today: high performance requirements, mainstream adoption hurdles and monetisation dilemmas are all relevant. Likewise, skillsets required by VR content creators in the mid 1990's again parallel XR creators of today including a deep knowledge of spatial storytelling logistics; emotional intelligence; the ability to formulate story experiences that take





#WHATDOYOU DO?

WHAT
WOULD
YOU DO
IF THEY
THREW YOU
IN...

#PRISOM?

into account various hardware and platform limitations such as field of view constraints, tethered headsets restricting natural movements; and hardware specific limitations like the screen-door effect.

In terms of XR projects I've produced in the last decade, one of the more notable includes conceiving of and co-developing the 2013 anti-surveillance AR game #PRISOM.

#PRISOM^[1] was developed by myself and Andy Campbell. This AR Game was commissioned by and premiered at the 2013 International Symposium on Mixed and Augmented Reality Conference (ISMAR2013) in conjunction with the University of South Australia University's Wearable Computer Lab, and the Royal Institution of Australia, on a wearable AR headset (or HUD). My primary motivation when creating #PRISOM was to highlight the increasing unveiling of covert surveillance on a global scale as evidenced

^[1] <http://prisom.me>

by the NSA's PRISM Program and the snowballing monitoring of individual's private data/lives - the title was crafted by merging the terms 'PRISM' and 'prison'. As I've written in the "Resources" section of the project website:

#PRISOM is designed to make players ponder the increasing global adoption of PRISM-like surveillance technology. Every one of the "#WhatDoYouDo" scenarios that you'll encounter when playing the game stem from real-life scenarios, including the ongoing unconstitutional treatment and [in some cases] incarceration of those keen to expose the nature of heavily surveilled and overtly monitored societies" (Breeze, 2013).

In 2016 I lectured as part of the 'Future Possible: Beyond the Screen' Series which centred on how VR can transform creative practice - which also included a live VR performance walkthrough using one of my Tilt Brush-created works. In 2017 I keynoted at the Electronic Literature

Conference with a VR performance presented both live at the Conference and simultaneously in a public Virtual Reality Theatre. In 2017/2018 I created the VR Poem/Experience *Our Cupidity Coda*. This VR work was designed to emulate conventions established in early cinematic days (the silent soundtrack, white on black intertitle-like text, similarities to Kinetoscope viewing) in order to echo a parallel sense of creative pioneering/exploration evident at that time. In 2017, *Our Cupidity Coda* premiered at The Wrong Digital Art Biennale, and in 2018 it made the Finals of the EX Experimental New Media Art Award. In 2017/2018 I wrote, co-produced, and was Creative Director and Narrative Designer of the *Inanimate Alice VR Adventure Perpetual Nomads*.

Perpetual Nomads is an interstitial Virtual Reality Episode of the *Inanimate Alice* digital story series. The project is the result of an Australia and Canada co-production with



investment from the Canada Media Fund and The Australian Government/Screen Australia. In *Perpetual Nomads*, Alice (the Series protagonist) finds herself stranded in the desert on a broken down Autobus. Never one to be boring, *Alice* downloads and installs a chat app called 'Whispurring Nomads' on which she encounters

characters from opposite sides of the globe. By spending time with her new companions, Alice learns about social interaction in an increasingly isolating and impersonal digital world with themes focusing on privacy, surveillance, and greenwashed corporate corruption.

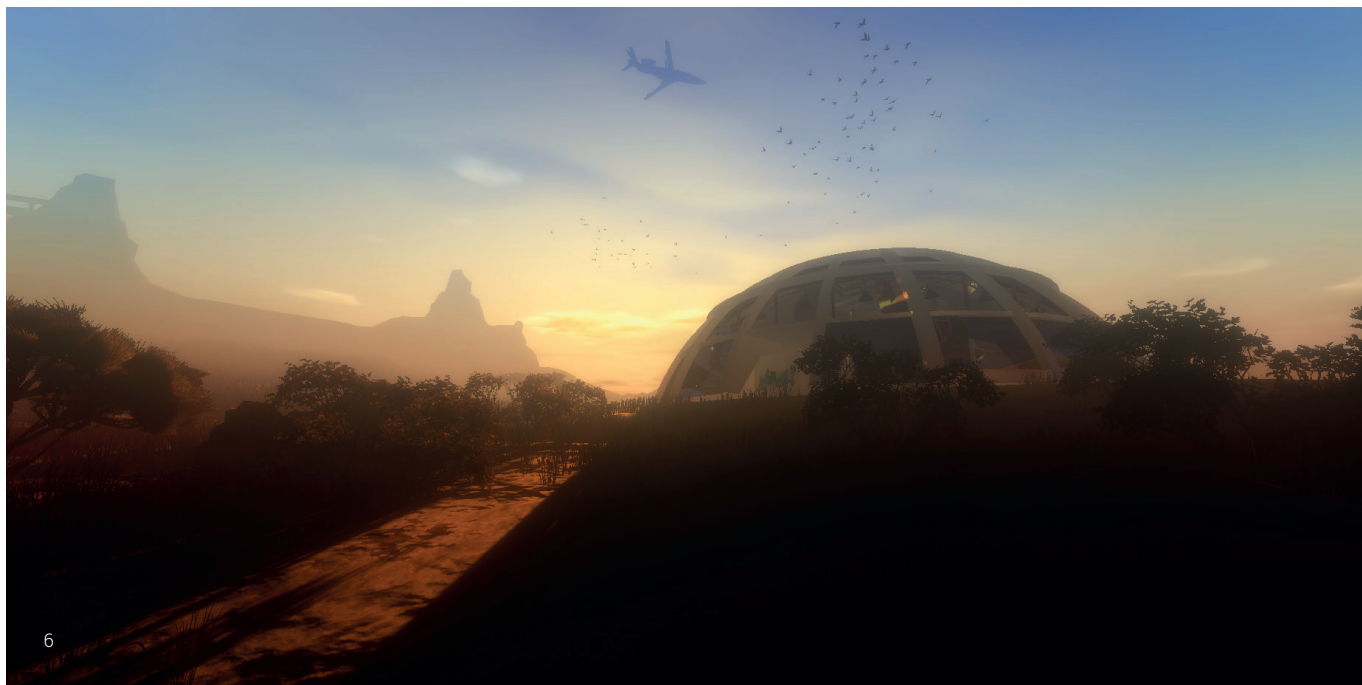
A special 360 video edition of *Perpetual*

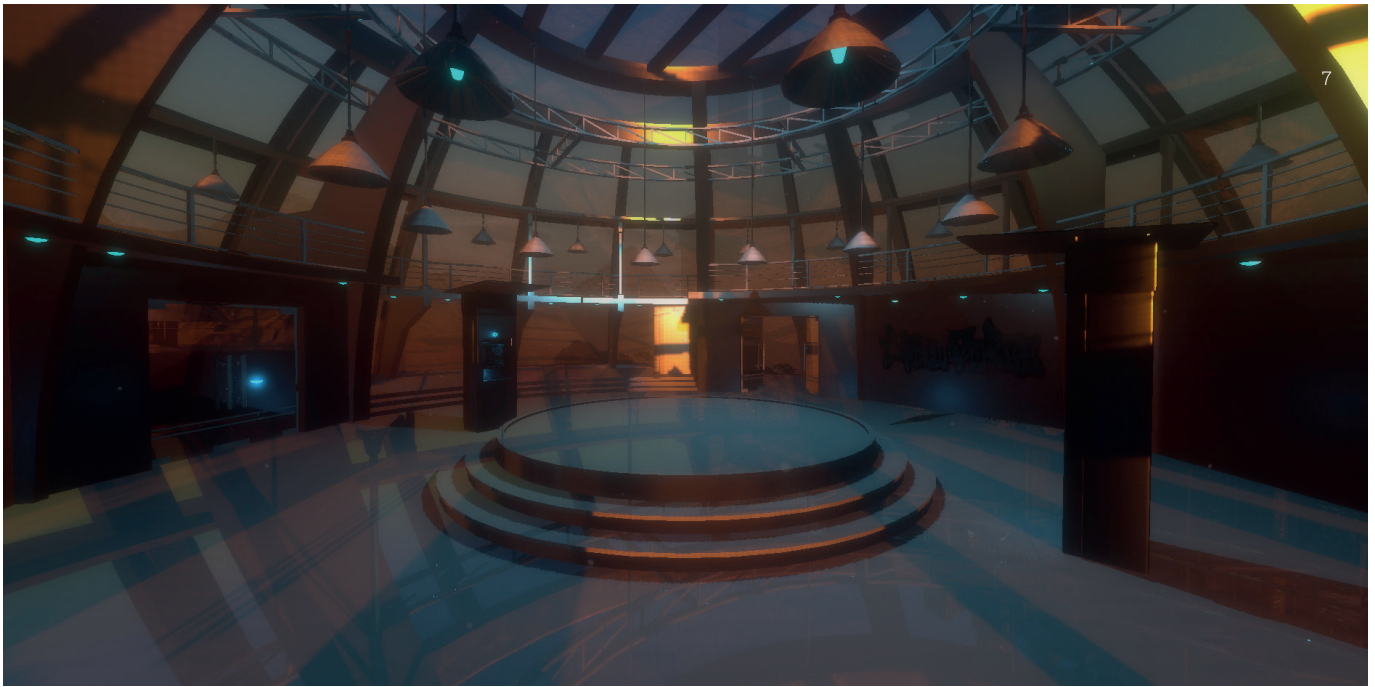


Nomads is designed with a global Young Adult audience in mind, one who has suffered through the COVID Pandemic who is more than fluent in navigating electronic literature crafted specifically for a 360-video platform. This special edition of the project can be experienced on mobile devices and desktop computers, whereas the

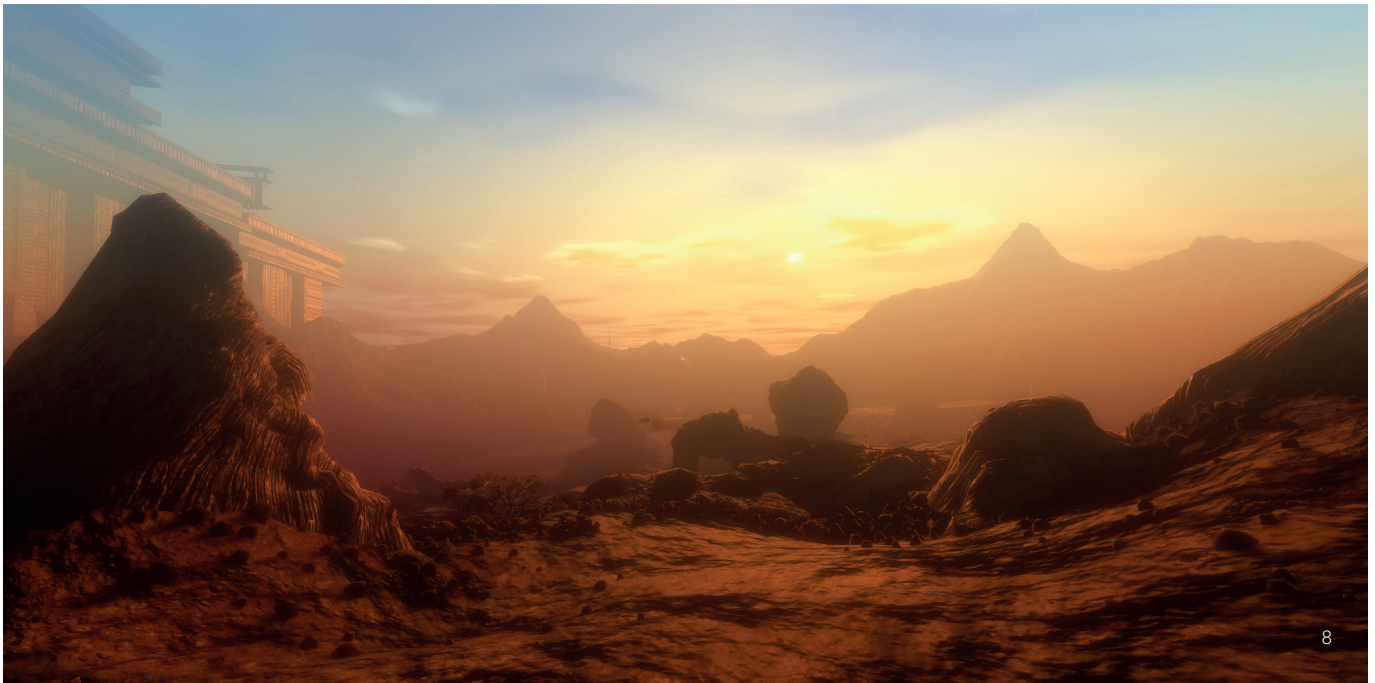
full interactive version is designed to be experienced through Virtual Reality headsets and desktop PCs.

In *Perpetual Nomads* you navigate your way through a fully realised digital environment where you find yourself navigating creepy scenarios like finding yourself on the pointy end of a





7

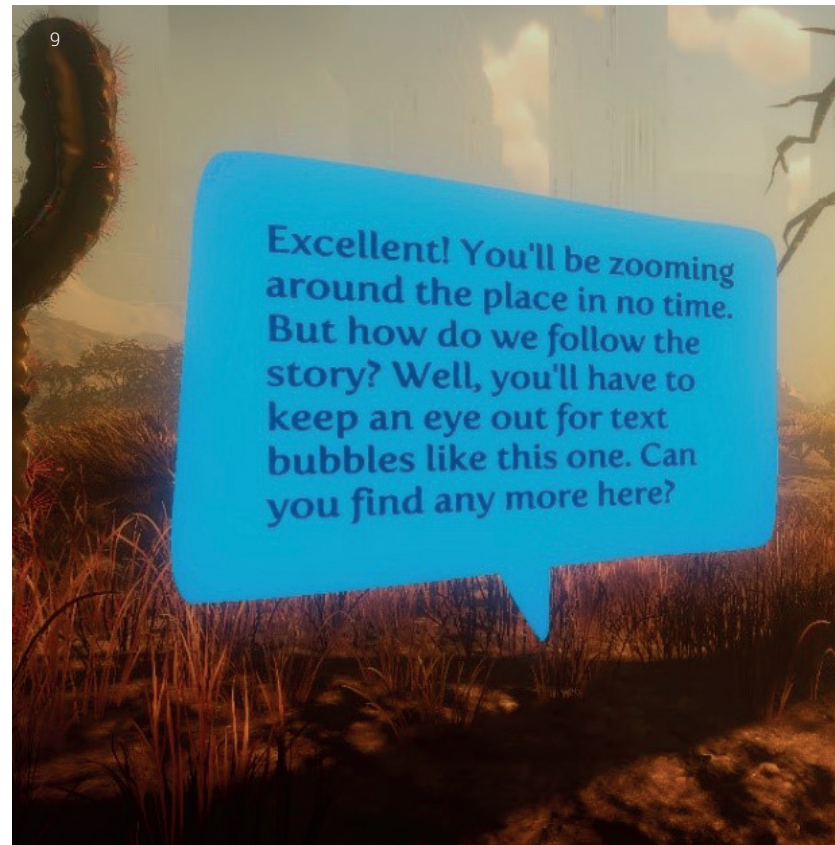


8

texts of discomfort

harassment stick, participating in social app-based tug-o-wars, dealing with a nefarious greenwashing corporation and attempting to cope with your phone battery running crazily low just when you really need it. Underlying all of these challenges lies a far more sinister one that's guided by consistent and cohesive story world building through rigorous attention to detail (a tip when playing through the work in either VR or in Desktop mode: make sure to play on past the end credits to get the full thematic experience). Part of crafting the narrative arc was the decision to preface the main experience with an immersive tutorial that helps anchor and assist the reader/player with text guided instructions: an example is shown below.

Thorough participation in a high-end VR based experience like *Perpetual Nomads* hinges entirely on immersion which is triggered initially through the audience having



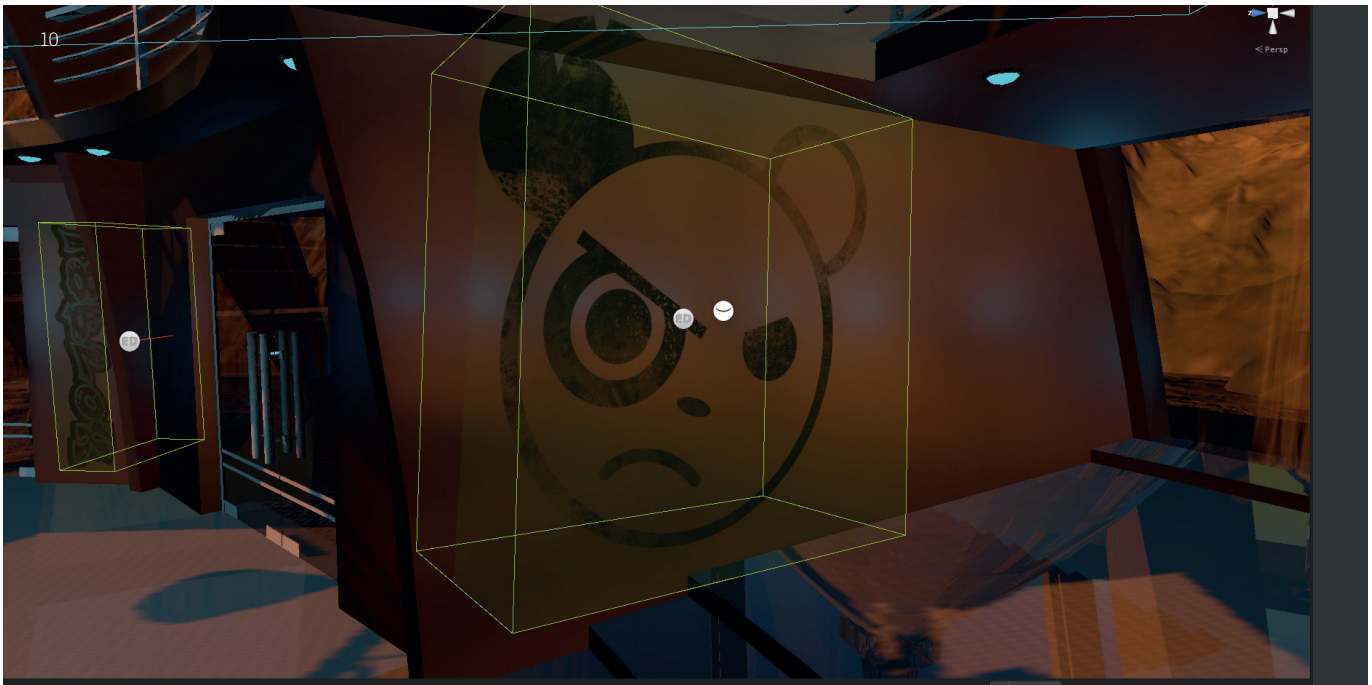


to don discombobulating gear that firstly reduces their ability to engage in their actual physical space in standard ways (their vision and hearing being “co-opted” into a VR space). The leap of faith the audience needs to make to establish a valid and willing suspension of disbelief (as Samuel Coleridge so aptly phrased it) is already set in motion by the fact a user is entirely aware from the moment they slip on a VR Headset that their body is in essence in a state of initial discomfort, essentially hijacking the body (haptically, kinetically) as opposed to a more removed projection into a story space via more traditional forms (think book reading, movies, tv). Such body co-opting might lead a user to disengage from the VR experience from the very beginning which will reduce the likelihood of true immersion: alternatively, they may readily fall headlong into the experience with an absolute sense of engagement and

wonder (the preferred option as a VR content creator) if the work has been precisely crafted.

For the most part, XR projects such as those mentioned above exist only in the main-

Interactive Storytelling Art



stream margins, with a majority of experiences requiring costly high-end VR rigs and expensive desktop computers that demand audiences experience the works in their optimal state. To counteract this selective catering to the exorbitant end of the XR market, in early 2018 I had the idea to create a set of XR Experiences that would reduce the mandatory use of high-end tech. Such projects would instead cater directly to a range of audiences by crafting works that can be experienced through a far larger (and much more accessible) range of lower-end tech. The first work I produced in this set was the VR Literature work called *A Place Called Ormalcy*, followed by *V[R]ignettes: A Microstory Series*.

V[R]ignettes: A Microstory Series^[2] is digital literature designed and developed in Virtual Reality. It was constructed using the Virtual Reality Application Masterpiece-VR to craft the 3D models, with each micro-

^[2] <http://mezbreezedesign.com/vr-literature/vrignettes/>



The V[R]ignettes

In the Skin of the Gloam

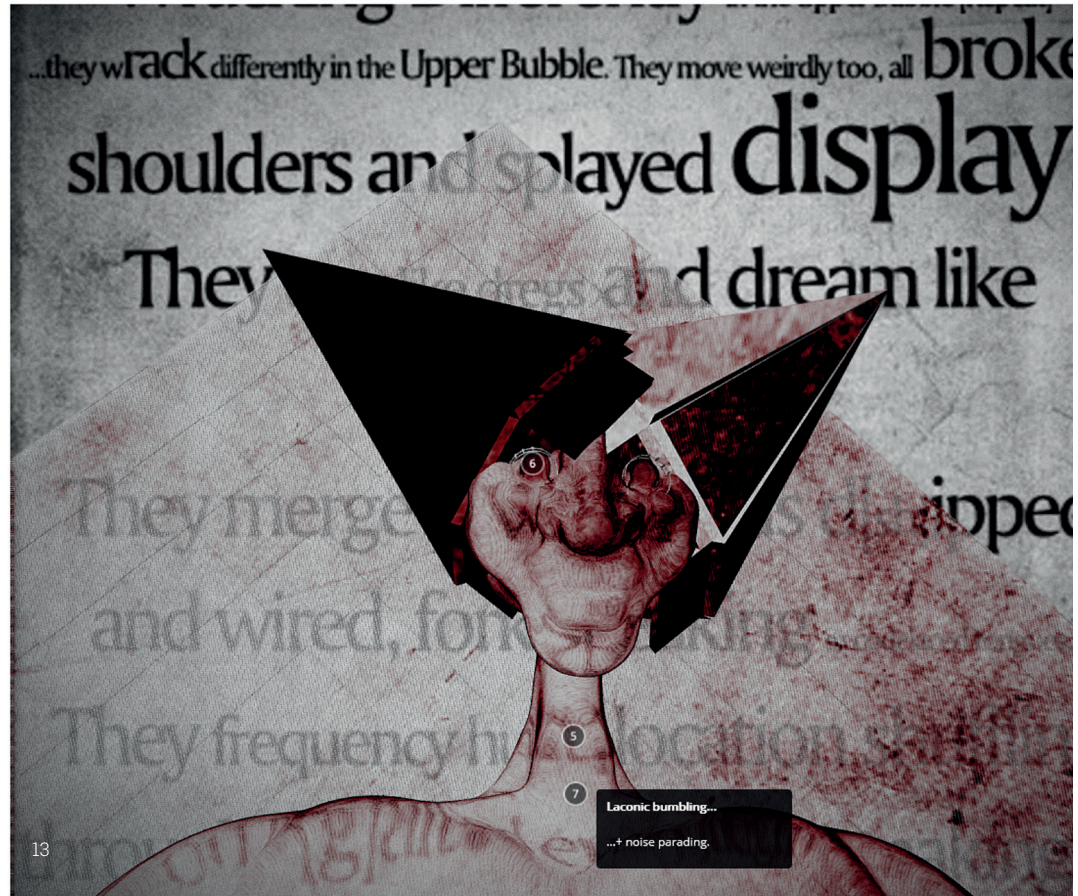
story (made up of 3D models, text, and audio components) then combined and hosted via the Sketchfab platform. It can be accessed via a wide range (crucial in terms of its social commentary aspect) of mobile devices, desktop PCs and both low-end and high-end Virtual Reality hardware. Audiences using the cheapest type of VR equipment (such as Cardboard headsets) are able to access complete versions of this experience, as are users of any net connected mobile device with a WebXR-enabled browser.

In *V[R]ignettes*, each individual microstory, or vignette, is designed to encourage a kind of 'narrative smearing' (my own term) where traditional story techniques are truncated and mutated into smears (kinetic actions and mechanics, collagelike layered building blocks, visual distortions, dual-tiered text annotations) that require a reader/interactor to make active choices in order to



The V[R]ignettes

Wracking in the Upper Bubble



texts of discomfort

navigate each microstory space (or storybox).

When exploring each microstory, a reader will experience poetically dense language (such as letters bracketed in words - requiring rereading - that are designed to expand and enhance meaning potentials) and various visual, textual and technological elements that require direct audience input (such as: do you choose to view each microstory in a 3D or VR space through a virtual reality headset, or a mobile phone, or computer monitor? Do you set each microstory to autopilot or navigate the experience through manual annotation click-throughs and spatial manipulations? Do you choose to use the model inspector and view the microstories without any post-processing effects, or in wireframe? Do you choose to enable audio? Do you read only the title fields or entire paragraphs?). Such smears are also designed to be combined by the reader to create a story-piecing system that's circular in nature, where a reader/interactor is encouraged

to experience each microstory multiple times, in multiple ways. For instance, when experiencing *In the Skin of the Gloam* if a reader chooses to read only the title line of each annotation, they'll experience a minimal poetic (title) text version. If they instead read the rest of the annotation accompanying each title line, the narrative is accented differently. If they choose to manipulate (scale, rotate, zoom) the 3D models in the space (and/or if they engage autoplay or, in the case of *Wracking in the Upper Bubble*, they read the wall text only), a reader's experience will be markedly different from those choosing to experience each microstory in a VR space (where teleportation is an option and the spatial dimension is crucial). To load each microstory, readers press the white arrow in the middle of each storybox (and if viewing on a mobile device, they need to make sure to view each storybox in full screen mode). After clicking on the white arrow, to begin reading the text they click on the 'Select an

annotation' bar at the bottom of each storybox screen. From there, they get to choose how they experience all other narrative smearing possibilities. If they need help with navigation and controls, they can click the '?' located at the bottom right side of each storybox.

Just as XR Literature can work to extend the creation of accessible electronic literature beyond the text-centric to truly encapsulate the haptic and the spatially-oriented, both *Perpetual Nomads* and *V[R]ignettes* illustrate how XR accessibility issues are relevant and necessary. I look forward to continuing to promote, create, and experiment with stretching the limits of VR and AR while producing XR projects that are openly accessible, as well as socially relevant.

References

- Breeze, M. (n.d.-a). *#PRISOM by Mez Breeze*. Itch.io. Retrieved March 12, 2021, from <https://mezbreeze.itch.io/prisom>
- Breeze, M. (n.d.-b). *Our Cupidity Coda | @MezBreezeDesign*. Our Cupidity Coda. Retrieved March 12, 2021, from <http://mezbreezedesign.com/vr-literature/our-cupidity-coda/>
- Mez Breeze Design. (n.d.). *V[R]ignettes: A Microstory Series*. <http://mezbreezedesign.com>. <http://mezbreezedesign.com/vr-literature/vrignettes/>
- Breeze, M. (2013). *#PRISOM - Resources*. Retrieved from <https://digitalfiction.dreamingmethods.com/prisom/resources.html>.
- Firebird - La Péri* (2016). Steam Online. https://store.steampowered.com/app/436490/Firebird__La_Peri/
- Future Possible: beyond the screen*. (n.d.). Ainslie + Gorman Arts Centres. Retrieved March 12, 2021, from <http://www.agac.com.au/event/future-possible-beyond-the-screen/>
- Inanimate Alice*. (n.d.). *Perpetual Nomads*. Retrieved March 12, 2021, from <https://perpetual-nomads.com/>
- Queerskins VR* (2016). Steam Online. https://store.steampowered.com/app/1307860/Queerskins_a_love_story/
- The Third Faction*. (n.d.). Thirdfaction.org. Retrieved March 12, 2021, from <http://thirdfaction.org/>
- The Writing Platform - Digital Knowledge for Writers*. (n.d.). The Writing Platform. Retrieved March 12, 2021, from <http://thewritingplatform.com> (Modified extracts from this article have appeared at The Writing Platform).
- Tomko, M. (2007). Politics, Performance, and Coleridge's "Suspension of Disbelief." *Victorian Studies*, 49(2), 241–249. <https://www.jstor.org/stable/4626281?seq=1>
- VRML*. (2021, February 17). Wikipedia. <https://en.wikipedia.org/wiki/VRML>

Images

1. Screenshot from the 2016 Multilingual Virtual Reality Project Firebird - La Péri;
2. Screenshot from the 2013 Augmented Reality Project #PRISOM;
3. Press Image for Perpetual Nomads;
4. Screenshot from the Whispurring Nomads Chat App in Perpetual Nomads;
5. Screenshots taken from a live playthrough of Perpetual Nomads;
6. Screenshots taken from a live playthrough of Perpetual Nomads;
7. Screenshots taken from a live playthrough of Perpetual Nomads;
8. Screenshots taken from a live playthrough of Perpetual Nomads;
9. Screenshot from the Interactive Tutorial of Perpetual Nomads;
10. Screenshot taken from the Unity development of Perpetual Nomads;
11. Image from the V[R]ignettes: A Microstory Series.Press Kit;
12. Screenshot from V[R]ignettes: A Microstory Series;
13. Screenshot from V[R]ignettes: A Microstory Series.

Mez Breeze first started using the Internet in the 1990's to create digital works, and she hasn't slowed since. She creates award-winning digital literature, games, and other genre-defying output as well as archiving, championing, and teaching about/mentoring digital artists and electronic literature. Her recent awards include 'Inanimate Alice: Perpetual Nomads' winning the inaugural 2020 Readers' Choice Prize as part of the 2020 Woollahra Digital Literary Awards, while her Virtual Reality Microstory Series 'V[R]ignettes' won the Queensland University of Technology's Digital Literature Award as part of the 2019 Queensland State Literary Awards. In 2019, Mez also received the Marjorie C. Luesebrink Career Achievement Award which: "...honours a visionary artist and/or scholar who has brought excellence to the field of electronic literature."

<https://www.patreon.com/mezbreeze>

<https://www.mezbreeze.itch.io>

<https://www.mezbreezedesign.com>.

Medium: Web Form

Year of Release: 2020

Link to the artwork: <http://www.alexsaum.com/corporate-poetry/>

Video artist: <https://vimeo.com/455446499>





Corporate Poetry

Alex Saum

"Thought-provoking and novel use of online forms; the sterile, banal and functional platform interfaces, jars with the two narratives' questions - on subject matters of motherhood, war and death."

ICIDS 2020 Jury

On bodies, surveys, virus and rooms. Enter *Corporate Poetry*

Abstract

This essay analyzes Alex Saum's *Corporate Poetry* project, focusing on its three main rooms (#1, #2 and #3) as well as backrooms #2 and #3, created with the collected data from Room #2. Through a series of interactive "rooms," these works repurpose the language of a variety of online forms and platforms (Google Forms, Survey Monkey and Zoom) in order to domesticate the neoliberal intent of these data gathering technologies. These poems intervene the kind of corporate language expected in these forms by bringing attention to that other corpora that is our bodies. This way, the poetic surveys regain a surprising type of corporality that engages our embodied reality while making visible the digital infrastructure that is unintentionally brought into our homes whenever we participate in an online survey or take a video conferencing call. In a time where measures to contain the global pandemic are forcing citizens to shelter in their homes, these works illuminate a new dimension of our everyday confinement. Going even further, these works show how the destruction of natural resources and human life (i.e. the 2020 pandemic) is directly related to the evolution of digital technologies that project a perverse sense of immaterial existence. By rethinking the materiality of digital languages these poetry rooms aim to further disjoint that relation.

Keywords

survey, data poetry, electronic literature, video call, COVID-19, quarantine

2020 would be the year of collapse, although back in January, few of us knew it. I had just started a poetry fellowship at the Arts Research Center at UC Berkeley¹, working on a project called *Corporate Poetry*. My original intention was to explore how corporate language related to that other “corpora” that is our body. Through a series of interactive “rooms” built on familiar online platforms like Google Forms, Survey Monkey, and Zoom, this project repurposed the kind of language we associate with these data gathering technologies in an attempt to domesticate it, bring it home and, in the process, somehow disrupt the data categories enough to make the information collected useless for the platforms themselves. My original hope was to bring attention to their language and our embodied reality by showing up the digital infrastructure that is unintentionally brought into our homes whenever we participate in an online survey or take a video conferencing call. As I

said somewhere else “we let them in so they can count us; at our most vulnerable, wearing pajama bottoms” (Saum, 2020d).

A few months later, the COVID-19 pandemic hit globally and forced us all to shelter in our homes, to hide in our rooms while simultaneously requiring us to open new digital rooms that would connect us to the outside world. Our everyday confinement and the relation that our bodies hold to language and space became painfully relevant. On the one hand, the poems I had planned to write still bent the utilitarian goals of these technologies by disrupting the type of data they were aimed to collect. On the other, they now brought an acute and affective awareness about the pervasive collecting reality of these platforms, as they now entered—occupied—the domestic and personal space of our quarantines, that space that poetry tends to inhabit.

As poems “Room #1” and “Room #2” state: “I have always talked about poetry as if being in

¹ This project was made possible thanks to the generous support from the Poetry and the Senses 2020 fellowship, Arts Research Center, at UC Berkeley.

a room." In opposition to narrative, where things happen and carry you along, a poem welcomes you into a particular room made of verse. Poetry is the tone, the feeling, the space you inhabit while sharing that room with those words and their world. After these long months of mandatory confinement, there is a new dimension to this statement because the words that shape the poem have turned into very physical walls. We are not speaking metaphorically anymore, though the double referential nature of any metaphor still holds. We have become used to being physically trapped while also learning to share our personal space and, simultaneously, peer into others' in a perceptively immaterial way. We are not, really, inhabiting those other spaces, however; they are being broadcast to us by the mediation of another set of invisible walls. As media theorists Jay David Bolter and Richard Grusin say, our reality becomes re-mediated by these digital media technologies whose logic

of immediacy "dictates that the medium itself should disappear and leave us in the presence of the thing represented" (1999, p. 6), i.e., they should make us feel like we are indeed sharing someone else's room and not just looking at them looking at you looking at your screen.

Invisible or not, these walls are also not immaterial even if digital technologies have also long insisted on their ethereal constitution by being able to traverse the world and materialize in your phone or computer, or even exist in something fluffy like a cloud. As the logic of immediacy of the digital interface becomes more and more advanced, the more impenetrable the hardware (and even the software) that supports it become. As Lori Emerson puts it "the degree to which an interface becomes more invisible is the degree to which it is seen as more user-friendly (and so more human), but at the cost of less access to the underlying flow of information or simply to the workings of the machine/medium"

(Emerson, 2014, p. 133).

The invisibility of the machine/medium makes us believe it might not even be there, but let us remember that there is nothing immaterial about digital technologies which are not only made from rare minerals like cobalt mined in inhumane and unregulated conditions in Africa (Shapshak, 2019) but are also responsible for levels of environmental pollution close to the aviation industry; 3.7% of global CO2 emissions are a product of our internet usage and its sustaining infrastructures (Ferreboeuf, 2009).

The cloud and all the rooms that magically pop up in our houses are thus, not only very material, but also very alien, since they are sustained by rare minerals that come from all parts of the planet that go into the large infrastructures surrounding the world in a highly distributed manner, namely: the internet marine cables that crisscross the world's oceans, the global servers that store information and heat

up the land where they are situated, the local telecommunications systems powered by dirty electricity, etc.; but also because even in their most domestic manifestations, let's say, the computer that runs the software that opens up that familiar chat room is never quite ours. The software that runs and constitutes the digital medium builds the space we are now allowed to sit in, while other hidden software and other larger—yet also concealed—hardware infrastructures permit it. There is, of course, something inescapably poetic about the construction of a platform that structures our reality within it. It is poetic, like my early poetry rooms, and it is perverse, because these organizational structures that allow us to work remotely, or chat with a loved one according to their own parameters of interaction, all have built-in information gathering features that feed on our usage. They not only build our new rooms in mysterious ways, but they are also spying on us dwellers by secre-

tive new methods.

Survey forms are probably the best example of this double functionality because they are meant, openly, to gather user response data while at the same time using that data to feed their own analytical capabilities. And although this is not a secret, the way most companies retain data we collect for them or how they use it is still quite opaque. One can browse the privacy policy of any service and even restrict certain collections, but let's say that our personal sharing is the fee most of us willingly pay to visit someone else's room or welcome them over to ours. We might even feel uncomfortable about it, but we are willing to stay in the dark—like those dark mines in the Democratic Republic of Congo—or to keep certain things hidden—like a buried submarine cable linking Taipei and Los Angeles—in order to justify our usage of these digital technologies.

I am a woman who grew up in Spain du-

ring the country's transition to democracy after the death of dictator Francisco Franco, so I know a thing or two about burying silences and the many tacit pacts we are willing to make to keep uncomfortable and destructive truths in the dark. I explain more about this in the sections below, but perhaps that's why I have devoted most of my academic and creative career to writing about hidden formal structures and the correlating physical infrastructures. I also live in the San Francisco Bay Area, in the shadow of Silicon Valley, so my interest in that particular type of ideological alchemy that turns the worst material conditions into evanescent clouds has necessarily taken the shape of digital technologies. These two personal conditions, a place of birth and place of living, might not seem too related at first, but I have come to see that the silences that we keep in the pursuit of progress have more than a few things in common.

As it stands today, *Corporate poetry* is

composed of five poems. Rooms #1 and #2 are interactive survey poems, Backrooms #2 and #3 are non-interactive poems built with the data gathered from "Room #2," one being a video poem, the other a print prose poem. Finally, "Room #3" is a website distributed as a video poem, built around the conferencing tool Zoom.

Room #1

"Room #1" is the first poem of the *Corporate Poetry* series, released in January 2020, and later published by *The New River* journal in

their Spring 2020 issue. Like all other works discussed in this volume, it was also on display at the *Text of Discomfort* exhibit part of ICIDS 2020. Technically speaking it is a survey built on Google Forms, using the free features any user gets with a private account. It requires a certain amount of interaction from the user since three of its seven sections include mandatory multiple-choice questions. It is not possible to advance through the poem without making some sort of choice regarding the user's feelings around

[

I always talk about poetry
as if
being in a room --

Next

This content is neither created nor endorsed by Google. [Report Abuse](#) - [Terms of Service](#) - [Privacy Policy](#)

1

Google Forms

love for a child—supposedly of their own—and their death. The form is live and can be accessed by anyone with the link.

The poem starts with a personal assertion “I always talk about poetry as if being in a room” and then asks for the user’s input in evaluating the quality of the lighting in that room on a scale of 1 to 5 that ranges from “kind of gloomy” to “bright like salt and your child’s smile as he pulls your hair to bring you closer so he can kiss you in the mouth. Open mouth.” It might be worth noting that 29% of participants have chosen 5 as their value to proceed, but values are quite evenly distributed, increasing slightly as the room gets lighter (17.3% for 1, 12.5% for 2, 17.9% for 3 and 23.2% for four). I said it might be worth noting, but the poetic data gathered here is not only anonymous but useless in relation to any formal metric. This, of course, does not make it worthless.

[

* Required

But let's - for now -

just imagine this
average size
room.
Because

I am guiding your elbow and *

☐ you walk right in; I am pushing your way and these are my words and my imaginary room after all

☐ you

☐ pull

☐ me

☐ back

☐ I hold your hand. And your hand feels tiny, and surprisingly soft, like my son's. I had heard that small children were soft, but I never understood how

☒ soft was soft

Back Next

This content is neither created nor endorsed by Google. [Report Abuse](#) - [Terms of Service](#) - [Privacy Policy](#)

Google Forms

2

The poem then proceeds in a soft tone, asking the user to follow the poetic voice deeper into the room, literally holding her hand. The options the reader now faces, in a standard multiple-choice manner, are a bit more complicated since the traditional survey categories are broken to make way for poetic enjambement. The quantification of a user's choice of "you" or "pull," over "soft was soft," becomes meaningless when comparing such very different propositions. The next section returns to a more traditional comparison asking users to engage in a game of definitions, wondering about the meaning of "room." However, the game is troubled in a syntactical way asking readers to sort out a poetic simile that is displayed in a drop-down menu. The room in question thus "can drop" "like a bird," "like a sparrow" or "like a menu," but also "like your son when you imagine his small (but not so small) motionless body because your father told you that you should think about dea-

th at least five minutes a day to be ready for the worst, and you want to be ready for the worst." Curiously, the percentages here are quite evenly distributed between two main choices, a quarter of most users choosing to engage with loss, while the other quarter selecting the recursive play on words of dropping "like a menu". Finally, the poem ends with a meditation on motherhood and its contradictory feelings, of owning and loving someone, and knowing that this someone is a being in their own right that can never truly belong to anyone.

I am guessing there are many other interpretations of this poem, but this is what I had in mind when trying to address my relationship to my own child. The limitations as well as the affordances the platform interface gave me, shaped the form of the poem while deviating from its expected language and use. In a way, choosing the topic of motherhood, the sensuality that is involved, and the end of this most precious life

are intersecting with the limitations and affordances of traditional poetic discourse. Not just by placing these private meditations in a commercial space powered by Google—who very fittingly displays at the end of each page a set of disclosures of its own “Report Abuse - Terms of Service - Privacy Policy”—and thus twisting the original purpose of the survey platform, but also by asking readers to answer questions about maternity and birth that are still taboo in many literary scenes. There is a lack, an invisibility

of these issues, that perhaps has to do with the invisibility of women’s experience in spaces reserved for men (or some “male genius”). This applies both to poetry and to digital technologies, of course. Bringing these questions to the aseptic space of an online form, I believe this poem sheds a new light of its own.

Room #2

With a similar interest in taking on issues about silence and disappearance from public space or discourse, or even public knowled-

texts of discomfort

3

[

Son:

Sometimes I think about my son
as if
I were a shiny opal stone, and
I wasn't his mother at all]

Alex Saum

Back Submit

This content is neither created nor endorsed by Google. [Report Abuse](#) - [Terms of Service](#) - [Privacy Policy](#)

Google Forms

ge in general, I launched “Room #2” in February of 2020, which also appeared in *The New River*’ Spring Issue, and the *Texts of Discomfort* exhibition. This new room is built on the commercial data analysis service provided by SVMK Inc., doing business under Survey Monkey. Just like “Room #1,” this poem begins with the affirmation that poetry is a room and asks users to choose a color for their room, this time on a sliding scale of 0 (“bright salt”) to 100 (“dark cobalt blue, rich mineral soil”). Once the tone is set, instead of guiding the reader with my own series of choices, I offer an open ended response section where they can share who they imagine to be with in that room, to then move onto a standard multiple choice question set, asking where they would disappear: “into the Earth,” “inside a little and turquoise box, with vintage yet millennial pink flowers around the edge,” “into a progress bar, mint green [below]” or “into a cycle [or circle] or completion.” As in the previous poem, there is

a recursive trick asking readers to acknowledge the interface of this survey platform by noticing the green progress bar at the bottom of the screen. This was the option favored by a majority of readers (35%) followed by “into the Earth” (30%). The double metaphor calling attention to the poem as a survey in itself and to the Earth as that metaphorical place we go when we die—as souls traveling through planets or by turning into earthy minerals perhaps—is distributed and understood by readers in a clear percentual manner.

The poem then follows with an open-ended statement: “Some of us are made to disappear:” which generated a wide variety of free answers from users ranging from “softly,” or “with words or neglect,” to “into rainbow ice cream sprinkles.” The diversity in tone and structure is a good indicator of the openness and vagueness of the poem until this point, which then asks three similar questions about the meaning of

* This is how I have been trained - at least;

It is usually a white room:

bright salt

dark cobalt blue, rich mineral soil

76

Clear

* I am usually alone in that room

But
like salt, or cobalt,

you have been here before, and

like you, others:

* We all leave traces; sweet water, monkey form, form, or not.

Some of us disappear

- ☐ into the Earth
- ☐ inside a little and turquoise box, with vintage yet millennial pink flowers around the edge
- ☒ into a progress bar, mint green [below]
- ☐ into a cycle [or circle] of completion

* Some of us are made to disappear:

disappearance itself. “What does it mean to disappear? Does it look like this?” “Or like this?” each of these questions displaying a drop-down menu with identical options, rendering choice-making futile. Eventually, the commentary of language and interface turns into something else, when the third drop-down menu displays four eroded sentences where the reader gets a glimpse into a new dimension of “disappearing”:

“Spain l u ch truth commis ion to probe Franco-era crim s (...) The Sp nish gov r m nt s ys t it will open n st mtd 1,200 mass graves.”

“s y mor t 100,000 of F ’s fr m e vil war n its aft rmt r m n buried unmarked graves cr ss pain – f g re, t Amnesty International.”

“S ain s sa d t b s c nd y t w n c s to ‘missing’ persons.”
“mass graves”

A whopping 55% quickly identified disappearing now with “mass graves,” noticing the poem’s intention had changed to point to a particular historical reality, that of the Spanish Civil War and following dictatorship. In a similar

* What does it mean to disappear?

Does it look like this?

✓

⬆

* Or this?

✓ "Spain l u ch truth commis ion to probe Franco-era crim s (...) The Sp nish gov r m nt s ys t it wll open n st mtd 1,200 mass graves." " s y mor t 100,000 of F 's fr m e vil war n its aft rmt r m n buried unmarked graves cr ss pain — f g re, t Amnesty International." "S ain s sa d t b s c nd y t w n c s to 'missing' persons." mass graves

* How do you make someone disappear?

- ☐ Where do you take them?
- ☐ What do you tell them?
- ☐ What do you do with their hands, their feet, their teeth?
- ☐ There's hundreds of thousands of hands and feet buried under freeways, dams and playgrounds in my country
- ☐ [These green teeth will never be collected]

way, 40% of respondents to the following multiple-choice question “How do you make someone disappear” selected “There’s hundreds of thousands of hands and feet buried under freeways, damns and playgrounds in my country,” as their answer, rather than engaging with the other options that, instead of answers, provided more questions: “Where do you take them?” “What do you tell them?” “What do you do with their hands, their feet, their teeth?” Like in the previous instance of interface recursiveness in this poem and that which we saw in Room #1, the second most popular choice, with 35% “[These green teeth will never be collected]” refers back to the utilitarian purpose of this survey, which is collecting reader’s data.

Backrooms #2 and #3

When asked about “Room #2,” I said it was about “loss, death and governmental violence” (Saum, 2020c), because this poem explo-

res the question of the 140,000 estimated bodies that still remain missing in Spain 46 years after the end of Franco’s dictatorship. There are no official accounts, however, because there has still not been a formal State inquiry into this, but associations like *La asociación para la recuperación de la memoria histórica* have been carrying out exhumations all across the nation since 2000 (Asociación). After the death of the dictator in 1975, there has been a lack of transparency around these violent deaths, a silence that was legitimized in the 1977 Amnesty Law. This law exonerated any crimes committed before December 15, 1976 (BOE, 1977) and has become known as the “pact of forgetting,” an institutional attempt that is reflected in the popular behavior of putting the past behind us in order to focus on the democratic future of Spain. I grew up in the shadow of this pact, and like all Spaniards of my generation was taught not to look back, to learn how to coexist with secrets by not

asking too many questions, by never digging too deep. Surveying people about their feelings about mass graves was perhaps my own way of breaking with the previous generation's pact.

Survey Monkey offers powerful analytical tools, but a lot of their inner workings are pretty opaque to the user. I couldn't help connecting the dots between these two different structures: the commercial survey platform that turns all interaction and—in the case of the poem—affect into abstract and obscure numerical data and the sociopolitical and institutional pacts that, in my country, have also successfully turned death into unworkable data as well. I decided to use my own data collected by "Room #2" to make two new poems.

In June 2020, I shared publicly the results of the open-ended statement/verse "Some of us are made to disappear:" and recited them in a YouTube performance I called "Backroom #2. A response poem." At that time, I had already run

out of the free analytics that Survey Monkey offers in their unpaid plan for the first 40 responses but decided to go ahead with this portion of collected data. I am used to not working with full data sets, just like coexisting with ghosts.

A month later, I took this same data set collected from "Room #2" and wrote another poem entitled "Made to Disappear." I shared the visualizations provided by the service, pie charts, bar graphs and tables and wrote an interpretative report, published both in digital form and print in the German-Austrian magazine, *Perspektive* in August:

"What does it mean to disappear?" I asked this question to a self-selected group of 44 anonymous participants during the months of February to June 2020.

40.91% of them understood disappearance to mean disintegrating into three short and conse-

Q4

Save as ▾

Some of us are made to disappear:

Answered: 41 Skipped: 0

RESPONSES (41)

WORD CLOUD

TAGS (0)

Sentiments: OFF

☐ Apply to selected ▾

Filter by tag ▾

Search responses

Showing 41 responses

☐ All

5/14/2020 12:17 PM

View respondent's answers

Add tags ▾

☐ completely

5/14/2020 12:15 PM

View respondent's answers

Add tags ▾

☐ ourselves

5/14/2020 12:15 PM

View respondent's answers

Add tags ▾

☐ true

5/14/2020 12:14 PM

View respondent's answers

Add tags ▾

0:14 / 1:17

Interactive Storytelling Art

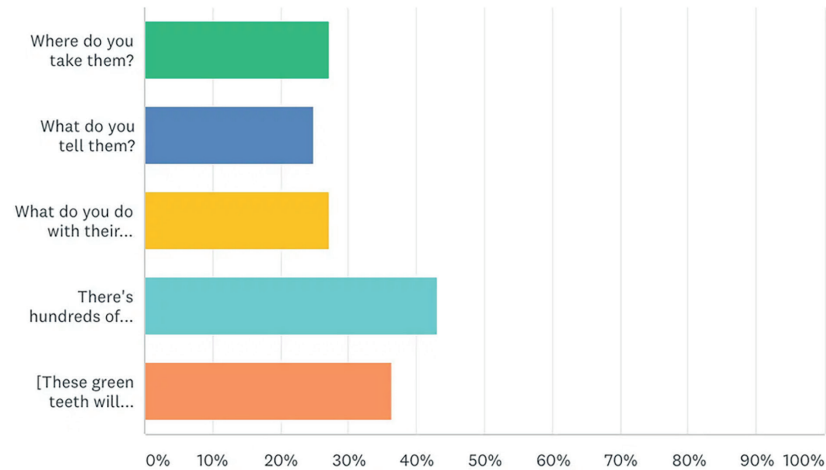
Q9

Customize

Save as▼

How do you make someone disappear?

Answered: 44 Skipped: 0



ANSWER CHOICES	RESPONSES	
Where do you take them?	27.27%	12
What do you tell them?	25.00%	11
What do you do with their hands, their feet, their teeth?	27.27%	12
There's hundreds of thousands of hands and feet buried under freeways, dams and playgrounds in my country	43.18%	19
[These green teeth will never be collected]	36.36%	16
Total Respondents: 44		

texts of discomfort

cutive dashes and, out of which

— — — or perhaps, in of which — — —

*100% selected a single dot to contain the fleeting
essence of what they mean by*

void.

*Unfortunately, the data revealed some discre-
pancies about which exact dot*

["....."]

*reflected best the respondents' sense of disap-
pearing. Alas, here lay the limitations of repre-
senting the incommensurable vastness of the
universe*

using dots.

*Faced against the limits of human comprehen-
sion, 23 participants believed non-existence to
take the shape of a fruit [i.e. a pear].*

*More significantly, 56.82% of respondents se-
lected "mass graves" as synonym of disappea-
ring, while 43.18% confirmed that there's hun-
dreds of thousands of*

hands and feet buried

under freeways,

damns and

playgrounds in their country.

*I never understood numbers. Thus, I can only
confirm that:*

— — — = mass graves." (Saum, 2020b)

In that same magazine, I explained that “Most people can’t understand large numbers, that’s why we turn to visualizations. However, most images are impenetrable” (Saum, 2020c). When it comes to digital interfaces, their hermeticism has made it almost impossible to know what lies behind them, what algorithms power them and what is behind that set of instructions. Looking at a compact set of soil is not that different, when you are not allowed to dig and exhume the bones buried there. “Made to Disappear,” this backroom poem plays with the irony of this kind of visualizations. I show readers’ responses in a quantifiable way in order to write a report that ends up being as compact and obfuscated as the reality it refers to. This is not an interactive poem in any way, it belongs to print. It is static and unchangeable, reinforcing Katherine Hayles’ famous dictum that “print is flat, code is deep” (Hayles, 2004, p. 67). The atrocities this poem deals with have remained care-

fully trapped under Spanish soil, rendering the land as flat as print; there is no digital depth in which to dig anymore.

Room #3

In May 2020, as we were getting used to the idea of a pandemic that would last not months but years, I released “Room #3.” Unlike “Room #1” and “Room #2,” or its two backrooms, this is not built using any kind of survey platform but is a simpler hypertext rich HTML site. Even though I consider it to be part of *Corporate Poetry*, it is a crossover work between this and my earlier The Offline Website Project (TOWP) that consists of a series of websites meant only to run locally on the computer where these sites are created and hosted. Because these websites would never be part of the web, TOWP users needed physically to travel to my house and participate in a site-specific experiencing of the works. The idea was to create digital objects that would

be unique material objects: non-replicable, non-sharable, non-transferable. In other words, not invisible, always local and ingrained in a particular place and concrete home computer.

The logic of their materiality challenges directly the beliefs about the immateriality of digital technologies, while the decision to emphasize my own face as protagonist of all the sites brings attention back to the subject and the body. New materialist critics have told us that things always exist in a concrete space and time but they are always connected and are co-constituted by other material existence. The interdependency and interrelation that shapes all life and events on Earth, from the ontological discussions of Karen Barad to the philosophical construction of Donna Haraway's Chthulucene to the mushrooms at the end of the world of Anna Tsing, all emphasize the need to make kin and coexist with a world in collapse. The "webiness," or tentacular structure in Haraway's lin-

go, of these sites expands outside of them and brings them and their users back into my home, materializing the networks of travel, energy use and, eventually, the emergence of poetry from the user's engagement with these digital works of poetry.

The domestic constraints of regular travel that existed before COVID-19 meant, however, that the sites would rarely be experienced in their true interactive form and thus, access to them was limited to video documentation. This, in its own, pointed to the tension and almost impossibility of living by certain environmental standards in late capitalism and its larger destructive constraints. The shelter in place orders that eventually locked us all in our homes brought an acute new reality to these poetic experiments. I built "Room #3," an interactive HTML website that, this turn around, would never exist as such, but would from its inception be considered an unworkable website: a video recording,

in other words, that exposes our contemporary relation with the video conferencing platform Zoom and quarantining.

“Room #3” begins by asking the viewer why they are watching a video of someone else’s interaction with a website, providing an answer as well: “because you are alone in your house, and no one is allowed over/ that’s how it feels/ but don’t worry/ you are never alone.” When the cursor on screen clicks “Enter Room #3,” a new window opens, and we enter the familiar interface of Zoom. Two chat screens on speaker view, the larger one showing a recording of myself on

mute, trying to speak to a black screen (camera off). Eventually, the speaking image realizes she can’t be heard and the video stops. The illusion of the call is broken, and the cursor on the screen clicks on the smaller black screen to open a new video chat room. The windows here multiply showing four screens. The earlier speaker is now joined by another one, showing the same person (me) now asking to “unmute yourself” before both screens freeze, again breaking the immediacy of a real conversation. The cursor clicks on one of the new black screens and the chat room is now occupied by two more cha-

9

you are never alone

Enter Room #3*

*you are about to waste 5 minutes
of your life

racters, indeed still different versions of myself, trying to connect. They remind each other who is the host, who needs to unmute, who has their camera off... No meaningful communication happens, they are all happy to see each other online, however. The videos loop in a mechanical manner, repeating their problems in establishing a connection for about a minute until the cursor clicks on a small button that asks "Feeling less alone? Leave room." Once the user leaves the room, a series of messages appear reassuring her there is no need ever to feel alone, and a new screen appears showing one of those characters working with her computer unaware of her being recorded. She is not participating in any failed call, but she is still being videotaped, being counted. New screens start appearing and multiplying showing all kinds of content: funeral calls, classes, meetings, religious services, Zoom booming with hate symbols, and every time the user is prompted to "Leave meeting"

new screens appear until she "Ends Meeting for All." A final reminder appears on a white screen: "They are always watching."

Søren Pold reads this poem as a meditation on the creeping loneliness behind the screen, about being present "without being present" and our simultaneous entrapment within the small rooms that a platform such as Zoon delimits (Pold, 2020). The construction of reality that is afforded by the platform mixes presence and absence, and while the video is on showing my own face and so many others, there is a sense of hidden realities within the remediated aspect of the service. Eventually, Pold wonders: "hvem det egentlig er derude, der kigger på os?" (Pold, 2020), or "who exactly is out there looking at us?."

Conclusion

Wondering about who is looking is perhaps another way of asking who may be counting. “Who” or “what,” since the posthuman algorithmic hand that is behind most AI analytics is yet another unsolved mystery for most users of these everyday technologies. We are constantly interacting with other intelligences and mate-

rial bodies that constitute our technological infrastructures, yet we are not fully aware of this cohabitation, let alone our inter-dependence. A way to highlight this precarious inter-dependence—I use the prefix inter- because I assume technology has not reached singularity yet, even if one side of the balance relies more heavily on the other—is to create works that bring infrastructure to the forefront as I have been explo-

texts of discomfort

10



Feeling less alone? [Leave room](#)

ring with these poems.

My preferred technique to show creative intertwining with external infrastructures is always to build upon already existing digital platforms that bring a level of familiarity to any user and do not require extensive technical knowledge. Rather than operating within open-source software, on most occasions I have privileged commercial services that explicitly rely on user generated data to exist, e.g., YouTube, Google forms, Survey Monkey, and that replicate the predatory logic of late capitalism. A perfect example of this unequal symbiosis is the appearance of providing a free service to users who want to post and share videos or surveys widely while feeding on their behavioral and resulting data. As a user I provide content and valuable information to the YouTube engine, for instance, and effectively lose control of its circulation and economics beyond the act of publication. Whatever poem that I decide to share on YouTu-

be necessarily participates with the platform's codes of, for example, virality, even if my poems never go viral. I can choose to create purposely boring and anti-viral poetry to raise awareness of the exploitation of the professional amateur that YouTube has created, but regardless of their content, the poems and whichever interaction users have with them, are also feeding the larger machine. This is because even if the poems are "mine," they are only guests in someone else's home. In Google's mansion, more precisely.

And as such, their door can be closed at any moment. All *Corporate Poetry* is built and stored by either Google, Zoom or SVMK Inc. Content has not been created or endorsed by them, as their disclosures clearly state, but my poems are only guests on a platform that could limit my access to them or shut the surveys all together. If the platforms were to go down, so would my poems, disappearing forever because once I have built them I have to accept that I have contribu-

ted to an unequal economy that allows me to offer my cultural capital, creativity and labor—not to mention the resulting data generated from these processes—in exchange for a certain right of use, but never ownership. The use I make gives me something, but it will always be disproportionately small in relation to what I have to give in exchange. Isn't this the perfect example of life in late capitalism? There is no illusion of sustainability or collaborative coexistence, but predatory symbiosis or, perhaps better put, of viral reproduction at the guest's expense, in this case.

Digital artist Eugenio Tisselli has written about code as “the vector that transforms your desires into data // code extracts desires from your body, delivers them to the machine, and transports them through the full stack” (Tisselli, 2019). In doing this, code is what connects us to the material world having real environmental implications—Tisselli talks about the burning

forests that are the result of algorithmic economics, but the implications are wider and all-encompassing as I have mentioned earlier.

On the other hand, the compression of code also references the obscurity of impulses behind human desire, or “like the DNA of a virus enclosed within a protein cloak. Code that spreads, apparently insignificant in size, easy to copy and paste, yet cryptic and immanent” (Tisselli, 2020). The materiality of digital technologies and their co-constituting code are distributed through a wide variety of systems and infrastructures as I have shown but their dispersion happens in an almost invisible manner. Code travels and gets executed locally and externally, spreading indeed like a virus. In the post-COVID world we now inhabit, the metaphor is self-explanatory. Its propagation depends highly on human behavior, a behavior that is increasingly dependent on cost and benefit evaluations, optimization and rationalization—which

as Tisselli himself has pointed out, following Franco Berardi, represents the homo economicus—and as such, participates in the same logic of executable code (Tisselli, 2020). The evolution of digital technologies and capitalism are now more intertwined than ever. Humans acting like machine code, machine code spreading like a biological virus, and together changing material life in the world—creating even new viruses like the COVID-19 that has changed the course of our world forever.

In a much more modest way, *Corporate Poetry* participates with this same logic. It is built on external codes that shape it and determine the way the poems look and sound. The poems travel and gather user data, and this gets repurposed with a poetic intent that is entangled in the perverse logic of their platforms and their profit. The emotion they generate and how poetry resonates in our bodies connects with the many other invisible bodies the poems refer

to—the mother's, the disappeared; all victims of infrastructural violence—as well as the other silicon and cobalt bodies that hold everything together and are also subject to invisible violence. Invisible and material, like the forces that brought 2020 to be the year of collapse. Surprisingly enough, just like the virus, some of us are still here.

References

- Asociación para la recuperación de la memoria histórica. (n.d.). Exhumaciones. <https://memoriahistorica.org.es/category/s5-documentos/exhumaciones/>
- Bolter, D. J, and Grusin, R. (1999). *Remediation: Understanding New Media*. Cambridge: The MIT Press.
- Emerson, L. (2014). *Reading Writing Interfaces: From the Digital to the Bookbound*. Minneapolis: University of Minnesota Press.
- Ferreboeuf, H. et al. (2019). Towards Digital Sobriety. *The Shift Project. The Carbon Transition Think Tank*. https://theshiftproject.org/wp-content/uploads/2019/03/Le-an-ICT-Report_The-Shift-Project_2019.pdf
- Hayles, K. (2004) Print Is Flat, Code Is Deep: The Importance of Media-Specific Analysis. *Poetics Today*, 25.1, 67-90.
- Ley 46/1977, de 15 de octubre, de Amnistía. (1977). <https://www.boe.es/buscar/act.php?id=BOE-A-1977-24937>
- Pold, S. B. (2020). Digital litteratur fra revolution til pandemi. *Litteraturnmagasinet Standart*, 34 (2/3), 48-51.
- Shapshak, T. (2019). Cobalt Lawsuit Against Tech Giants Over Child Labour A 'Global Flashpoint Of Corporate Social Responsibility'. *Forbes*. Dec 18, 2019 <https://www.forbes.com/sites/tobyshapshak/2019/12/18/cobalt-law-suit-against-tech-giants-over-child-labour-a-global-flashpoint-of-corporate-social-responsibility/?sh=67696489d706>
- Saum, A. (2019). The Offline Website Project. <http://www.alexsaum.com/the-offline-website-project/>
- Saum, A. (2020a). Backroom #2. A response poem. <https://youtu.be/rfutmKSKbQE>
- Saum, A. (2020b). Made to Disappear. <http://www.alexsaum.com/made-to-disappear/>
- Saum, A. (2020c). Made to Disappear. *Perspektive, Avantgarde Boot Camp*. Summer 2020. <https://abc.perspektive.at/lite-alex-corporate-poetry/>
- Saum, A. (2020d). Room #1 and Room #2. The New River. <https://thenewriver.us/room-1-and-room-2/>
- Saum, A. (2020e). Room #3. <https://youtu.be/b2yFid4-FWc>
- Tisselli, E. (2019). *Amazon*. <http://motorhueso.net/amazon/>
- Tisselli, E. (2020). "On Amazon," Talk at ELO2020 Annual Conference. July 17, 2020

Images

1. Room #1" by Alex Saum. Opening screen. Detail;
2. Room #1" by Alex Saum. Example of the poem's poetic use of Google Form multiple choice option;
3. Room #1" by Alex Saum. Final screen. Detail;
4. Room #2" by Alex Saum. Example of the poem's poetic use of Survey Monkey's open-ended response option;
5. Room #2" by Alex Saum. Text extracted from one of the poem's multiple choice questions;
6. Room #2" by Alex Saum. Example of the poem's poetic use of Survey Monkey's multiple choice option;
7. Backroom #2. A Response Poem" by Alex Saum. Screenshot of YouTube reading;
8. Backroom #3. Made to Disappear" by Alex Saum. Bar graph visualizing data gathered from "Room #2;
9. Room #3" by Alex Saum. Final opening screen;
10. Room #3" by Alex Saum. Looping video call. Screenshot.

Alex Saum-Pascual is a digital artist, poet and professor. She is author of #Postweb! Crear con la máquina y en la red (Iberoamericana-Vervuert 2018) and numerous articles on digital media and literature in the Spanish-speaking world. Her digital artwork and poetry has been exhibited in galleries and art festivals in the United States, Canada, Mexico, Spain, Norway and the UK. Currently, she is Associate Professor of Contemporary Spanish Literature and New Media at the University of California, Berkeley. She is also part of the Executive Committee of the Berkeley Center for New Media and the board of directors of the Electronic Literature Organization.

twitter: @alexsaum
<https://www.alexsaum.com/>

Medium: Web-based audio

Year of Release: 2020

Link to the artwork: <https://gusing.itch.io/patternings>
(password: Patt2020)

Video artist: <https://vimeo.com/460611241>

PATTER(N)INGS: Apt 3B, 2020

Lissa Holloway-Attaway & Jamie Fawcus

"Refreshing to come across an audio-only piece, which shows that creators do not always need to showcase the latest and flashiest technologies to produce strong works that resonate with audiences."

ICIDS 2020 Jury

PATTER(N)INGS, Apt. 3B, 2020: **sound as affective space for world-building**

Abstract

In our chapter, we reflect on our design of *PATTER(N)INGS: Apt 3B, 2020*, an interactive audio experience expressing some of the anxieties and challenges of living in and through 2020+ during a global pandemic in lockdown state. Our web-based audio application simulates a domestic space and its embodied inhabitants (human, non-human, and other) as encountered by a single user (or “eavesdropper”). The pandemic world we evoke is both specific and timeless, located and transhistorical, in its remixing of literary materials and other sonic agents that destabilize fixed subject identities and rational cognitive states in favor of affective, ontological ones. We draw on theoretical influences from critical posthumanism, feminist new materialism and non-human narrative as well work in electroacoustic musical composition and audio experimentation. We document our process of generative dynamic world-building and interactive digital storytelling as formulated through distributed agencies/embodiments, fragmentation (literary and sonic), affective acoustic space-making, and psychoacoustic manipulation.

Keywords

affect, interactive audio narrative, acoustic space, world-building, posthumansim, non-human narrative, embodiment

I know where I am, but I do not feel as though I'm at the spot where I find myself. To these dispossessed souls, space seems to be a devouring force. Space pursues them, encircles them, digests them. . . . It ends by replacing them. Then the body separates itself from thought, the individual breaks the boundary of his skin and occupies the other side of his senses. He tries to look at himself from any point whatever in space. He feels himself becoming space, dark space where things cannot be put. He is similar, not similar to something, but just similar. And he invents spaces of which he is the "convulsive possession." (p.30)

---Callois, "Mimicry and Legendary Psychasthenia" (1935)

Terrapolis is a fictional integral equation, a speculative fabulation. Terrapolis is n-dimensional niche space for multispecies becoming-with. Terrapolis is open, worldly, indeterminate, and polytemporal. Terrapolis is a chimera of materials, languages, histories [...] Terrapolis is in place; Terrapolis makes space for unexpected companions. Terrapolis is an equation for guman, for humus, for soil, for ongoing risky infection, for epidemics of promising trouble, for permaculture. Terrapolis is the SF game of response-ability. (p.11)

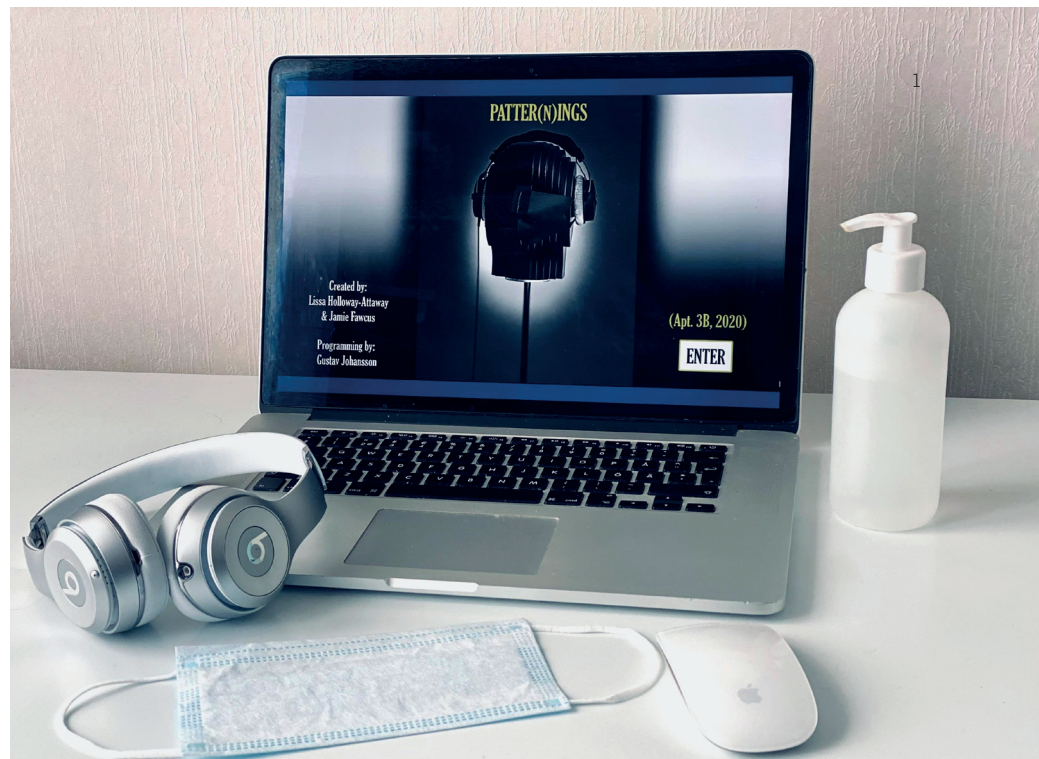
--Haraway, *Staying with trouble: Making Kin in the Chtulucene* (2016)

¹ This project was made possible thanks to the generous support from the Poetry and the Senses 2020 fellowship, Arts Research Center, at UC Berkeley.

Introduction: driving embodied disruption and difference

What does it mean to be present in space, and how do we distinguish ourselves from our worlds and from others? What are the cognitive, embodied, and sensory forces that converge to help us become aware? How can we familiarize our beings in a defamiliarized world invaded by foreign bodies?

These are some of the issues we explore in our work *PATTER(N)INGS, Apt. 3B, 2020*



(“PATTER(N)INGS”), an audio experience expressing some of the anxieties and challenges of our contemporary 2020+ troubled times. *PATTER(N)INGS* is an interactive web-based audio application (also available for download) that simulates a domestic space and its embodied inhabitants (human, non-human, present, reminiscent, and polysensual) encountered during lockdown by a single user (or “eavesdropper”). The eavesdropper uses a mouse to activate a cursor moving over a blackened computer screen to discover audio story fragments (such as vocal narration and abstract, distorted sound and noise), while trying to piece together a narrative difficult to assemble. The work is designed to engage an intimate connection with a single listener, ideally in isolation from others, to sharpen their auditory focus as a receptive and generative modality for storymaking and world-building. However our aim is not to restrict sensory perception; rather it is to multiply and reveal the synesthetic

and somatic effects of the complex media worlds we make, particularly as we have learned to encounter them at a time when a viral presence renders our world-spaces and living conditions incomprehensible.

We are inspired, and intrigued, by the destabilized insects of our epigraph in Caillois’ reflection on natural mimicry—where tiny bodies attempt to become indeterminate, indistinguishable from the natural contexts they inhabit, camouflaged to blend in for survival. The bodies we engage in our work (live and virtual ones) also enter dark spaces, spaces of irrational and disorienting psychasthenia (30). In this state bodies are between self and context, and cognitive function is challenged. (*Who am I? Where do I begin and end? And how can you know me?*) But for Caillois, and for others who come after and inspire us further—the affect, posthuman, non-human, and new material theorists, for example—we question the possibi-

lities inherent in darkness, like our blackened computer screen (Alaimo, 2010; Alaimo, 2016; Alaimo & Hekman, 2007 ; Barad, 2007; Bennett, 2012; Braidotti, 2013; Grosz, 1994; Haraway, 2016; Hayles, 1999; Parikka, 2010; Wolfe, 2010). These conceptual spaces, where identity is fragmented, distributed and sensorially unfamiliar, can be liberating in their ironic display (un-display) of primal self-desire to escape the bonds and bounds of abstract rational human subjectivity. Instead we offer a mode to become more open to mixed and muddled, material states of affective being.

Counter to the debilitating psychosis of figure/ground disorientation that Caillois evokes (even while being intrigued by the notion of indeterminate identity), Stacey Alaimo, for example, in *Bodily Natures: Science, Environment, and the Material Self* **embraces the uncertainty and possibilities for new perspectives when a subject-body blends with an envi-**

ronment-object, when a natureculture merging happens to create a “mobile space” (2) for daring interaction. Such transcorporeal confusion, where “the human is always intermeshed with the more-than-human world” (2), is potentially freeing as it brings the human (subject) and natural (other) world together in unfamiliar patterns, offering new insights about their relationship, present and future. Alaimo reminds us of the power of transitional, mixed states where Identities do not always align with individual, single subjects:

Indeed, thinking across bodies may catalyze the recognition that the environment, which is too often imagined as inert, empty space, or as a resource for human use, is in fact, a world of fleshy beings with their own needs, claims, and actions. By emphasizing the movement across bodies, trans-corporeality reveals the interchanges and interconnections between various bodily natures. (2)



In *PATTER(N)INGS*, we try also to find and release the energies of bodies interfacing in dynamic and mobile spaces, using the hand and ear, and the force-energies of bits and pieces of pasts and presents, real and virtual states, that can call the material world into action.

Our design spaces, then, foreground interconnectedness among bodies and worlds, subjects and objects, texts and sounds, voices and noises, but they are not ordered or orderly. We create flow states through and across bodies to resist hierarchies and rational control, recognizing this messiness as potential for telling new stories (about ourselves, our affects, our time-challenged histories) and seeing worlds differently. Like Donna Haraway in *Staying with the Trouble* (2016), we consider the troubled state of the 2020+ world, as an invitation to tell our storied experiences through a drive to empathy and discovery, even if the road is entangled and challenged. And Haraway affirms for us that the contemporary world is disrupted and in need of disruption, but it doesn't need simple

“techno-fixes” (5) or salvation myths. The world of *PATTER(N)INGS* we designed reflects these “vastly unjust patterns of pain and joy” (1) that we see as necessary elements enroute to resurgence—embracing all of the indeterminacy that word evokes.

(Who and what can resurge in a disrupted viral world? How do/will we know its effects and consequences? What does it mean to find kinship with foreign others, while also remaining socially distanced and isolated. How do we, as Haraway claims, live and die well?)

These questions trouble us. And yet we believe we do have to connect with the troubled world, especially now in our post COVID-19 pandemic times. As disturbing as we may find the experience of living and dying well in our contemporary plague world (one familiar to artists like Boccaccio, Pepys, Gilman and LeGuin, whom we remix in our story, the matters at hand, like the eavesdropper’s hand who moves the mouse within Apt. 3B, may also be pathways to find

imaginative and speculative sites for renewal and discovery. Our new normal may in fact be one pathway to resurgence. Haraway, for example, imagines our creative world-space, the Anthropocene Age, one formed in the aftermath of human devastation on earthly systems, also by an *other*, name: *Terrapolis*. She defines it as an “n-dimensional niche space (11),” where many possibilities for embodied beings coexist in a “chimaera of materials, language, histories” (11). We, in fact, borrow her indeterminate “n” and embed it in the middle of our *PATTER(N)INGS* title--while also alluding to the patter (chatter, sounds) and patterns (new configurations) of our troubled world that intrigue us.

Curiosity is, in fact, a powerful tool, and we raise it explicitly as part of our design to motivate eavesdroppers. Who isn’t drawn to impossible, implausible, and uncanny bodies, like the mythological *Chimera* identified by Haraway as an inhabitant of *Terrapolis*? Comprised of lion, goat, and snake, she (the creature) is more than hybrid in her bestial forms, and like her, we like

to mix it up. And like Haraway, we are drawn to the creative impulse to follow curiosity towards newness, and we see this mixing as a kind of curious form of “risky infection” (11). This is a state where boundaries between human identities, and all the other worldly bodies and matters, become porous, where Infected bodies, chimera bodies, create new world spaces where bodies flow into each other to discover new alliances and relationships outside familiar patterns for being. Our discussion of materiality, viral bodies, affective and interactive sound spaces in *PATTER(N)INGS* further explicates our designs, and we hope you will follow us to discover more...

Material expression beyond understanding

Our focus on audio and non-linear narrative as the primary transmission and transformation delivery mode for *PATTER(N)INGS* highli-

ghts our desire to move away from traditional semiotic systems—primarily linguistic and visual. We focus on non-representational storytelling (less conclusive and rational, more abstract in nature) embedded in our audio, spoken and otherwise, expressed in sound (laughter, crying, scratching surfaces, water dripping, bird calls). As such, there is no true closure in our spaces (in the rooms of Apt. 3B) or in our stories, pieced together with fragments from original work and from inspirational texts and storytellers that don’t properly cohere. The texts we mingle with our own (See Figures 3 and 4), were selected to be evocative of states of distress and disease/unease. Gilman’s work in particular, one that focuses on a first person account of woman forced into lockdown, on the verge of madness due to her Hysteria diagnosis (from the patriarchal medical profession), assists us in transmitting feelings of disorder. Along with the other text fragments, including first-hand accounts of ‘the Plague’ (From Boccaccio and Pepys) are used to create a choir of other historical voices that share the same feelings, using different words,



"I am sitting by the Window in this Atrocious Nursery."

THE YELLOW WALL-PAPER.

By Charlotte Perkins Stetson.



house, and reach the height of romantic felicity—but that would be asking too much of fate!

Still I will proudly declare that there is something queer about it.

T is very seldom that mere ordinary people like John and myself secure ancestral halls for the summer.

A colonial mansion, a hereditary estate, I would say a haunted

house, why should it be let so cheaply? And why have stood so long untenanted?

John laughs at me, of course, but one expects that in marriage.

John is practical in the extreme. He has no patience with faith, an intense horror of superstition, and he scoffs openly at any talk of things not to be felt and seen and put down in figures.

John is a physician, and *perhaps*—(I would not say it to a living soul, of course, but this is dead paper and a great relief to my mind—) *perhaps* that is one reason I do not get well faster.

You see he does not believe I am sick! And what can one do?

If a physician of high standing, and one's own husband, assures friends and relatives that there is really nothing the matter with one but temporary nervous depression—a slight hysterical tendency—what is one to do?

My brother is also a physician, and also of high standing, and he says the same thing.

So I take phosphates or phosphites—whichever it is, and tonics, and journeys, and air, and exercise, and am absolutely forbidden to "work" until I am well again.

Personally, I disagree with their ideas.

Personally, I believe that congenial work, with excitement and change, would do me good.

But what is one to do?

I did write for a while in spite of them; but it *does* exhaust me a good deal—having to be so sly about it, or else meet with heavy opposition.

I sometimes fancy that in my condition if I had less opposition and more society and stimulus—but John says the very worst thing I can do is to think about my condition, and I confess it always makes me feel bad.

So I will let it alone and talk about the house.

The most beautiful place! It is quite alone, standing well back from the road, quite three miles from the village. It makes me think of English places that you read about, for there are hedges and walls and gates that lock, and lots of separate little houses for the gardeners and people.

There is a *delicious* garden! I never saw such a garden—large and shady, full of box-bordered paths, and lined with long grape-covered arbors with seats under them.

There were greenhouses, too, but they are all broken now.

There was some legal trouble, I believe, something about the heirs and co-heirs; anyhow, the place has been empty for years.

That spoils my ghostliness, I am afraid, but I don't care—there is something strange about the house—I can feel it.

I even said so to John one moonlight evening, but he said what I felt was a *draught*, and shut the window.

I get unreasonably angry with John sometimes. I'm sure I never used to be so sensitive. I think it is due to this nervous condition.

But John says if I feel so, I shall neglect proper self-control; so I take pains to control myself—before him, at least, and that makes me very tired.

I don't like our room a bit. I wanted one downstairs that opened on the piazza and had roses all over the window, and such pretty old-fashioned chintz hangings! but John would not hear of it.

He said there was only one window and not room for two beds, and no near room for him if he took another.

He is very careful and loving, and hardly lets me stir without special direction.

I have a schedule prescription for each hour in the day; he takes all care from me, and so I feel basely ungrateful not to value it more.

He said we came here solely on my account, that I was to have perfect rest and all the air I could get. "Your exercise depends on your strength, my dear," said he, "and your food somewhat on your appetite; but air you can absorb all the time." So we took the nursery at the top of the house.

It is a big, airy room, the whole floor nearly, with windows that look all ways, and air and sunshine galore. It was nursery first and then playroom and gymnasium, I should judge; for the windows are barred for little children, and there are rings and things in the walls.

The paint and paper look as if a boys' school had used it. It is stripped off—the paper—in great patches all around the head of my bed, about as far as I can reach, and in a great place on the other side of the room low down. I never saw a worse paper in my life.

One of those sprawling flamboyant patterns committing every artistic sin.

It is dull enough to confuse the eye in following, pronounced enough to constantly irritate and provoke study, and when you follow the lame uncertain curves for a little distance they suddenly commit suicide—plunge off at outrageous angles, destroy themselves in unheard-of contradictions.

as representations of their world. We depend on these looping, distributed and entangled agents to carry our narrative and our sounds, deliberately dispersed throughout the rooms of our apartment with no central axis to anchor our eavesdropper. Even the number of rooms in Apt 3B should be difficult to know. Although we insert the creaking sound of opening and closing doors when an eavesdropper chooses to exit a room, the movement to a new space is hazy. There is enough familiarity among the rooms that the boundaries between them should feel blurred, and it should be unclear when one has explored all of the rooms, finding all of the sound fragments in each. Eavesdroppers, in fact, always carry some sounds with them from room to room, whether they are aware of it or not. We aim for a certain repetitiveness among the rooms, a state that borders between tedium and familiarity--one surely people who have been in lockdown, or spent enough time in a Zoom room, now know too well. Certainly it's own for the female narrator of Gilman's work, who becomes increasingly obsessed with the pattern of the

yellow wallpaper. (See Figure 4.)

Despite such confusion, we bring bodies into alliance with one another by playing with localization—that is making and unmaking spaces for the eavesdropper to discover. For us, the hand and the mouse, like the ear, are recording devices, receptors and transmitters at once, and they seek knowing. We isolate their affordances and functions from the *body as a whole* in order to hyper-focus our attention on the disparate and unique parts that come together to discover/reveal information about the world in process. We chose not to have a keyboard interface, for example, so that the swirling (patterned) movements of the mouse over the desk, and the cursor over the screen, become a form of tactile embodied hunting, a reaching for connection. Information is discovered as an act for connection, not completely fulfilled.

The ear too, foregrounded by the request for eavesdroppers to use blindfolds, facemasks, and headphones, and by our use of binaural audio to create acoustic dimension, was used to bring the ear forward as a storytelling device

If a physician of high standing, and one's own husband, assures friends and relatives that there is really nothing the matter with one but temporary nervous depression—a slight hysterical tendency—what is one to do?

My brother is also a physician, and also of high standing, and he says the same thing.

So I take phosphates or phosphites—whichever it is, and tonics, and journeys, and air, and exercise, and am absolutely forbidden to “work” until I am well again.

Personally, I disagree with their ideas. Personally, I believe that congenial work, with excitement and change, would do me good.

But what is one to do?

I did write for a while in spite of them; but it *does* exhaust me a good deal—having to be so sly about it, or else meet with heavy opposition.

I sometimes fancy that in my condition if I had less opposition and more society and stimulus—but John says the very worst thing I can do is to think about my condition, and I confess it always makes me feel bad.

So I will let it alone and talk about the house.

The most beautiful place! It is quite alone, standing well back from the road, quite three miles from the village. It makes me think of English places that you read about, for there are hedges and walls and gates that lock, and lots of separate little houses for the gardeners and people.

There is a *delicious* garden! I never saw such a garden—large and shady, full of box-bordered paths, and lined with long grape-covered arbors with seats under them.

There were greenhouses, too, but they are all broken now.

There was some legal trouble, I believe, something about the heirs and co-heirs; anyhow, the place has been empty for years.

That spoils my ghostliness, I am afraid, but I don't care—there is something strange about the house—I can feel it.

I even said so to John one moonlight evening, but he said what I felt was a *draught*, and shut the window.

I get unreasonably angry with John sometimes. I'm sure I never used to be so sensitive. I think it is due to this nervous condition.

But John says if I feel so, I shall neglect proper self-control; so I take pains to control myself—before him, at least, and that makes me very tired.

I don't like our room a bit. I wanted one downstairs that opened on the piazza and had roses all over the window, and such pretty old-fashioned chintz hangings! but John would not hear of it.

He said there was only one window and not room for two beds, and no near room for him if he took another.

He is very careful and loving, and hardly lets me stir without special direction.

I have a schedule prescription for each hour in the day; he takes all care from me, and so I feel basely ungrateful not to value it more.

He said we came here solely on my account, that I was to have perfect rest and all the air I could get. “Your exercise depends on your strength, my dear,” said he, “and your food somewhat on your appetite; but air you can absorb all the time.” So we took the nursery at the top of the house.

It is a big, airy room, the whole floor nearly, with windows that look all ways, and air and sunshine galore. It was nursery first and then playroom and gymnasium, I should judge; for the windows are barred for little children, and there are rings and things in the walls.

The paint and paper look as if a boys' school had used it. It is stripped off—the paper—in great patches all around the head of my bed, about as far as I can reach, and in a great place on the other side of the room low down. I never saw a worse paper in my life.

One of those sprawling flamboyant patterns committing every artistic sin.

It is dull enough to confuse the eye in following, pronounced enough to constantly irritate and provoke study, and when you follow the lame uncertain curves for a little distance they suddenly commit suicide—plunge off at outrageous angles, destroy themselves in unheard of contradictions.

It is getting to be a great effort for me to think straight. Just this nervous weakness I suppose.

And dear John gathered me up in his arms, and just carried me upstairs and laid me on the bed, and sat by me and read to me till it tired my head.

He said I was his darling and his comfort and all he had, and that I must take care of myself for his sake, and keep well.

He says no one but myself can help me out of it, that I must use my will and self-control and not let any silly fancies run away with me.

There's one comfort, the baby is well and happy, and does not have to occupy this nursery with the horrid wallpaper.

If we had not used it, that blessed child would have! What a fortunate escape! Why, I wouldn't have a child of mine, an impressionable little thing, live in such a room for worlds.

I never thought of it before, but it is lucky that John kept me here after all, I can stand it so much easier than a baby, you see.

Of course I never mention it to them any more—I am too wise,—but I keep watch of it all the same.

There are things in that paper that nobody knows but me, or ever will.

Behind that outside pattern the dim shapes get clearer every day.

It is always the same shape, only very numerous.

And it is like a woman stooping down and creeping about behind that pattern. I don't like it a bit. I wonder—I begin to think—I wish John would take me away from here!

It is so hard to talk with John about my case, because he is so wise, and because he loves me so.

But I tried it last night. It was moonlight. The moon shines in all around just as the sun does.

I hate to see it sometimes, it creeps so slowly, and always comes in by one window or another.

John was asleep and I hated to waken him, so I kept still and watched the moonlight on that undulating wallpaper till I felt creepy.

The faint figure behind seemed to shake the pattern, just as if she wanted to get out.

I got up softly and went to feel and see if the paper *did* move, and when I came back John was awake.

“What is it, little girl?” he said. “Don't go walking about like that—you'll get cold.”

I thought it was a good time to talk, so I told him that I really was not gaining here, and that I wished he would take me away.

“Why, darling!” said he, “our lease will be up in three weeks, and I can't see how to leave before.”

“The repairs are not done at home, and I cannot possibly leave town just now. Of course if you were in any danger, I could and would, but you really are better, dear, whether you can see it or not. I am a doctor, dear, and I know. You are gaining flesh and color, your appetite is better, I feel really much easier about you.”

“I don't weigh a bit more,” said I, “nor as much; and my appetite may be better in the evening when you are here, but it is worse in the morning when you are away!”

“Bless her little heart!” said he with a big hug, “she shall be as sick as she pleases! But now let's improve the shining hours by going to sleep, and talk about it in the morning!”

“And you won't go away?” I asked gloomily.

“Why, how can I, dear? It is only three weeks more and then we will take a nice little trip of a few days while Jennie is getting the house ready. Really dear you are better!”

“Better in body perhaps—” I began, and stopped short, for he sat up straight and looked at me with such a stern, reproachful look that I could not say another word.

“My darling,” said he, “I beg of you, for my sake and for our child's sake, as well as for your own, that you will never for one instant let that idea enter your mind! There is nothing so dangerous, so fascinating, to a temperament like yours. It is a false and foolish fancy. Can you not trust me as a physician when I tell you so?”

(not only a receptacle for holding). Ears are unique in their vulnerability. An unexpected loud, piercing, or disturbing noise (such as the baby cries, the sound of peeling duct tape, distant screams and the laughing within Apt 3B) can unravel one's senses, render one afraid, but also curious. This ear-iness is an uncanny way to engage with information. Soundscape composer R. Murray Shafer reminds us that part of the vulnerability of the ear is that it can't be closed, unlike one's eyes, which can literally shut out input. He reminds us we have no earlids (1977) and they are then constantly open. For Shafer, who invented the term schizophonia to describe the way eletroacoustic music (EAM) effects can split a sound from its source, notes that creating this kind of input was a way to destabilize rational (normal) methods for listeners trying to process acoustic information. The psychoacoustic phenomena included in our work (the binaural sounds and fragmentation/granulation of sound materials that de-centralize and deconstruct the sounding world, for example) distribute sounds in these schizophonic ways. They put them in and out of context and relationality. (Our piece is set in 2020, after all, and this is a confused state

we have come to accept and endure.)

We are also inspired by contemporary news media that attempt to report incomprehensible phenomena, like a viral pandemic and its aftermath, making real what seems impossible to understand. We are directly influenced by the May 2020 New York Times publication of all the names, ages, and partial obituaries for COVID-19 victims marking 100,000 US deaths (Grippe, 2020). The whispering of "100,000" over and over again in our work marks a kind of referential refrain for a US death toll that mid-2020 seemed unbelievable. (Is it more or less incomprehensible now, we might ask, as the numbers have risen exponentially? Does our familiarity with death bring it closer to reason or move it farther away from us?) But the whispered numbers are a way to manifest an abstraction into a material domain, with audio rather than text only. Similar to the New York Times' desire to personalize the death toll with snippets of stories of those who had passed, pulled from obituaries in other newspapers and collected in their front page space, we too tried to gather them together-apart. Although we didn't use the actual obituary names and stories, we created

our own fictional ones to pay homage to the victims, but also to this kind of material mourning and critical making. Disturbingly, since we've made our piece, a subsequent New York Times piece marking the 500,000 death toll, attempted another form of representation to make it meaningful (Coleman, 2021). In this case it used graphical representation in the form of dots, one for each death, creating a darkening pattern of death on its front page, one we found familiar in *PATTER(N)INGS*. For the New York Times, this was yet another way to transmit such extreme reality in a new configuration, to make it more real, more material, and more patterned—each dot-body an agent of empathetic connection to readers, a way to create a new whole, a new cut in the universe.

In our 2020+ age where transmission and infection bring fear of foreign bodies and their impact, we wonder what it is, like dots on a page, or whispered numbers in a room, to become-with non-human, inhuman(e), bodies, viral bodies, and to tell their stories. We explore this state through the construction of fluid, transmission modes across bodies, operating the way a virus does: getting inside from outside and then chan-

5

Day the First

HERE BEGINNETH THE FIRST DAY OF THE DECAMERON WHEREIN (AFTER DEMONSTRATION MADE BY THE AUTHOR OF THE MANNER IN WHICH IT CAME TO PASS THAT THE PERSONS WHO ARE HEREINAFTER PRESENTED FOREGATHERED FOR THE PURPOSE OF DEVISING TOGETHER) UNDER THE GOVERNANCE OF PAMFENA IS DISCOURSED OF THAT WHICH IS MOST AGREEABLE UNTO EACH

As orris, most gracious ladies, as, taking thought in myself, I mind me how very pitiful you are all by nature, so often do I recognize that this present work will, to your thinking, have a grievous and a weariful beginning, inasmuch as the dolorous remembrance of the late pestiferous mortality, which it heareth on its forefront, is universally (to some to all who saw or otherwise knew it. But I would not therefore have this afflict you from reading further, as if in the reading you were still to fare among sighs and tears. Let this grisly beginning be none other to you than is to wayfarers a rugged and steep mountain, beyond which is situate a most fair and delightful plain, which latter cometh so much the pleasanter to them as the greater was the hardship of the ascent and the descent, for, like as dolor occupieth the extreme of gladness, even so are miseries determined by imminent joyance. This brief amory (I say brief, inasmuch as it is contained in few pages) is straightway succeeded by the pleasure and delight which I have already promised you and which, belike, were it not aforesaid, might not be looked for from such a beginning. And in truth, could I fairly have availed to bring you to my desire otherwise than by so rugged a path as this will be I had gladly done it; but being in a manner constrained thereto, for that, without this remembrance of our past miseries, it might not be shown what was the occasion of the coming about of the things that will hereafter be read, I have brought myself to write them.^[1]

I say, then, that the years [of the era] of the fruitful Incarnation of the Son of God had attained to the number of one thousand three hundred and forty-eight, when into the notable city of Florence, fair over every other of Italy, there came the death-dealing pestilence, which, through the operation of the heavenly bodies or of our own iniquitous dealings, being sent down upon mankind for our correction by the just wrath of God, had some years before appeared in the parts of the East and after having bereft these latter of an innumerable number of inhabitants, extending without cease from one place to another, had now unhappily spread towards the West. And therewithal no wisdom availing nor human foresight (whereby the city was purged of many importunities by officers deputed to that end and it was forbidden unto any sick person to enter therein and many were the counsels given^[2] for the preservation of health) nor yet humble supplications, not once but many times both in ordered processions and on other wise made unto God by devout persons,—about the coming in of the Spring of the aforesaid year, it began on horrible and miraculous wise to show forth its dolorous effects. Yet not as it had done in the East, where, if any bled at the nose, it was a manifest sign of inevitable death; nay, but in men and women alike there appeared, at the beginning of the malady, certain swellings, either on the groin or under the armpits, wherewith some waded of the bigness of a common apple, others like unto an egg, some more and some less, and these the vulgar named plague-boils. From these two parts the aforesaid death-bearing plague-boils proceeded, in brief space, to appear and come indifferently in every part of the body; wherefrom, after awhile, the fashion of the contagion began to change into black or livid blotches, which showed themselves in many [first] on the arms and about the thighs and [after spread] to every other part of the person, in some large and sparse and in others small and thick-sown; and like as the plague-boils had been first (and yet were) a very certain token of coming death, even so were these for every one to whom they came.

To the cure of these maladies nor counsel^[3] of physician nor virtue of any medicine appeared to avail or profit nought; on the contrary,—whether it was that the nature of the infection suffered it not or that the ignorance of the physicians (of whom, over and above the men of art, the number, both men and women, who had never had any teaching of medicine, was become exceeding great) availed not to know whence it arose and consequently took not due measures thereagainst,—not only did few recover thereof, but well nigh all died within the third day from the appearance of the aforesaid signs, this sooner and that later, and for the most part without fever or other accident.^[4] And this pestilence was the more violent for that, by communication with those who were sick thereof, it gat hold upon the sound, no otherwise than fire upon things dry or greasy, whereas they are brought very near thereto. Nay, the mischief was yet greater; for that not only did converse and consociation with the sick give to the sound infection of cause of common death, but the mere touching of the clothes or of whatever other thing had been touched or used of the sick appeared of itself to communicate the malady to the toucher. A marvellous thing to hear of and one which I have to tell and one which, had it not been seen of many men's eyes and of mine own, I had scarce dared credit, much less set down in writing, though I had heard it from one worthy of belief. I say, then, that of such effluence was the nature of the pestilence in question in communicating itself from one to another, that, not only did it pass from man to man, but this, which is much more, it many times visibly did,—to wit, a thing which had pertained to a man sick or dead of the aforesaid sickness, being touched by an animal foreign to the human species, not only infected this latter with the plague, but in a very brief space of time killed it. Of this mine own eyes (as hath a little before been said) had one day, among others, experience on this wise; to wit, that the rags of a poor man, who had died of the plague, being cast out into the public way, two hogs came up to them and having first, after their wont, rooted amidst among them with their snouts, took them in their mouths and tossed them about their jaws; then, in a little while, after turning round and round, they both, as if they had taken poison, fell down dead upon the rags with which they had in an ill hour intermeddled.



ging both worlds by exposing the randomness of borders and their failed security systems. We look to all the layered and disorienting possibilities that transmission and reception across and through bodies (or possibly not ever coming close to them at all) evokes: via a hand in motion finding pockets of sound, via a sound that once discovered, circles behind you, or moves quickly from left to right, opposite of the cursor movement.

Engaging with this kind of world-making, as transmission and reception across bodies and boundaries, is directly relevant to much of the work on affect, theory exploring visceral states opposed to reasoned and reasonable meaning-making. Melissa Gregg and Greg Seigworth in their "Introduction" to *The Affect Theory Reader* (2010) remind us that directed transmission and reception, where there are clear pathways for meaning, are particularly difficult in a world order where one presumes origin stories are subverted. If the world is always emergent, then it never is in a consistent state; it also never was, and so we can't hold it still long enough to find

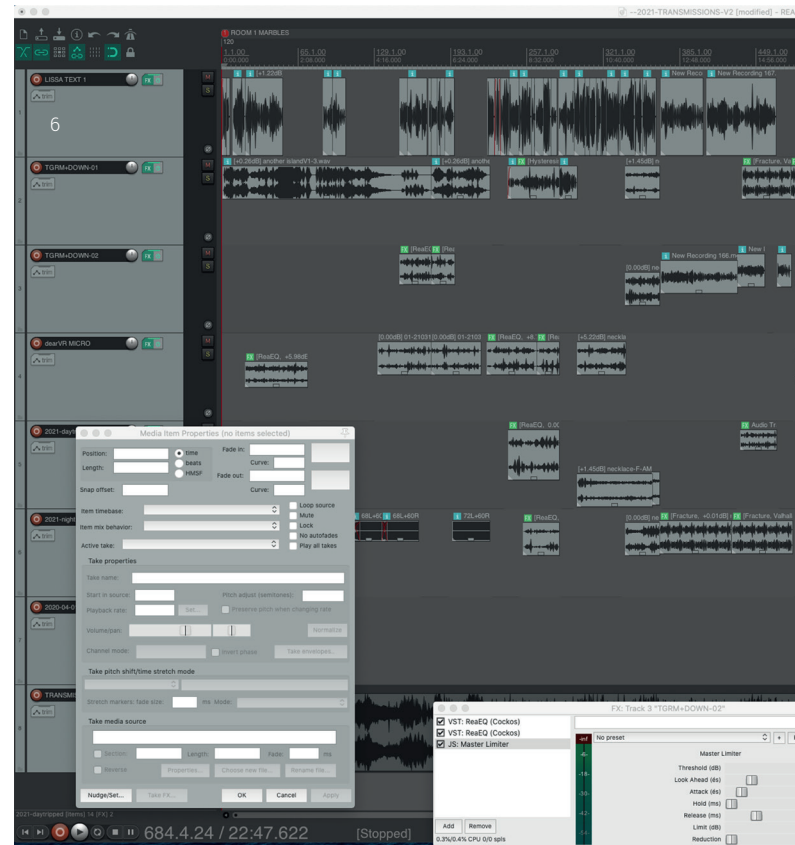
a safe, secure place to conceive of it. We must remain vulnerable to its many differently engaged directions and changing formations. Like a virus, like a vaccine, we must chase it, study it, discover its new strains of being. This kind of affective knowing, deliberately in-between non-cognitive bodies and beyond abstract emotional response is instead overwhelmingly visceral. And it keeps bodies in a state of becoming-with, of open-ended encountering in the worlds that it builds. This kind of knowing, to us, is the knowing of a world made new by a viral intrusion, the knowing within Apt. 3B that engages bodies together as parts of destabilizing forces, energies of transmission and reception that change us in ways that are both powerful and uncanny. Gregg and Seigworth remind us that there is a strong possibility of the world's intractability--the possibility for not-knowing. Our encounters, immersive and on-going, are filed with 'failures' to connect, finding instead "the world's obstinacies and rhythms, its refusals as much as its invitations" (1).

These affective drives are what we hope

to convey in our *PATTER(N)INGS* world that is designed to be about 2020, but is also timeless. Historical intertextuality, intra-connectivity across time periods, cultures, and media, is illustrated by our inspirational text fragments from Pepys, Boccaccio, Gilman, and LeGuin, spanning centuries and embedded in our soundscapes. These authors remind us that this time, 2020 time, is not unique. We've been here before (as though such historical localization is possible), and the plague times, Black Death(s)—like the darkened computer screen in our interface design—are then always with us. Viruses bring us into relationship with a past that becomes present and future at once—like the hypnotic visions stimulated by the yellow wallpaper swirls Gilman's narrator recounts (Figure 4), or the caravan of corpses documented by Pepys, parading down the street to help us visualize what outbreak looks like—and smells like—and just is, in all of its necessary sensory evocation.

Sound as space

In *Insect Media* Parikka reminds us that the semiotic systems of sound are multi-dimensional, that “the creation of sound is territorialized” (21). It is always localized, coming from somewhere. In this way sound and space are interconnected in their desire to make places for beings to inhabit, places like Apt 3B. But we are also reminded that insect media bodies do not exist alone; singular insects are incapable of sustaining meaningful and manifest expression (for transmission or for reception) if left to their own singular devices. Instead they need the strength of multiplicity, of the swarm. Through the swarm, “the sound of a body almost most too tiny to see, or to hear, is here brought into worlds of perception of technical media” (25). Thus we construed the many voices, agents, sounds, and places of resonance within Apt 3B to come together, to swarm, at least in some ways, because even a swarm has its limits and edges. Our swarming is often represented in the way that





sounds move and trace paths through the stereo field, and the appearance of proximity and closeness to the ear of the listener. Binaural movement and placement is at once perceptually familiar and evocative, but also artificial (sound in the real world seldom occurs only in the right or left ear, and stereo movement is seldom so distinct and precise in normal audio worlds). Sounds within the *PATTER(N)INGS* space often appear to be moving, travelling, navigating and searching on their own for a place of belonging or interaction, collectively seeming to flock or swarm into a larger, more amorphous sound assemblage.

Further, in our case, our sonic agents are occasionally layered. The poetry selections and literary passages from LeGuin, are repeated and remixed in different orders and sequences in some of the spaces. As with other literary selections, they are clustered, but only to a degree, thematically, with other sounds and texts. Most of the LeGuin text fragments from *Always Coming Home* and *The Carrier Bag of Fiction* stay in one room, for example, unless they are carried

texts of discomfort

by a user from one room to the next. The LeGuin fragments are intended to evoke feelings of loss about normalcy and what constitutes a sense of home after great loss, along with reflections on new ways to tell stories, embedded in old ones. Similarly, there are Gilman and Pepys rooms (containing voice-over narration from their respective texts). But each room has non-human sounds within it too, so that we don't prioritize one literary, narrator-voice over other registers for telling and discovery: Bird sounds, cat purrs, footsteps and dripping water also tell stories. Each room is then a collection of connective threads, allowing the listener to navigate and create their own narrative structures, becoming a co-designer of sorts. Each human/non-human room sound varies; it may contain the sounds of babies crying and cooing, a binaural head recording of room ambiences, and/or a newscaster-type reading of a list of dead names, obituary text. Another room may include short fragments of randomly triggered granulated text, along with foetal heart monitors, laughter, tearing sheets of paper and close mic-ed breathing.

The sound material in *PATTER(N)INGS* falls into a number of broad categories. Firstly, the recorded voice carrying the textual and narrative material - texts from different eras, authors, backgrounds and objectives with a common characteristic of overt storytelling function. Secondly, there is the abstracted, treated, fragmented, granulated, reconstructed and reinvented recorded voice, seeding conceptual spaces, directions and flows. The voice is segmented and granulated using various software in order that it might rearrange and reintroduce into the audio flow. The "scatter" effect in Unity is used in a number of rooms to reorder the vocal material in space and time. Simpler treatments such as fades, slow panning and changes in relative amplitude or also employed to delineate and emphasize space, both narrative and audible, and destabilize the conventional fixed-point of the single subject narrator. Thirdly, one discovers the recorded concrete sounds taking their inspiration from ASMR conventions, close mic-ing, intimate, disturbing, unpitched sounds that stimulate the deeper parts of the brain concerned with fight or flight, comfort, familiarity,



unease.

These sounds both create space and alter space, experientially and personally, and the sounds are often indeterminate in origin. In almost every room there is some form of spatially recorded sound such as rustling paper, creaking floorboards or chairs, ceramic pots and other utensils that are indistinct and difficult to identify when heard out of their recording context, while at the same time remaining familiar and recognizable - the overall effect ranging from a spatial "framing" of the other sounds to a more disturbing suggestion of human activity within those spaces. Fourth comes the sound truly abstract in nature - synthesised and manipulated beyond their initial sources into spectromorphological, shaped sounding bodies inhabiting spaces we can't really place. They are defined by their otherness and non-worldly, non-human natures. These sounds do not so much create space, as navigate it, and by doing so make the changes and undulations of space more apparent. A good example of this kind of shaping is the navigational sound aid that accompanies screen cursor movement - a collection of distorted and momentary sound objects that move in

the stereo field and are filtered to assist the interacting agent in placing themselves in the two dimensional space (up/down, left/right). As the mouse or cursor moves, these sounds are rapidly triggered monophonically in the stereo field creating an audible beacon and simple audio avatar with which navigation becomes possible. The proximity of sound, or the perception of proximity expands and contracts the reception, attention, and emotional and subconscious states of the eavesdropper in particular, but of world-listeners in general. We play with proximity as an affective medium. Sound is multidirectional, layered and constantly shifting, both in its physical characteristics and its associations and affects. The presentation of sound material within the interactive space employs simple treatments such as variations in amplitude and low/high pass filtering, sounds such as vocal fragments are presented at apparently different distances from the listener. To further play with spatial perception, close recorded, monophonic sounds are triggered whilst stereophonic environmental sounds are already running, giving the appearance (particularly with the vocal material) that sounds move in and out

of virtual spaces, but also can seem to move and hover in a non-space separate from the binaurally recorded material. *PATTER(N)INGS* is, then, a multidimensional space that allows simultaneous and shifting perspectives on the material directed within it. Words and texts can be simultaneously heard from the point of view of the narrators or the eavesdropper. This collectivity, together with the actual temporal fragmentation and rearrangement of words and aural imagery, decentralizes attention and interpretation, playing with space as a relative site for ordering existence.

Like our texts, our sound spaces too are transhistorical. Spatial, architectural and the tactile/experiential use of sound stretches back to listeners many thousands of years ago. Studies of the archaeoacoustic properties of ancient sites in Malta, the Neolithic caves of France and Spain, the stone structures of the Orkneys, monoliths of Stonehenge, Newgrange, and more, display not only stark and immersive, experiential sound worlds, but also strong evidence that our ancestors sought out and exploited these sound milieus for social and ritual use (D'Errico & Lawson, 2006; Devereaux & Jahn, 1996; Watson & Ke-

ating, 1999). The experiences of natural echoes, sounding objects such as natural lithopones, stalactites and stalagmites, and other phenomena such as Helmholtz resonances, standing waves and illusory or disorientating audible effects are not only musical, but deeply physical and psychological. The experiences of the listener can involve shifts in perspective, location of the self and perception of space itself. Add to this the darkness of deep caves and enclosed stone tombs and ossuaries, and sound magnifies into a fundamentally affective media space. *PATTER(N)INGS* is very much a continuation, but also expansion and reinterpretation of these affective sound experiences: water dripping, distant voices, footsteps, creaking chairs and doors, bird calls, tearing paper. This is the virtual cave, tomb, ossuary and temple arising and returning, reimagined and reconfigured through and within the 2020 darkened rooms and the enclosing headphones as media filters.

Other related EAM work informing our sound spaces are *Le Vertige Inconnu* (1993) by Gilles Gobeil. *Le Vertige Inconnu* (and other works in the electroacoustic canon) can be listened to as a linear deconstruction of sound

within gestural form. Gobeil's piece illustrates how sound can be heard as a metaphorical, cinematic and suggestive moving collage of reference and sound spaces, but also as an abstract spectromorphological structure that can be perceived purely in terms of frequency, amplitude, duration and structure. A more subtle, but similar work inspiring us is *Etincelles* (2005) by Christine Groult. *Etincelles* blends instrumental and concrete sound recordings into a fluid, organic, flowing experience incorporating sustained tones, smooth, flowing passages, and long gestures contrasting rich and sparse spectral content. The piece uses a more organic architecture in contrast to Gobeil's crashing and surging gestural form, though both illustrate a complex and multilayered approach to sound material we have taken with us into *PATTER(N)INGS*. Both pieces, and in turn *PATTER(N)INGS*, demonstrate a cross-pollination and hybridisation of sound, context, interpretation and directivity. Our juxtaposition of momentary, percussive or gestural sounds such as laughter, distorted vocal fragments, crows and abstract sound objects, against more environmental, slowly developing and revealed room recordings, abstract sound

spaces, are created using audio amplitude/frequency convolution and other sustained sound environments that incorporate compositional ideas and forms into the interactive space. Although much of the material is triggered according to the activity of the interacting listener, other sounds are triggered according to slower and more evolving time frames, allowing those sounds to move and interact more musically, with the directly triggered sounds often sounding like a solo instrument improvising across a composed spatial sound assemblage.

Linguistic space is also a place for our experimentation. Our sonic spaces are partially constructed through the medium of human speech, seeking emotional connection through personal expression, the confessional diary-like delivery of some with the personality of a human narrator, who even when reciting text from other sources, is trying to tell a story. Interjections, mumbling, repeating passages as though to understand them while speaking, offer a humanizing way to organize sounds as contained within one body, even when unsuccessful. The hysterical laughter one encounters in some spaces is also a way to engage the user, but it is

somewhat uncanny in determining whether it is comical or tragically hysterical. ("What is she laughing about?" one might ask. "Is something funny, or is something just wrong—with her, or with me as I discern its meaning?") We have a long history of written storytelling, of course, and an even longer one of oral tales, but our audio confuses both types. It manifests as audible (and sometimes almost inaudible) spoken text, but it foregrounds the extra dimensionality and power inherent in the recorded medium that contains it, or attempts to and makes it non-human through digital intervention. This sounding form, between writing and speaking, real and digitally manipulated, demands attention. The written word, Pepys' Diary in text form, for example, can more easily be re-read, repeated and frozen in time by the one who encounters it than can our fragmented recoding and remixing of Pepys' experience during the Bubonic Plague in 17th century London—so similar to pandemic times. Our Pepys selections are plague-focused, primarily from 1665, and include passages where Pepys himself is marveling at the death rates in London, grappling with what this means in his once-familiar city/life that he documents so

scrupulously in his Diary, and where he is now fixated on corpses, death, and dying and how London as he knew it has been transformed: "In the City died this week 7,496 and of them 6,102 of the plague. But it is feared that the true number of the dead, this week is near 10,000; partly from the poor that cannot be taken notice of, through the greatness of the number, and partly from the Quakers and others that will not have any bell ring for them" (Pepys, 1932). This kind of reflection, similar to the obituary texts we recount, feels quite contemporary, and when spoken aloud, displaced from its historical context, and read in fragments, is not even likely to be fully recognized from its original source—except perhaps by astute scholars of the literary period. And who trusts them? Fake news and all.



In conclusion (not really)...

Uncontained, yet re-contained, we mix space-time boundaries in *PATTER(N)INGS*, crossing histories and media forms. Much more like Gilman's unnamed female narrator, who exists in a state of mental distress and lockdown in a single room (along with the mad wallpaper pattern she identifies with), but who also seems to be recording (via writing) her experience for a diary, our affective, viral spaces are also crazy, hysterical even. But they transmit human experience seeking reception and connection. Like the narrator's vision of the other woman she sees in the yellow wallpaper (who is both her and not her, real and imagined, inside the locked room and escaping out of it into the garden at night), in *PATTER(N)INGS*, we play with how we conceive of domestic/natural world space as safe, impermeable, different, or even real. Our digital audio-only design is a key element of our experimental interactive storytelling. Recorded media forces and demands a listener's attention,

memory, and action, and it is able to be re-heard at will, repeated in the sounding spaces it composes. This is both true, and not, of the audio experiences and spaces we make. The recorded voice can also be masked, hidden in ways unnatural to the normal ear. Whispered sounds, like the many we use, can be amplified and clear, spoken sounds muffled and indistinct. The narrated text emerges and disappears according to rules seemingly unconnected to the content or

delivery of the narrator. It can be manipulated, complemented, teased and hijacked by other sound material and sound processing—taking it to other spaces. Pulsations and vibrations move and drive bodies, combining matters and affective energies into newly configured worlds, assemblages of unnatural relation, making tactile pathways to discovery, in the hand, in the ear.

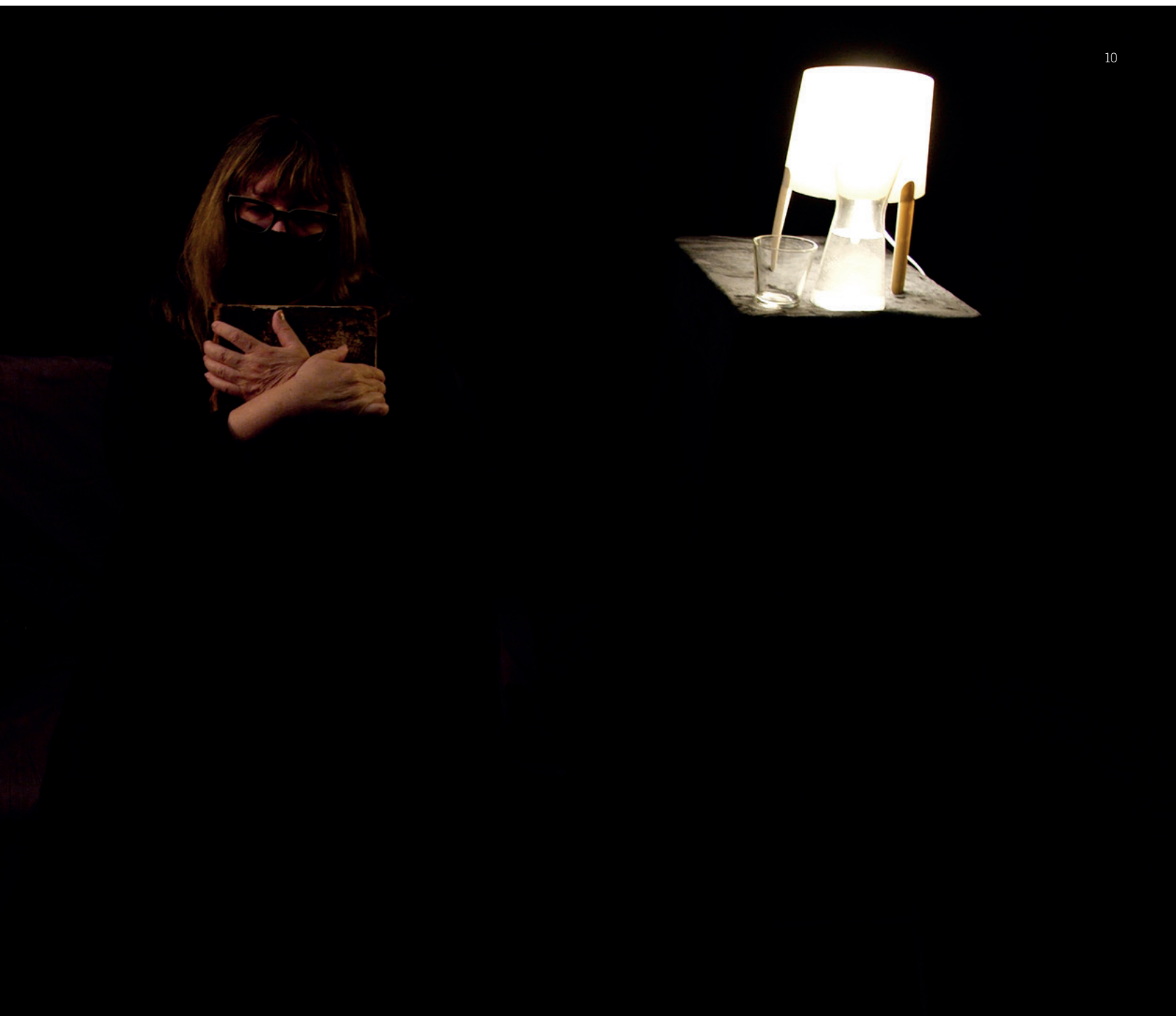
We continue to experiment with new



modes of presentation and in May 2021, we recorded a live performance of *PATTER(N)INGS* for the Electronic Literature 2021 Conference and Festival “Platform (Post?) Pandemic (Holloway-Attaway & Fawcus, 2021) Here our aim was to extend the work into a new platform for participation, that of live performance, to test the limits of meaning-making and world building across media. Our recreation of the web-based audio application, used a live interactor (replacing the original eavesdropper) who manipulated objects at a table (Figure 9), which then triggered responses from Jamie Fawcus (Figure 8) and Lissa Holloway-Attaway (Figure 10) who remixed and re-performed the sounds and texts from the *PATTER(N)INGS* web-application live.

In this sense, we are trying to keep the work open and dynamic to see where it can take us further in our evocative attempts to express our disordered state of being post-2020. We hope to meet you enroute to the new worlds we are building and unmaking.





References

- Alaimo, S. (2010). *Bodily Natures: Science the Environment and the Material Self*. University of Indiana Press.
- Alaimo, S. (2017). *Exposed: Environmental Politics and Pleasures in Posthuman Times*. University of Minnesota Press.
- Alaimo, S., Hekman, S. (2008) *Material Feminisms*. Indiana University Press.
- Barad, K. (2007). *Meeting the Universe Halfway: Quantum Physics and The Entanglement of Matter and Meaning*. Duke University Press.
- Bennett, J. (2010). *Vibrant Matter: A Political Economy of Things*. Duke University Press.
- Boccaccio, G. (1995). *The Decameron*. Penguin Books.
- Braidotti, R. (2002). *Metamorphosis: Towards a Materialist Theory of Becoming*. Polity Press.
- Braidotti, R. (2013). *The Posthuman*. Polity Press.
- Coleman, N. (2021, Feb 21). *On the Front Page A Wall of Grief. Times Insider*. New York Times. <https://www.nytimes.com/2021/02/21/insider/covid-500k-front-page.html>
- D'Errico, F., Lawson, G. (2006). The Sound Paradox. How to assess the acoustic significance of archaeological evidence? *Archaeoacoustics. McDonald Institute Monographs*, 41-5.
- Devereux, P., Jahn, R. (1996a). Preliminary investigations and cognitive considerations of the acoustical resonances of selected archaeological sites. *Antiquity* 70, 665-666.
- Devereux, P., Jahn, R., Ibsen, M. (1996b). Acoustical resonances of assorted ancient structures, *Journal of the acoustical society of America* 99(2), 649-658.
- Gilman, C.P. (2006). *The Yellow Wallpaper and Other Writings*. Bantam Dell/ Random House, Inc.
- Gobeil, G. (1994). *Les Vertiges Inconnu [Song]. On La mécanique des ruptures (Album)*. empreintes DIGITALE.
- Gregg, M., Seigworth, G. (Eds.) (2010). *The Affect Theory Reader*. Duke University Press.
- Grippe, J. (2020, May 23). *The Project Behind a Front Page Full of Names. Times Insider*. New York Times. <https://www.nytimes.com/2020/05/23/reader-center/coronavirus-new-york-times-front-page.html>
- Groult, C. (2005). *Etincelles [Song] On Etincelles [Album]*. Motus Acousma
- Grosz, E. (1994). *Volatile Bodies: Towards a Corporeal Feminism*. Indiana University Press.
- Haraway, D. J. (2016). *Staying With The Trouble: Making Kin in the Chthulucene*. Duke University Press.
- Holloway-Attaway, L., Fawcus, J. (2020) *PATTER(N)INGS, Apt. 3B, 2020*. [Web Application] Itch.io. <https://gusing.itch.io/patternings> (password: Patt2020)
- Holloway-Attaway, L., Fawcus, J. (2021) *PATTER(N)INGS, Apt. 3B, 2020: Live Transmissions from the Plague Years*. <https://youtube.com/be/bOat3s5fwCM>
- Kirby, V. (1997). *Telling Flesh The Substance of the Corporeal*. Routledge.
- LeGuin, U.K. (1985). *Always Coming Home*. Gollancz.
- LeGuin, U.K. (2020). *The Carrier Bag Theory of Fiction*. Terra Ignota.
- Mathieu, W.A. (1994). *The Musical Life*. Shambhala.
- Parikka, J. (2010). *Insect Media: An Archeology of Animals and Technology*. University of Minnesota Press.
- Pepys, S. (1932). *Samuel Pepys' Diary*. DeLuxe Edition.s
- Shafer, M. (1977). *The Tuning of the World (The Soundscape)*. Knopf.
- Watson, A. Keating, D. (1999). Architecture and sound: an acoustic analysis of megalithic monuments in prehistoric Britain. *Antiquity* 73(280), 325-336.
- Wolfe, C. (2010). *What is Posthumanism?* University of Minnesota Press.

Images

1. Opening Screen of PATTER(N)INGS on Laptop with Headphones and Other Necessary Accessories. Note: From PATTER(N)INGS Promotional Material, by Lissa Holloway-Attaway, 2020, Skövde, Sweden, Copyright 2020 Lissa Holloway-Attaway;
2. Binaural Head Microphone with Headphones and Facemask Note: From PATTER(N)INGS Promotional Material, by Lissa Holloway-Attaway, 2020, Skövde, Sweden, Copyright 2020 Lissa

Holloway-Attaway;

3. Text Selections used in PATTER(N)INGS from Gilman's The Yellow Wallpaper, 1892. Note: From The Yellow Wallpaper by Charlotte Perkins Gilman, 1892, The National Library of Medicine (<https://www.nlm.nih.gov/.../pdf/The-Yellow-Wall-Paper.pdf>) In the Public Domain;
4. Text Selections used in PATTER(N)INGS from Gilman's The Yellow Wallpaper, 1892. Note: From The Yellow Wallpaper by Charlotte Perkins Gilman, 1892, The National Library of Medicine (<https://www.nlm.nih.gov/.../pdf/The-Yellow-Wall-Paper.pdf>) In the Public Domain;
5. Screenshot from Online Version of The Decameron from the Project Gutenberg eBook (top) and Original Illustration from Boccaccio's The Decameron, 1492 (bottom). Note: From The Decameron by Giovanni Boccaccio, 1492, Project Gutenberg, (<https://www.gutenberg.org/files/23700/23700-h/23700-h.htm>). In the Public Domain. (top); From: The Decameron by Giovanni Boccaccio, 1492, Wikimedia Commons (https://commons.wikimedia.org/wiki/File:The_Decameron_1492.jpg). In the Public Domain. (bottom);
6. Screenshot of Desktop Showing Audio Editing Process for PATTER(N)INGS. Note: From Jamie Fawcus, 2020, Skövde, Sweden, Copyright 2020 Jamie Fawcus;
7. Screenshot of Desktop Showing Audio Editing Process for PATTER(N)INGS. Note: From Jamie Fawcus, 2020, Skövde, Sweden, Copyright 2020 Jamie Fawcus;
8. Jamie Fawcus Performing in PATTER(N)INGS Live. Note: From PATTER(N)INGS: Live Transmissions From the Plague Years, 2021, Lissa Holloway-Attaway and Jamie Fawcus, Skövde, Sweden, Copyright 2021 Lissa Holloway-Attaway;
9. Torbjörn Svensson Performing as The Interactor in PATTER(N)INGS Live. Note: From PATTER(N)INGS: Live Transmissions From the Plague Years, 2021, Lissa Holloway-Attaway and Jamie Fawcus, Skövde, Sweden, Copyright 2021 Lissa Holloway-Attaway;
10. Lissa Holloway-Attaway Performing in PATTER(N)INGS Live. Note: From PATTER(N)INGS: Live Transmissions From the Plague Years, 2021, Lissa Holloway-Attaway and Jamie Fawcus, Skövde, Sweden, Copyright 2021 Lissa Holloway-Attaway.

Lissa Holloway-Attaway is an Associate Professor at the University of Skövde, Sweden. Her current research is focused on emergent media (AR/VR/MR) and experimental narrative.

Jamie Fawcus is a composer, sound designer and performer. Jamie is currently Senior Lecturer in electronic music and sound design/production in the Division of Game Development at the University of Skövde, Sweden.

Medium: Digital Game

Year of Release: 2019

Link to the artwork:

<https://indianlandtenure.itch.io/when-rivers-were-trails>

Video artist: <https://vimeo.com/454075657>

An aerial photograph of a river delta, likely the Fraser River, showing a complex network of water channels and land. A prominent, winding trail or road cuts through the landscape, starting from the top left and curving towards the bottom right. The terrain is a mix of dark, forested areas and lighter, possibly agricultural or developed land. The overall color palette is dominated by greens and browns, with the trail providing a clear, light-colored path.

When Rivers Were Trails

Elizabeth LaPensée & Team

"Very illuminating point and click adventure narrative about the displacement of Indigenous people in North America in nineteenth century. It explores an uncomfortable part of North American history."

ICIDS 2020 Jury

Placing stories, stories of place: writing *When Rivers Were Trails*

Abstract

In the 2D adventure game *When Rivers Were Trails*, stories reflecting place are situated on maps that keep track of the player's journey as an Anishinaabe person who is displaced due to the impact of land allotment in the 1890s. An Indigenous spin on *The Oregon Trail* meets *Where the Water Tastes Like Wine*, this game emphasizes Indigenous perspectives during interactive dialogue and decision making. While traveling from Minnesota to California, the player has the opportunity to come across over one hundred character scenarios and an assortment of random happenings written by around thirty Indigenous contributors. With the hope of providing insights for future games with similar aims, this brief descriptive overview delves into the writing of *When Rivers Were Trails*.

Keywords

indigenous, game writing, game development, interactive narrative, branching dialogue

Introduction

When Rivers Were Trails exemplifies what can happen when Indigenous people affirm self-determined representations in video games through writing. The game is situated within the United States, both on the development end as well as in the game story. Gameplay happens during the impact of land allotment in the 1890s when Indigenous people were forcibly displaced from their territories or allocated with small plots as their lands were given away for settlement or opened up for purchasing (LaPensée & Emmons, 2019).

With the hope of offering an Indigenous-centered alternative to *The Oregon Trail* video game series (Bigelow, 1997), *When Rivers Were Trails* is primarily intended for middle-school players as an intervention in classrooms. To that end, *When Rivers Were Trails* is a 2D adventure game that was created as a com-

pendium to the *Lessons of Our Land* curriculum offered by the Indian Land Tenure Foundation (LaPensée & Emmons, 2019). It has since been played in a variety of settings and with a wide range of players thanks to exhibitions at museums such as the Smithsonian American Art Museum and festivals including the imagine-NATIVE Film + Media Arts Festival. It has also been included in university courses at public institutions and tribal colleges. Although the game was designed with middle-school youth in mind, the audience has unexpectedly turned out to be much broader and suggests a possible interest in future games with similar aims.

Along with guidance from co-creative director Nicholas Emmons, the team included around thirty Indigenous collaborators, such as lead artist Weshoyot Alvitre, game designer and writer Allen Turner, and rapper Supaman. While collaborating with the Games for Entertainment and Learning Lab at Michigan State University,

¹ This project was made possible thanks to the generous support from the Poetry and the Senses 2020 fellowship, Arts Research Center, at UC Berkeley.

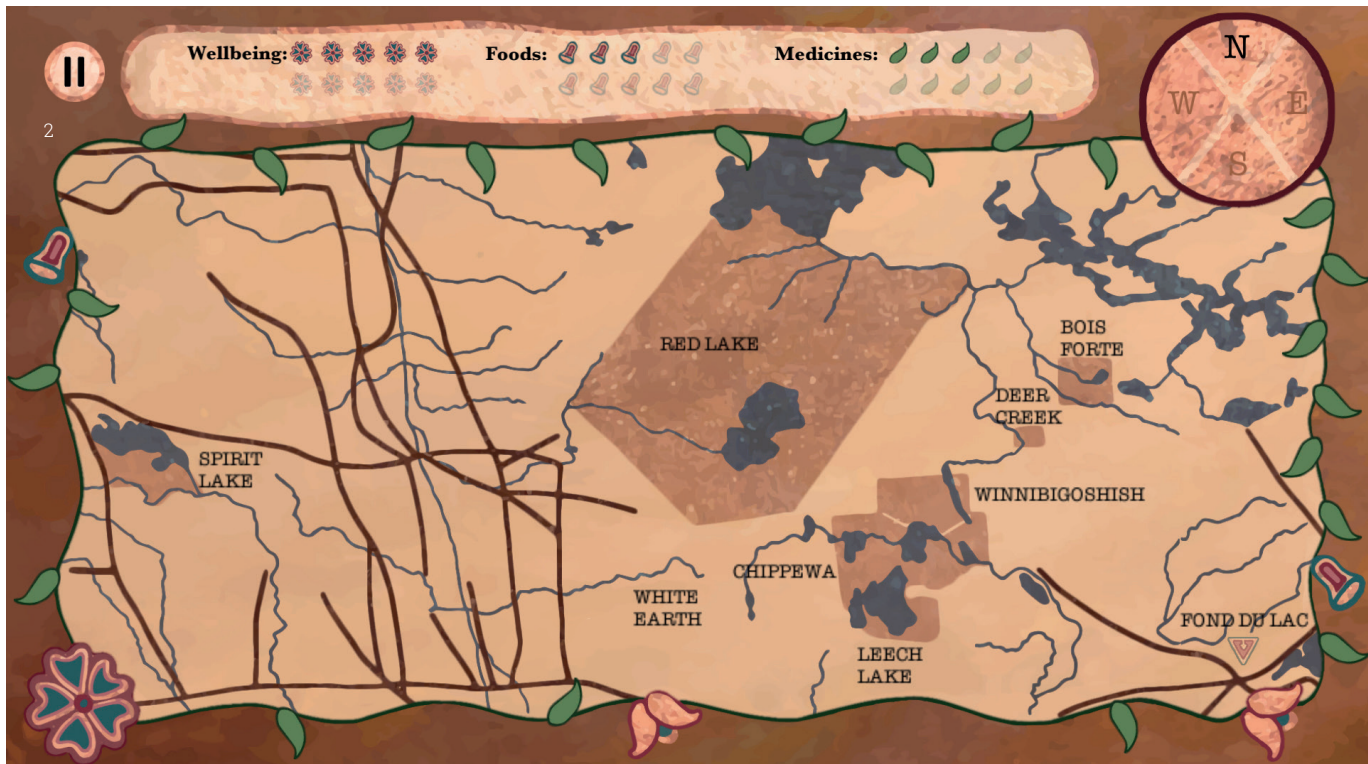
Indigenous writers determined their own representations and informed the art. Game writing largely focuses on the experiences of Indigenous people in the United States during the impact of land allotment in the 1890s, which divided up lands and displaced nations (Figure 1).

Players take on the role of an Anishinaabe person from Fond du Lac as they are forcibly run off their land in Minnesota. They come across text-based interactions by traveling node to node on historically-accurate maps. These maps emphasize the forced reservation lines



and railroads of the time while de-emphasizing state names (Figure 2). As the player travels through Minnesota, the Dakotas, Montana, Idaho, Washington, Oregon, and California, they interact with people from many nations, including Blackfeet, Apsáalooke, Nimiipuu, and more, each with their own unique cultural representations. The journey changes from game to game as players come across land, waters, minerals,

stars, animals, plants, Indigenous peoples, and adversaries such as Indian Agents through random happenings interspersed with linear character interactions. Players are challenged to balance their physical, emotional, mental, and spiritual wellbeing with foods and medicines while making choices. Some of these possible choices include contributing, trading, fishing, hunting, gifting, and honoring.



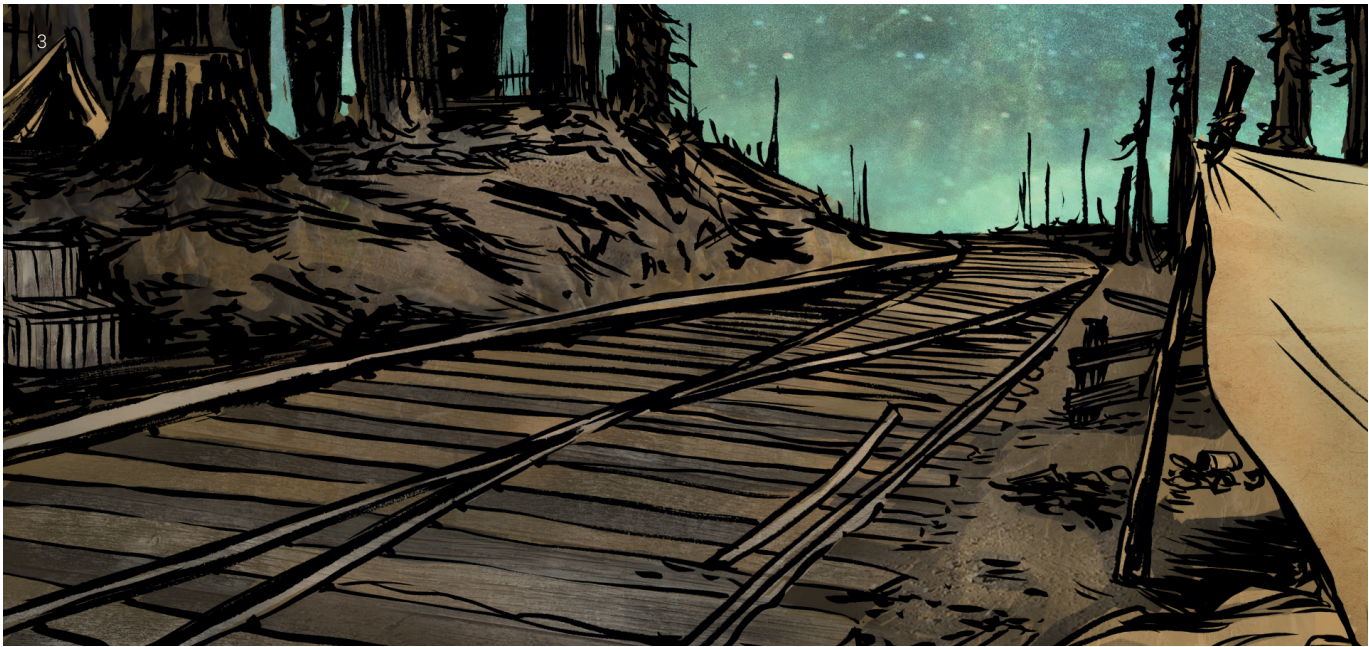
Process

Sovereign development

The game development process for *When Rivers Were Trails* invokes sovereignty, meaning the right of Indigenous nations to be self-governed. Carol Nadjiwon, who is an Anishinaabe elder from Batchewana First Nation, describes sovereignty as the ability to assert and hold power during decision making (personal communication, January 1, 2017). In the context of game development, sovereignty can refer to ensuring that Indigenous creatives are in lead roles (LaPensee, 2020; Laiti, 2021). With sovereignty in mind, the San Manuel Band of Mission Indians provided support for the Indian Land Tenure Foundation, which made it possible to form an equitable partnership with Michigan State University's Games for Entertainment and Learning Lab that was focused on training and building

capacity for Indigenous collaborators. The Indian Land Tenure Foundation also involved their Board of Directors in making final decisions regarding design and content throughout the process.

In addition, experienced game writers Toiya Kristen Finley and Cat Wendt were also given space to determine their own representations, both in their own scenarios and from other writers. For example, Blackfeet writer Sterling HolyWhiteMountain wrote a stark scenario without characters and based on Blackfeet stories that reveals the harshness of what happened to Chinese people who labored on railroads in Montana (Figure 3). The presence of this scenario was validated by Wendt, who had decision making power for content related to Chinese representations. Self-determination in *When Rivers Were Trails* was thus extended to all writers as a matter of equity and advocacy.



Building capacity

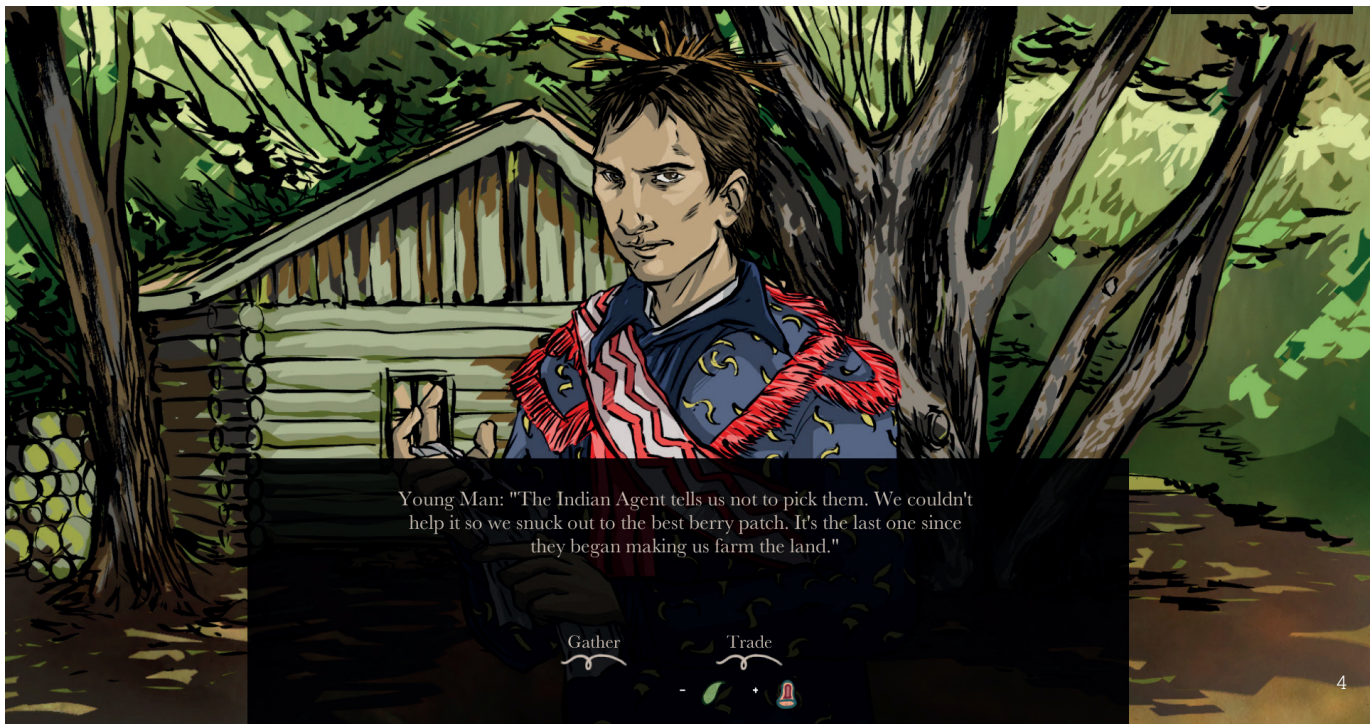
Although writers including Finley, Wendt, and Allen Turner had familiarity with the process of *When Rivers Were Trails* from many years of working in the game industry, the majority of Indigenous writers had little or no previous game writing experience. Since capacity building was an intentional outcome of the game, Indigenous writers with experience ranging from game design to audio recording

for games to journalism to poetry to nonfiction and fiction short stories to fiction novels as well as artists and community workers were guided in game writing. They were provided the game design document, writing templates, a set of possible game mechanics, as well as creative freedom to suggest new mechanics. Text-related mechanics included interaction options for players to choose, such as listening, trading, gifting, helping, resisting, running, and more. Wri-

ters could generate any mechanics embedded in the text, as long as they could be integrated with the user interface in relation to wellbeing, foods, and medicines, or activating the minigames including hunting, fishing, and canoeing. Thus, the gameplay in *When Rivers Were Trails* is reciprocal with the writing.

Among a wide range of character scenarios, Korii Northrup, a Fond du Lac artist who

interweaves her art with community work, was inspired to bring issues with Indian Agents and displacement to the forefront. In one of her character scenarios, a young Anishinaabe man is denied access to a berry patch as a method to force Indigenous people to focus on farming (Figure 4). Although she had no previous game writing experience, she worked with and adapted the mechanics to meet the needs of her ideas.



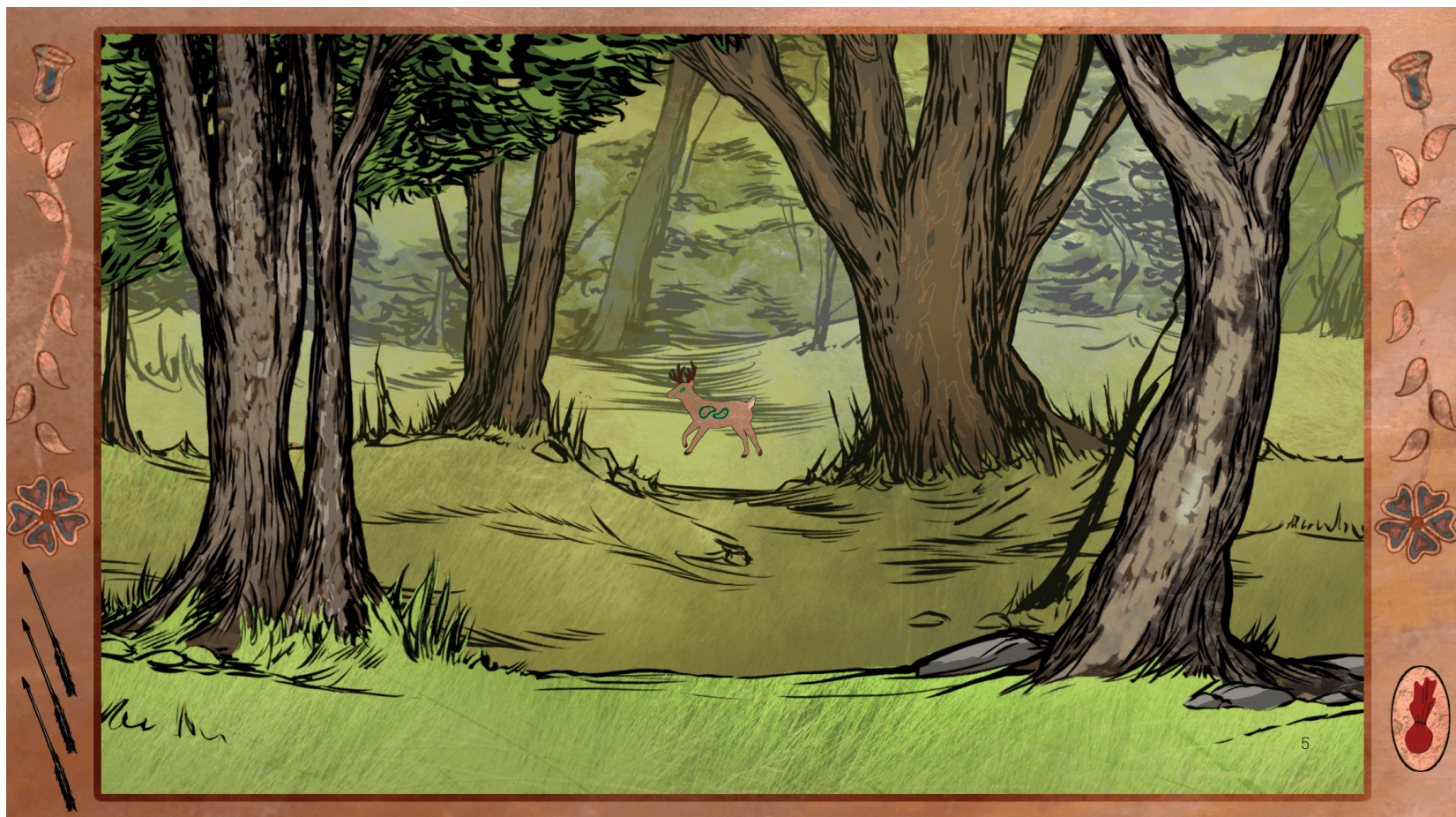
In other scenarios, she wrote Oneida characters who travel as far as California during the game as a way to recognize Oneida relations. Her scenarios revolve around what she describes as warnings about the promises and realities of assimilation. The individual contributions of each writer combine into a robust game with a myriad of perspectives and experiences (LaPensée, 2021).

Aesthetic

As another act of capacity building, Alvitre was given a lead artist role. Although it was her first time working on a game, her experience as a comic illustrator and writer deeply influenced aesthetic decisions in *When Rivers Were Trails*. In the role of Co-Director, Elizabeth LaPensée provided templates and instructions for Alvitre to extend her previous work experience towards a 2D game. While working on characters and environment art, Alvitre delved

deeply into personal research as well as sources provided by writers, such as family photos.

To fuse the scenario art with the user interface art by LaPensée, Alvitre utilized textures of materials provided by LaPensée, including copper. The result is a mix of aesthetics which complement one another. The game ebbs and flows between colorful splashes of art by Alvitre and stylized user interface elements. The sense of life in the scenes is further extended through animations of animals and fish during the hunting and fishing minigames. These animations were provided by Amber Ottarson, who worked on the game in the Games for Entertainment and Learning Lab team. All work was routed to Alvitre to ensure that the varying aesthetics across the game could be related and at times united, such as when Alvitre's environmental background art, LaPensée's user interface art, and Ottarson's animations merge in the hunting minigame.



Technical systems

Capacity building not only occurred internally with writers, but also for the team through external support during development. To provide context, *When Rivers Were Trails* utilized the Unity game engine, which is known for being accessible (Haas, 2014), alongside Ink, which is recognized for enabling narrative systems (Howard & Donley, 2019). However, ties between these two tools are not built in. The connection between the writing in *When Rivers Were Trails* and direct impact on gameplay was made possible thanks to Johnnemann Nordhagen, who shared code from the narrative game *Where the Water Tastes Like Wine* (2018). His generosity and interest in empowering the development team allowed for communication between choices the player makes during text interactions and the system represented in the user interface. Specifically, decisions made by the player during character interactions and random hap-

penings result in gains and/or losses to wellbeing, foods, and medicines. If the player loses all of their wellbeing, then they die and revert to the last save. Thus, this shared code was instrumental to the depth of *When Rivers Were Trails* and largely responsible for the game's ability to blur the lines between education and entertainment (Khan, 2019).

Writing

Writing took many forms in *When Rivers Were Trails*. As a way to balance variety with continuity, some writers wrote specific aspects of the game. Elaine Gomez, E. M. Knowles, and LaPensée wrote several text-only random happenings to add variety to the journey. “Random happenings” are pulled at random from a pool of numerous possibilities when the player reaches a node linked to the random happenings pool. The differences in writing styles are balanced out with writers who consistently provided certain content. For instance, Sheena Louise Roetman used her foundation in journalism to write all of the loading scene transitions, which establish the history of the lands and peoples from map to map. Tashia Hart contributed Anishinaabe-specific descriptions for the attributes and uses of all medicinal plants and plant foods to highlight Anishinaabe perspectives in the

player character’s worldview. Stories with very particular themes were provided by repeat writers. Specifically, all Bigfoot stories were written by Ronnie Dean Harris and all Anishinaabe star stories were shared by Annette S. Lee in collaboration with Anishinaabe elders Carl Gawboy and William Wilson. These throughlines were interwoven with over one hundred character scenarios, each with their own unique writing.

Interactive scenarios

Interactive scenarios focusing on characters and lands were provided by twenty one Indigenous writers all working simultaneously and independently: Li Boyd, Trevino Brings Plenty, Tyrone Cawston, Richard Crowsong, Eve Cuevas, Samuel Jaxin Enemy-Hunter, Lee Francis IV, Renee Holt, Sterling HolyWhiteMountain, Adrian Jawort, Kris Knigge, E. M. Knowles, David Gene Lewis, Korii Northrup, Nokomis Paiz, Carl Petersen, Travis McKay Roberts, Sara Siestre-

em, Joel Southall, Jo Tallchief, and Allen Turner. The writing styles change relative to a particular writer's interests and prior experiences. For example, Petersen filled his writing with heavy action, informed by his work as a game designer. Writers' sovereignty over their writing style was paramount to the game. Notably, HolyWhiteMountain's were some of the longest scenarios in terms of the sheer amount of text. Initially, the student team at the Games for Entertainment and Learning Lab leaned towards the conventions of commercial games where styles are consistent across content and suggested editing down the text. However, HolyWhiteMountain determined that his writing was representative and the co-creative directors ensured that Indigenous sovereignty was upheld by keeping the original writing.

A list of possible mechanics was provided to writers, but they were opened up to options generated in relation to their stories. The-

se evoked mechanics such as talking, listening, helping, and gifting, among more. Although these mechanics were largely limited to text interactions, the option to fish emerged from scenarios repeatedly. In one scenario written by Kris Knigge, the player is required to follow the text path of giving a grandfather a gift, which in turn unlocks the ability to go fishing with him. Knigge, among other writers, thus inspired a fishing minigame and reinforced how writing influenced the game's design.

Alongside representations in the fishing and hunting minigames, animals have their own series of interactive scenarios. To create a thread of continuity, all animal scenarios were written by Turner, whose intention was to portray animals as intelligent beings capable of communication without anthropomorphizing them (Figure 6). The art style also shifts from character and environment art by lead artist Alvitre to Woodlands style art by LaPensée as a

way to convey an Anishinaabe lens of these animals during interactions. The player may come across scenarios in which they can relate to animals as a caretaker, a participant during scuffles as animals interact amongst one another, or as an interferer who damages their relationships

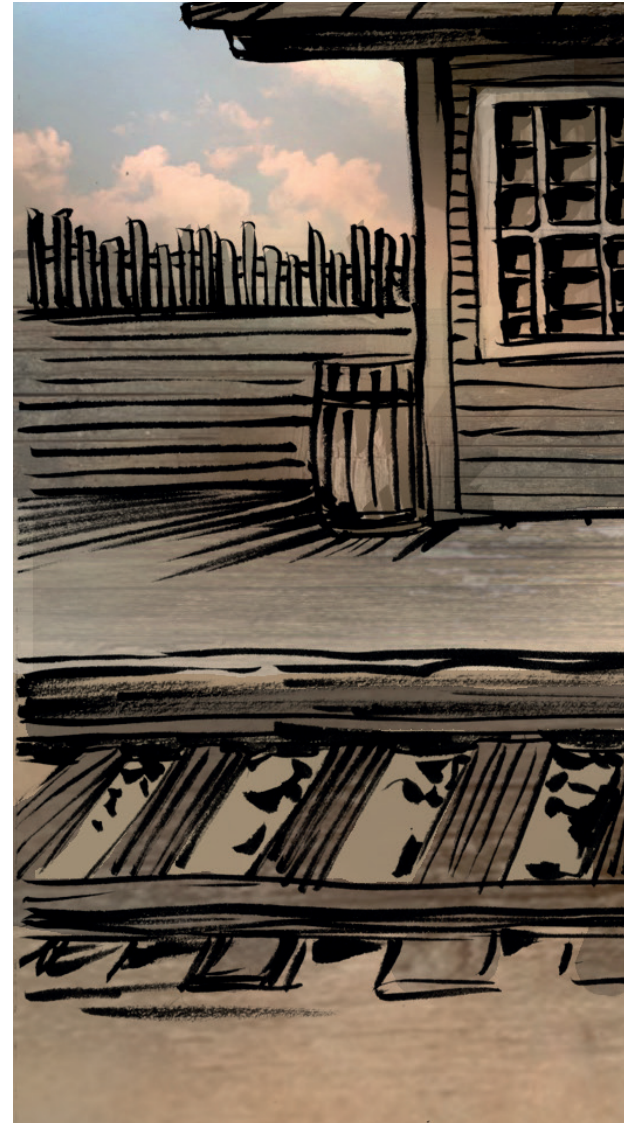
with animals. Whether seen as family, a friend, enemy, guest, stranger, or outsider, the player is often given opportunities to earn or maintain better relations, but they can also misstep and potentially lose wellbeing or even honor.



Honor system

Throughout the game, the player's choices during text interactions are connected to a hidden honor system. The fact that this system is hidden is purposeful in order to prevent players making choices relative to being aware of honor. Instead of "playing the system," players should ideally make choices based on their own decisions, which translates to gaining or losing honor. For example, in a scenario written by HolyWhiteMountain that takes place at a train station several hours east of the Blackfeet Agency, an elderly man teases the player. If the player responds angrily, they unknowingly lose honor, among other more overt ramifications (Figure 8).

Throughout many possibilities for gains and losses, the player's level of honor informs differences in the text displayed during loading scenes in-between maps. These historically accurate stories written by Sheena Louise Roetman either reflect the version of history that appeals to players who contributed resistance along their journey or, alternatively, those who compromised during allotment and land loss. As the journey progresses, certain choices in text interactions only become visible with a high level of honor. This design invites replayability, without making the underlying system an obvious feature that might otherwise influence a player's choices.





Collectable stories

Interactive scenarios and random happenings often include the potential to earn a collectible story. These stories are gathered by following certain paths, typically involving mechanics including talking, listening, asking, or gifting. Although they are categorized as traditional, historical, family, or personal stories, these categories are not intended to separate them or frame them as earned rewards. Instead, they are collected universally in a Stories menu that can be accessed at any point by pausing gameplay, opening the menu, and revisiting the text by their keyword (Figure 8).

Collectable stories frequently convey additional knowledge intended to further inform the player about the impact of land allotment on Indigenous people and their sovereignty as well as better understand cultural practices and teachings. It is not necessarily possible to collect every single story in the game during a single playthrough since the text interactions in scenarios often branch into different directions. This choice defies standard game design where collectables serve as a form of completion. Instead, interwoven stories invite players to replay the game to figure out what they missed and where.





Challenges

While *When Rivers Were Trails* is a complex example of self-determined Indigenous representations in game writing, certainly the game development process was not without its challenges and the game content admittedly has limitations. These are most clearly reflected in the amount of time the team had to develop, iterate, and launch the game, as well as parameters on content that were necessary to be able to deploy the game in middle-school classrooms.

Development timeline

As an act of sovereignty, the Indian Land Tenure Foundation along with the co-creative directors wanted to establish that the Foundation and Indigenous contributors would retain intellectual property rights to the game and all related content as well as the ability to determine the game's distribution and use. This stance meant that writing and finalizing the contract between the Indian Land Tenure Foundation and Michigan State University took just

as long as the team was then able to be given to actually develop, playtest, iterate, and polish the game. The development cycle was less than one year, beginning in the summer when students working for the Games for Entertainment and Learning Lab were available, and then continued through the university school year until the following spring. This put unfair pressure on students, who were also working for classes and internships. It also led to tight deadlines for content creation and revisions for lead artist Alvitre. Nonetheless, she created several unique environment art backgrounds and characters in direct relation to her own research as well as content provided by writers, ranging from their scenario text to family and community photos (Figure 9). For future work, it is highly advisable to look closely at any restrictions around when funds need to be spent by and, if possible, build in extensive time for contracts and other paperwork. Otherwise, it may be necessary to scale back a game's content and design relative to the timeline.



Content limitations

Since *When Rivers Were Trails* is primarily geared towards middle-school students and inclusion in classrooms, there were understandable although limiting restrictions on the content. Among instances where this concern came up, Sara Siestreem's initial scenario pitch had to be adjusted. Instead of an intense physical punishment for the player if they treat a Hanis Coos woman known as Winqas Huu'mis (Spider Woman) and her land wrongly, they must react to poison oak, which potentially reduces their wellbeing depending on their choices (Figure 9). Although Siestreem handled this change skillfully, discussions about these limitations are open and ongoing. So far, conversations across the team about the potential for an uncensored version of the game haven't led to anything actionable because of the implications of such a direction.

Within the context of this game being po-

sitioned as a "text of discomfort," as framed by the International Conference on Interactive Digital Storytelling 2020 exhibition, *When Rivers Were Trails* portrays Indigenous experiences in the 1890s, but within the range of what can be portrayed in middle-school classrooms and what writers wanted to express. As Siestreem reiterates, the 1890s were especially violent and disruptive times of colonization and genocide for Indigenous people in what is now known as the United States of America. *When Rivers Were Trails* manages to approach these harsh realities through relatable interactions thanks to the many Indigenous writers as well as moments of humor while playing on *The Oregon Trail*.

Although the possibility of removing the limitations around content and choosing instead to display the fullest extent of violence during the 1890s has been considered, Indigenous collaborators involved in the discussion determined that it would lead to an entirely different game

and one that they would not be comfortable with writing. Thus, the content within *When Rivers Were Trails* can provide a model for future games with similar aims to act as interventions, with the understanding that self-determination is core.



texts of discomfort

Acknowledgements

When Rivers Were Trails was developed in collaboration with the Indian Land Tenure Foundation and Michigan State University's Games for Entertainment and Learning Lab thanks to support from the San Manuel Band of Mission Indians.

The game features creative directing by Nichlas Emmons; creative directing, design, and user interface art by Elizabeth LaPensée; art by Weshoyot Alvitre; and music by Supaman and Michael Charette. The writers are Weshoyot Alvitre, Li Boyd, Trevino Brings Plenty, Tyrone Cawston, Richard Crowsong, Eve Cuevas, Samuel Jaxin Enemy-Hunter, Lee Francis IV, Carl Gawboy, Elaine Gomez, Ronnie Dean Harris, Tashia Hart, Renee Holt, Sterling HolyWhiteMountain, Adrian Jawort, Kris Knigge, E. M. Knowles, Elizabeth LaPensée, Annette S. Lee, David Gene Lewis, Korii Northrup, Nokomis Paiz, Carl Pe-

tersen, Manny Redbear, Travis McKay Roberts, Sheena Louise Roetman, Sara Siestreem, Joel Southall, Jo Tallchief, Allen Turner, William Wilson, Toiya K. Finley, and Cat Wendt. The team from the Games for Entertainment and Learning Lab was Alex Hogan, William Johnston, Nathan Kellman, Ellie Locatis, Declan McClintock, Amber Ottarson, Kieran Peasley, Rebecca Roman, and Harrison Sanders.

Game development involved over thirty Indigenous contributors with creative directing by Nichlas Emmons, creative directing and design by Elizabeth LaPensée, art by Weshoyot Alvitre, and music by Supaman and Michael Charette. Indigenous writers include Weshoyot Alvitre, Li Boyd, Trevino Brings Plenty, Tyrone Cawston, Richard Crowsong, Eve Cuevas, Samuel Jaxin Enemy-Hunter, Lee Francis IV, Carl Gawboy, Elaine Gomez, Ronnie Dean Harris, Tashia Hart, Renee Holt, Sterling HolyWhiteMountain, Adrian Jawort, Kris Knigge, E. M. Knowles, Elizabeth LaPensée, Annette S. Lee, David Gene Lewis, Korii Northrup, Nokomis Paiz, Carl Petersen, Manny Redbear, Travis McKay Roberts, Sheena Louise Roetman, Sara Siestreem, Joel Southall, Jo Tallchief, Allen Turner, and William Wilson, alongside guest writers Toiya K. Finley and Cat Wendt.

References

- Bigelow, B. (1997). On the road to cultural bias: A critique of The Oregon Trail CD-ROM. *Language Arts*, 74(2), 84–91. Print.
- Dim Bulb Games (2018). Where the Water Tastes Like Wine [Video game]. <https://www.wherethewatertasteslikewine.com/>
- Haas, J. K. (2014). *A History of the Unity Game Engine*. Retrieved from <https://digitalcommons.wpi.edu/iqp-all/3207>
- Howard, K. T., & Donley, R. (2019, November). Using Ink and interactive fiction to teach interactive design. In *International Conference on Interactive Digital Storytelling* (pp. 68-72). Springer, Cham.
- Indian Land Tenure Foundation (2019). *When Rivers Were Trails* [Video game]. <https://indianlandtenure.itch.io/when-rivers-were-trails>
- Khan, I. (2019, February 22). When Rivers Were Trails is an educational game about the Native experience. *Game Informer*. <https://www.gameinformer.com/2019/02/22/when-rivers-were-trails-is-an-educational-game-about-the-native-experience>
- Laiti, O. (2021). *Old ways of knowing, new ways of playing—The potential of collaborative game design to empower Indigenous Sámi* [dissertation thesis], University of Lapland.
- LaPensée, E. (2021). When Rivers Were Trails: Cultural expression in an Indigenous video game. *International Journal of Heritage Studies*, 27(3), 281-295.
- LaPensee, E. (2020). SPEAR: A framework for Indigenous cultural games. *ANTARES: Letras e Humanidades*, 12(28), 4-22.
- LaPensée, E., & Emmons, N. (2019). Indigenizing education with the game When Rivers Were Trails. *Amerikastudien/ American Studies*, 64(1), 75-93.

Images

1. Scenario Written by Nokomis Paiz, Art by Weshoyot Alvitre;
2. Map Interface, Art by Elizabeth LaPensée;
3. Scenario Written by Sterling HolyWhiteMountain, Art by Weshoyot Alvitre;
4. Scenario Written by Korii Northrup, Art by Weshoyot Alvitre;
5. Hunting Minigame, Art by Weshoyot Alvitre and Elizabeth LaPensée, Animations by Amber Ottarson;
6. Scenario Written by Allen Turner, Art by Elizabeth LaPensée;
7. Scenario Written by Sterling HolyWhiteMountain, Art by Weshoyot Alvitre;
8. Collectable Stories Menu, Art by Elizabeth LaPensée;
9. Scenario Written by Weshoyot Alvitre, Art by Weshoyot Alvitre.

Elizabeth LaPensée, Ph.D. is an award-winning designer, writer, artist, and researcher who creates and studies Indigenous-led media such as games and comics. She is an Assistant Professor of Media & Information and Writing, Rhetoric & American Cultures at Michigan State University.

Twitter: @odaminowin
<https://www.elizabethlapensee.com/>

Medium: Web based

Year of Release: 2019

Link to the artwork: <http://ofergetz.com/temporary/>

Video artist: <https://vimeo.com/428396021>





Temporary

Ofer Getz

*"Smart, compelling, moving.
Simple illustration and single sound per
image: less is more."*

ICIDS 2020 Jury

***Temporary*, an interactive and personal story**

Abstract

This paper describes the creation of *Temporary*, an interactive, story-based experience. *Temporary* tells the story of my grandmother, who suffers from Alzheimer's disease. It is an illustrated journey, depicting a day at my grandmother's room in a nursing home. The interactive storytelling system relies on simple participation of users, who run the story by pressing a button repeatedly. By attaching illustrations and sounds, the story experience is enriched with a relevant atmosphere. *Temporary* is also addressing non-linear storytelling and the importance of user actions to unravel a story. This paper will present the decisions I made while designing a system suitable for a specific subject matter and my attempts to evoke users' emotional response, without the use of sophisticated methods or a complex plot.

Keywords

interactive narrative, feedback, illustration, emotional

Introduction

My grandmother, Yehudith (Fineschneider) Getz was born in 1928 in Pultusk, Poland. At the age of 11, the war broke out. She and her family fled to the USSR. During the war years, she endured a long and restless survival journey, alongside her older sister, Rachel, including the loss of her father and young brother. After the war, she joined an organization who cared for Jewish orphans in post-war Poland, and there she met my grandfather. They eventually had the chance to start a new life on a Kibbutz in the newly born state of Israel. They had a child – my father, and later moved to Tel-Aviv, where my aunt was born. Their house in Tel- Aviv will later become a central part of my childhood. Her life was something that can be viewed now as extraordinary. Lost childhood, stolen youth and a new life in a new country.

My grandmother suffers from Alzheimer's disease. Her mother and sister both suffered from it before they passed away, so when

early signs started to appear, it wasn't a complete surprise. The disease progressed slowly at first, revealing hints of the future to come. As time went on, visiting her in her nursing home became more and more a dire experience. Every visit revealed a new decline.

After a long visit to her room, I became very disturbed. The disease was very present. I decided to try and write a short comic strip about the experience on that day. I struggled, not knowing what exactly I wanted to say, until I realised that I didn't have words to express it. It was a kind of grief, maybe. I decided to create the comic strip without too much planning. The strip presented real pieces of a conversation I had with my grandmother on that day. I was disappointed with the result, and rejected it. Telling a story without being able to phrase what the story is about is difficult. It seemed at that point that I couldn't articulate my vague thoughts into a coherent story; or at least not in this medium.

Illustrations, storytelling and interactivity

In my practice as an illustrator, storytelling is key. Storytelling in this context does not necessarily require a plot, or a complete story structure, it can be something condensed, as an isolated situation, a moment, an emotion or an idea. When the story is told in just a few frames, efficiency is essential. How much content can one frame hold? An illustration can be an efficient conveyor of clear messages. Illustrations can also express poetic ideas, emphasis on a mood or an emotion, use abstract representations and more.

Using digital technology to display artworks on a computer, promotes innovative approaches to traditional storytelling, by the use of diverse media (McCarthy, Ondaatje, 2002, p. 28), and by interactivity.

Interactivity can give users control over their own experience. An interactive experience is designed to guide and train users to per-

form certain actions or tasks by clearing unnecessary distractions and providing feedback to the user's actions (Murray, 2012, p. 10). The user has the ability to choose to stop all action and quit the experience completely, but while they are participating, the designer of the system has the power to influence, direct and guide their actions.

In my work as a web designer, I often used illustrations. Given the interactive nature of their environment, those illustrations could be animated, and respond to a user action. Interactive illustrations were my means to generate user engagement and guidance while making the experience richer. My illustrated content could influence and enhance the user's experience, but I was not generating any meaningful response. It felt like printed illustrations plugged into a power source.

Interactive storytelling is commonly associated with complex branching narrative models and methods of creating dynamic, user-influenced content. Complex interactive

narratives may demand complex methods, but I was not interested in a dynamic plot. I searched for other approaches that might also be considered as interactive storytelling. Favouring mood and atmosphere over a coherent plot was a part of this approach.

Design for an interactive environment can rely on conventions, for example the use of images, sounds and motion, or simple actions like clicking a button. I was focusing on basic conventions such as these, and they triggered questions about the ability of a simple action being meaningful. Isolating the event of pressing a button and getting feedback, a basic event, was a door for me.

Creating *Temporary*

The idea behind *Temporary* is simple: to create a story-based interactive pacing system. When designing for interactive environments, images and sounds are the basic source materials. They are often combined, and a user's action (such as clicking a button on the screen) may produce a graphical and an aural response.

Hitting a button on the keyboard to cycle through a sequence of frames is another common behaviour in interactive environments, it is what we do when we run a presentation. By associating a particular musical note with each frame of the sequence, the same presentation can achieve a different feel. A user cycling through a presentation such as this will find that they're creating a tempo with each keystroke, a tempo that can encourage the next keystroke. The sequential notes combine to create music, adding another sensory experience to the inte-

raction.

The use of music in video games is a familiar concept. Music-based games such as *Guitar Hero* are a prime example. They show how musical participation can produce user engagement (Roesner, et al., 2016, pp. 197–228). However, my motivation was to tell a story to the user, not challenge them to a game. The illustrations I was planning demanded time to ponder and decode, and not shiny buttons or bars.

A linear sequence of images that can be presented in such a system can compile a complete story. It is a system that can deliver a visual story, and add an accompanying soundtrack, played at a pace that is fully controlled by the user. This adds a rhythmic layer to the experience that influences the way in which the user experiences and operates the story.

The concept for my scrapped comic strip, describing one difficult day with my grandmother, came back to the forefront of my mind.

Maybe a pacing system was the right medium for this story that lacked a coherent message of its own. Adding a soundtrack and planning a movement between frames (that represent frozen moments) were means to try and set the atmosphere and mood for the user.

The system was initially designed to show a linear sequence of frames. The frames represent sequential moments in my grandmother's day, but for a person with Alzheimer's, moments feel detached. Distorted time is a phenomenon observed in people with Alzheimer's. Hence, some of the frames were planned to create a coherent continuation of a situation, while others were planned to create confusion. Memories jump in, familiar house objects become strange, and people from the past reappear. Although the story seems unclear, the tempo keeps all the frames on a consistent pace. The whole experience is an unfolding linear story. The frames were first uploaded as separate uni-

ts, then non-linearity was added.

The frames from the linear story can be viewed as a grid of thumbnails. It is like looking at the whole story from a bird's eye view. The user can choose to see each of the thumbnails, in any order. Clicking a thumbnail will make the equivalent frame, with its accompanying note appear (and disappear). The user experiences an incoherent tune, and a disordered story. The disordered story actually helps create an accurate experience of my grandmother's moments, as she perceives them through the lens of her disease. It seems to me that she is experiencing a disrupted order of events. She sometimes struggles to remember what happened a moment before, as if moments are detached units that can be assembled in any order. The disordered story in *Temporary* might be confusing and hard to understand, but fundamentally connected with its origin. The two concepts of linearity and non-linearity coexist in *Temporary*. The expe-

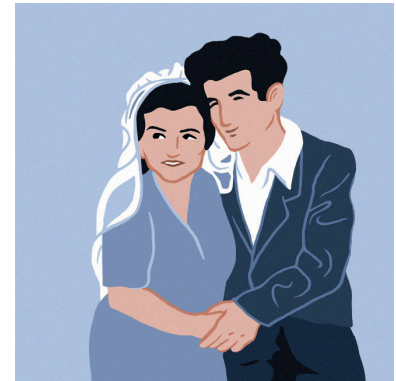
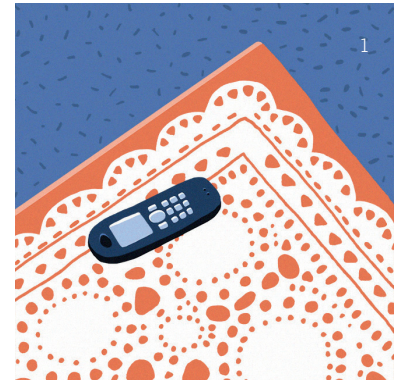
rience will initially lead the users to go on the linear route, but they can always change to 'grid mode', which allows non-linear progress. At the end of the linear sequence the 'grid mode' option is presented again, in a pop-up at the centre of the screen.

While the story has a hero, it doesn't take the hero's point of view in all of its frames. It is not trying to be a direct representation of my grandmother's point of view. Instead, it tries to think about the subject of fleeting moments, and maybe blur the boundaries between internal and external points of view. This could be yet another interpretation of the hero's situation. In *Temporary*, users are expected to decipher the situation on their own. The story can be understood (as a story about a woman with Alzheimer's disease, or at least as a story about a woman in a nursing house). But the point of view, the connections between different moments and sometimes the moments themselves, have

something unexplained and maybe undecipherable. It can create misunderstandings, or a partial encoding within the users.

The opening frames of *Temporary* present distant memories, based on family photos.

It starts with a close-up of my grandmother as a child (frame #1). The family in a park (frame #3), her father (frame #2; frame #4), and then my grandfather (frame #5), their wedding (frame #6), the new life in a kibbutz (frame #7), the birth



texts of discomfort

of their first child, my father (frame #9), memories from the years they spent in Brussels.

The story then jumps to her, looking at the mirror, in the present day. The distant memories, including the family house in Tel-Aviv, are painted with blue monochromatic colours, less vibrant than other frames.

However, most of the frames are representations of everyday moments in her small room. The colour palette is very limited, dull and not exciting, as if nothing really happens. And in that nothingness, the drama of the disease slowly reveals itself, as memories and current moments begin to blend together.

The erased faces in some of the later frames are the only attempts to directly acknowledge Alzheimer's disease, or the subject of forgetting. The last frame depicts my grandmother looking at her own faceless reflection in the mirror. Alzheimer's research describes how people with this disease sometimes don't recogni-

se their own reflection. This last frame has two notes attached to it. It is breaking the image-note rule that is the basis of the whole system. In that way it brings a kind of a finale to the piece, or maybe a sad conclusion.

The frames were drawn by simple pen lines on paper, they were later scanned and digitally coloured. I referenced old family photos for the frames that showed distant memories, and photos of her current room. The illustration style is simple as well. Most of the images are objects and sights from that little room

The objects may seem like a random list, some very banal, some unique. A lot of them bear a personal memory, or significance. They are objects I knew from childhood, from her old home. Some of the frames are close-ups of other frames, or a variation of them. I made adjusted and accentuated frames that had particular significance to me.

Choosing the appropriate piece of music

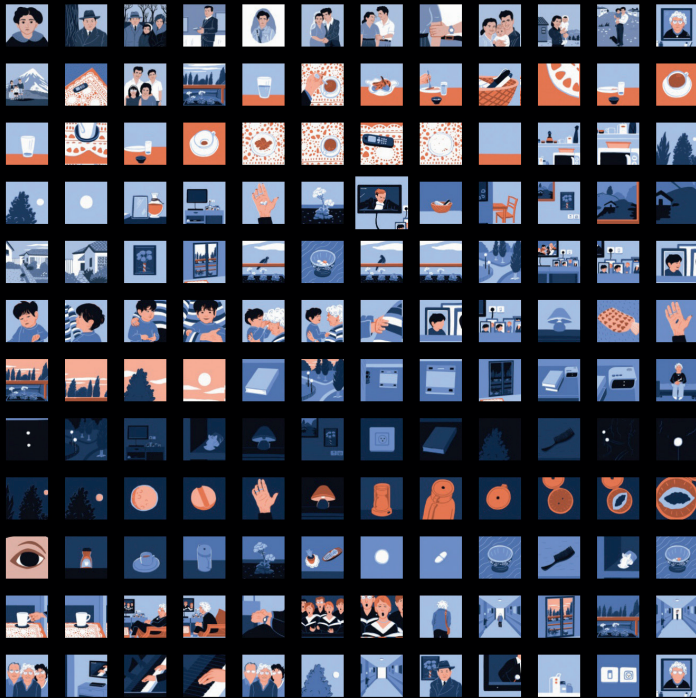
I would use in *Temporary* was a crucial component. I knew I wanted classical piano music, because this is what my grandmother listens to, and the piano was the most suitable instrument for the system. Each keystroke on a piano produces a note. When combining notes in a sequence we get a tune, and if the tune is apparent enough, it will help guide the user through the experience unfolding at the correct pace. This is not to say that there's only one correct tempo for this piece of music, but with a certain range of paces, the tune becomes recognisable. The music will play 'correctly', by keeping a monotonous pace. I chose Wolfgang Amadeus Mozart's Lacrymosa from his famous Requiem in D Minor. A slowed-down midi version of the Requiem was used. It was slow enough to crop it into single notes. The notes were produced with fade-in and fade-out effects, and then uploaded into the system.

The story contains 144 frames and 144 notes (except for note #144 which is actually a

double-note). The frames are rectangular, as the grid of 144 thumbnails. The system was designed to be as simple as possible. A clean design, with a minimum of elements on screen. Any key (or mouse click) will trigger the next frame and note. The back arrow key will play the previous frame and note, but it is not directly suggested to the users. The loading screen before entering the experience provides instructions, and the loader element itself is animated at a pace that resembles a possible pace in the experience itself. The code, the illustrations and sound: it all had to be simple, like the logic behind the pacing system. This simplicity allowed me to execute all the details, including the way in which each frame animates. I assumed two arrays of objects (one for image and one for sound, with a matching index). The JavaScript code was pretty straight-forward. The coding part: planning and execution was smooth and fast.

2





Discussion and conclusion

Temporary is an interactive, story-based experience. It uses a simple system that plays illustrations and sounds to engage users and take them through an experience. It is hopefully generating an emotional response and what Murray defines us as a 'satisfying experience of agency' (Murray, 2012, p. 12). Still, some questions remain. Is it really an interactive story, or maybe it just appears to be? Can *Temporary* be evaluated in terms used in the studies of video games such as reward systems or 'flow'?

This system is not a video game. It is an interactive web-based story. Engaging with the system can be relaxing, and perhaps put the user in a harmonious state. It does not seek to challenge, rather elicit one repetitive behaviour. The user must make choices in order for the story to unfold, but the requested behaviour is the same action, and it always produces the

same result, making learning the system nearly intuitive. *Temporary* is an example of a primitive reward system that produces a pleasing response to every keystroke, and invites users to "tune-in" to it, without challenging them with complex game-play. But still, minimum skill is required, and musical participation in itself may create a state of "flow" (Roesner et al., 2016).

The ability to play the story in an uneven pace, to return to previous frames, and to view the story in 'grid mode', add another layer of interactivity to the system, and suggest new ways to experience the story. But the decoded story, whether played in order or otherwise, is the same story of fleeting moments, confusion and forgetfulness, whether it's played in order or not. Building and learning about interactive systems helped me to understand some of the points I was trying to make about my grandmother's condition.

The system's strength has nothing to do

with sophistication or original technological ideas. Its strength is in its ability to create the right environment for the story. A sentimental story, that tries to elicit strong emotional response, maybe like a melodrama (Murray, 2005, pp. 83-94). User emotional involvement in the narrative is a goal, and *Temporary* is trying to gently achieve that without a complex plot, dialogue and dynamic content. I'm not sure whether this system can be reused to tell other stories, or if this particular medium and subject matter inherently intertwined.

In a way, *Temporary* is a digital flip-book or a web-based musical box. The user moves through it while only one page is revealed at any given time. Pacing is at the heart of the experience, and a carrier of the story's messages. The mechanism may be as important as the content of the frames, the styles and the music. In a way, the users must compose the atmosphere by their own actions. They have to create the

sentences, they are urged to perform the experience that will fade to black and silence when no action is taken. In that way *Temporary* is a suggestion for an interactive story, where the designer produces an area of activity for the users. The artwork's final formation is a result of participative behaviour of users (Kluszczyński, 2010, p. 1).

Beside the discussion about interactivity and system design, *Temporary* started with a different motivation: Telling a story that I couldn't tell in words or drawings. It found a platform that can tell it, by presenting temporary moments. As a means of artistic expression, it allowed me to compose a message at a time when I was lost for words. To me, this is what creating for interactive environments is about: creating a dialogue with users, by creating a dialogue between a designer and the system he is developing.

References

- Biringer, f., Anderson, J. R. (1992). Self-recognition in Alzheimer's Disease: A Mirror and Video Study, *Journal of Gerontology*, Volume 47, Issue 6, pp. 385–388. <https://doi.org/10.1093/geronj/47.6.P385>
- Cziksentmihalyi, M. (1990). *Flow – The Psychology of optimal experience*. Harper & Row.
- El Haj, M., Kapogiannis, D. (2016). *Time distortions in Alzheimer's disease: a systematic review and theoretical integration*. npj Aging Mech Dis 2, 16016. <https://doi.org/10.1038/npjamd.2016.16>
- Kluszczynski, R. W. (2010). Strategies of interactive art, *Journal of Aesthetics & Culture*, 2:1, 5525.
- Lorenz, R., Gleich, T., Gallinat, J., & Kühn, S. (2015). Video game training and the reward system. *Frontiers in Human Neuroscience*, 9.
- McCarthy, K. F., Ondaatje, E. H. (2002). *From Celluloid to Cyberspace*. RAND Corporation.
- Murray, J. H. (2012). *Inventing the Medium*. The MIT Press, Cambridge.
- Murray, J. H. (2005). Did It Make You Cry? Creating Dramatic Agency in Immersive Environments. In: Subsol, G. (Ed): *Virtual Storytelling, Using Virtual Reality Technologies for Storytelling, Third International Conference, ICVS*. Springer.
- Roesner, D., Paisley, A., Cassidy, G. (2016). Guitar Heroes in the Classroom: The Creative Potential of Music Games. In: Austin, M. *Music Video Games: Performance, Politics, and Play*. Bloomsbury Publishing.

Images

1. A selection of frames from Temporary: frames number 1, 3, 6, 13, 14, 16;
2. Temporary main screen;
3. Temporary 'grid mode' screen.

Ofer Getz. I'm an illustrator and designer. I've illustrated children's books, created editorial illustrations and participated in several exhibitions. In addition, I worked in the field of interaction design, especially in E-learning. In my Master's degree in visual communications from Bezalel – Academy of Arts and Design, Jerusalem. I expanded my interest in creating interactive experiences, including web-based experiences and video game design. Besides working as an illustrator, I am a teaching assistant at Bezalel's Master programme in visual communication and an illustration teacher at Bezalel Externals Studies. I am also curating and creating digital art exhibitions, by the use of photogrammetry and 3D modelling.

Medium: Interactive performance/playable theatre/digital theatre

Year of Release: 2020

Link to the artwork: <https://fastfamiliar.com/artwork/the-evidence-chamber/>

Video artist: <https://vimeo.com/460917581>

The Evidence Chamber

Fast Familiar

"Very interesting concept! It's unlike anything seen in ICIDS art-exhibits. This project opens several questions around the nature of theatre itself."

ICIDS 2020 Jury

The Evidence Chamber: a case study in adapting digital performance from a co-located experience to an online one

Abstract

The Evidence Chamber is an interactive digital theatre experience in which twelve members of the public take on the role of jurors considering a difficult case in which the case for the prosecution relies heavily on forensic evidence. Prior to the COVID 19 pandemic, this piece happened with co-located audience members using iPads. During the pandemic, we converted this tablet-based experience to an online event, using an adaptation of our bespoke software platform. This conversion process posed various challenges, focusing on how to enable discussion between jurors, how to adapt the software to work on different browsers and devices and adapting to different broadband strengths and speeds. Here we place the piece in its context as a piece of playable theatre and cyberformance that explores legal themes and we describe how we overcame these conversion challenges and what benefits doing so produced.

To enable discussion between jurors we embedded a web-based video chat into the existing software platform. To adapt the software to different browsers and devices we altered the video syncing, changed the document viewer and built a range of debugging tools, which we discuss. To adapt to different internet speeds we used adaptive bitrate streaming, using MPEG-DASH encoding.

Keywords

digital theatre, interactive theatre, playable theatre, cyberformance, human-computer interaction

Introduction

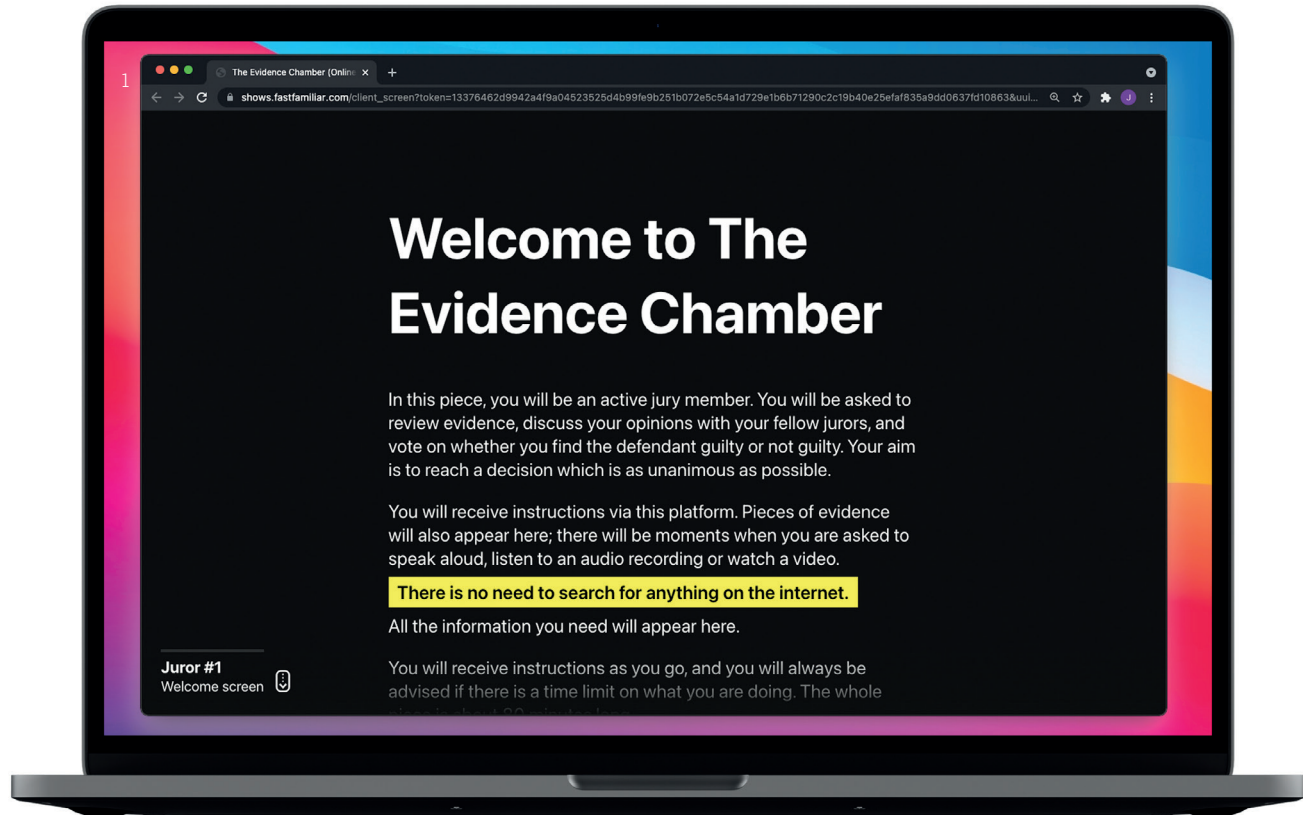
The Evidence Chamber is an interactive digital theatre experience in which twelve members of the public take on the role of jurors considering a difficult case in which the case for the prosecution relies heavily on forensic evidence. It was created by digital arts studio Fast Familiar in collaboration with the Leverhulme Research Centre for Forensic Science at the University of Dundee.

Prior to the COVID 19 pandemic, Fast Familiar had created a version of the piece in which members of the public gathered in person, sometimes in real jury deliberation rooms. In this co-located version of *The Evidence Chamber*, each “juror” has a tablet on which they receive ‘evidence’ in the form of video testimonies from witnesses and forensic experts, various documents, legal definitions, comics which explain key concepts in forensic science and prompts to interact with each other and discuss the case. These discussions frequently become

detailed and are sometimes passionate. At various stages, they are also asked to vote whether they think the accused is guilty or innocent, culminating in a final decision of the group. This in-person version of the piece was performed several times before the outbreak of the pandemic.

During the pandemic, we converted this tablet-based experience to an online event, using an adaptation of our bespoke software platform. This online version was performed many times, including as part of ICIDS 2020. This article outlines the steps that the authors undertook to achieve this and discusses some of the challenges we faced and how we overcame them.

The table below (table 1) outlines the structure of the piece. Columns 3 and 4 show what differs between the co-located and online versions of the piece. Video indicates a pre-recorded video and video-call indicates a live video call.



texts of discomfort

tab. 1

Stage	What happens	Form (co-located)	Form (online)
Welcome	Audience arrive in the room (co-located version) or online lobby (online version) and are given a tutorial in how the platform works	Tutorial on iPad. No live performer. No audience member is given the role of jury foreman	Built in video call. The system is introduced by a performer playing the role of Stan (a court clerk). An audience member is given the role of jury foreman
Scene Setting	Audience watch a news broadcast, giving an overview of the case and explaining that the Defendant has been accused because his DNA was found at the crime scene.	Video on iPad	Video on web browser
Testimony from the ex-partner of the defendant	Audience hear the testimony of the ex-partner of the defendant	Audio on iPad	Audio on web browser
Telecommunications data of the defendant	Shows the movements of the defendant's phone on the night of the crime	Document on iPad	Document on web browser
Crime scene examiner's report	Shows where DNA was found, where the victim was found and where a French window was found open	Document on iPad	Document on web browser
Expert witness testimony: gait analysis	The testimony of an expert witness about the gait of the defendant and the gait of the figure caught on CCTV on the night of the crime	Video on iPad	Video on web browser
Statements made during the trial	Each audience member reads aloud a statement made during the trial by either the defence barrister or the prosecution barrister	Instructions and text given on iPads, audience members read aloud	Instructions and text given on iPads, audience members read aloud via video call
Blind vote 1	Audience members vote anonymously on whether they currently feel the defendant is guilty or not guilty. Results are then displayed to audience members.	Voting and display happens on the iPad screen	Voting and display happens on the web browser
A guide to understanding gait analysis	Audience members read a document which explains how gait analysis works and how it should be done (audience members realise the gait analysis was not done to the best standard)	Document on iPad	Document on web browser
Testimony from a colleague of the victim	Audience members hear about what happened shortly before the death of the victim and how her body was discovered.	Video on iPad	Video on web browser
Testimony from a friend of the defendant	Audience members hear from the defendant's friend, who alleges that the defendant spent the evening with him but that he was asleep at the time of the crime.	Video on iPad	Video on web browser
Testimony from an acquaintance of the defendant	Audience members hear about how this acquaintance met the defendant in a pub and subsequently worked as a waiter for an evening at the house of the victim.	Video on iPad	Video on web browser
Glossary of legal terms	Definitions of various legal terms, including murder and "beyond reasonable doubt."	Document on iPad	Document on web browser

Stage	What happens	Form (co-located)	Form (online)
Discussion 1	Audience members discuss how they currently feel about whether the defendant is guilty or not guilty.	Discussion in a room	Built in video call
Blind vote 2	Audience members vote anonymously on whether they currently feel the defendant is guilty or not guilty. Results are then displayed to audience members.	Voting and display happens on the iPad screen	Voting and display happens on the web browser
Records of online chat forum	Audience members see an online chat forum that demonstrates the defendant's violent past as a football hooligan (but one who spoke about limiting violence only to men who supported opposing teams)	Document/screenshot displayed on iPad	Document/screenshot displayed on web browser
Expert witness testimony about the DNA evidence	A video of an expert witness explaining the degree of certainty that the DNA at the crime scene belongs to the Defendant	Video on iPad	Video on web browser
Discussion 2	Audience members discuss how they currently feel about whether the defendant is guilty or not guilty.	Discussion in a room	Built in video call
Blind vote 3	Audience members vote anonymously on whether they currently feel the defendant is guilty or not guilty. Results are then displayed to audience members.	Voting and display happens on the iPad screen	Voting and display happens on the web browser
Testimony from the defendant	Video testimony of the defendant and his account of the night	Video on iPad	Video on web browser
A guide to understanding DNA evidence	An explanation about DNA and its role in evidence, including the possibility of "secondary transfer." Audience members realise the defendant's DNA might have been brought to the crime scene inadvertently by the acquaintance he shook hands with in the pub.	Document on iPad	Document on web browser
Discussion 3	Audience members discuss how they currently feel about whether the defendant is guilty or not guilty.	Discussion in a room	Built in video call
Summing up statements	2 audience members selected at random by the software read summing up statements from the Defence Barrister and Prosecution Barrister	Instructions and text given on iPads, audience members read aloud	Instructions and text given on iPads, audience members read aloud via video call
Discussion 4	Audience members are told this is their final discussion. They discuss how they currently feel about whether the defendant is guilty or not guilty.	Discussion in a room	Built in video call
Final Vote	Audience members vote on whether they think the defendant is guilty.	Voting and display happens on the iPad screen	Voting and display happens on the web browser
Divergent stages	If the audience are unanimous, the piece ends here and the verdict is displayed. If there is not unanimity, a further discussion and voting round occur, at which a majority of 11 to 1 or equivalent is accepted. If no majority of 11 to 1 is found in the vote, a further discussion and voting round occur aiming for 10 to 2 or equivalent. If no majority is found, the defendant is found not guilty.	Discussions happen in the room, votes happen on iPads and are displayed on iPads.	Discussions happen on built in video call and votes happen and are displayed on web browser.
Debrief	A debrief discussion in which audience members have the opportunity to ask real forensic scientists questions and also ask the artists about the piece.	Discussion in a room	Built in video call.

Number of performances and audience demographics

Prior to the pandemic, we did five performances of the co-located version of the piece and it was experienced by approximately 70 audience members. These were all people who lived or were studying in Dundee, Scotland, where the performances were held. During the pandemic, we did twenty-five performances of the online version of the piece and it was experienced by approximately 225 audience members. Our research collaborator Kadja Manninen analysed the demographics of 173 audience members of the online show and found that 69% of audience members identified as female. The majority (59%) were aged between 26 and 45. 80% of audience members came from the UK, 5% from the US and 3% from Australia. In total, people from 20 different countries experienced the piece, including people from Nigeria, Saudi Arabia, numerous European countries and New Zealand. Audience members came from a range of professional backgrounds, including arts, media and entertainment, education, law and computer science. These demographics will be analysed in more detail in a future paper.

Literature review

In this chapter we seek to briefly place *The Evidence Chamber* in the context of playable theatre, cyberformance, immersive theatre, theatre about law, games about law and human-computer interaction.

Playable theatre

Two of Fast Familiar's three lead artists (Rachel Briscoe and Dan Barnard) come from a theatre background and sometimes Fast Familiar talk about the work they create as "playable theatre" (Barnard, 2020), a term coined by Tassos Stephens from British theatre company Coney. Playable theatre is a hybrid form combining elements of theatre and elements of games. A range of playable theatre pieces have been created in the UK, including Coney's *Remote* in which audience members vote at various decision points for the protagonist by holding up cards, and Seth Kriebel's *A House Repeated* which echoes some interactive fiction and involves the audience choosing where a protagonist should go next in a house. Other examples include Coney's *Small Town, Anywhere* in which audience members

take on the role of different villagers responding to a strange new situation; Metis Arts' World Factory in which audience members become the executive board of a Chinese clothes factory and make decisions which play out in unforeseen ways; and Fast Familiar's Disaster Party in which audience members become guests at a party, taking on characters and following instructions given to them on headphones. Playable theatre is not a uniquely British phenomenon. Austrian director Philipp Ehmman from the performance collective play Vienna directed a piece called Press Staat for Revolution at Schauspielhaus Graz in which audience members are citizens trying to redesign the future of the fictitious state of Libertalia, while attempting to resist the efforts to derail this democratic process from other audience members who have been given secret roles as terrorists and members of the secret police.

Fast Familiar's recent work such as *The Evidence Chamber* and *The Justice Syndicate* draws inspiration from these other playable theatre projects and makes use of an active audience who become players or participants and influence the outcome of events. These projects

differ though in some significant ways. As Barnard and de Meyer argue (Barnard & de Meyer, 2020a), the absence of live performers in Fast Familiar's work diminishes the embarrassment that audience members feel, and widens their "horizon of participation" (White, 2013, p.57). and increases their agentive behaviour.

Cyberformance

When *The Evidence Chamber* transitioned from its original pre-pandemic form as a digitally-enabled interactive performance for a co-located audience, to an online performance, it morphed into a cyberformance. Cyberformance is defined by Christina Papagiannouli as "the genre of digital performance that uses the internet as a performance space" (Papagiannouli, 2016, p.X). Cyberformance is often framed (especially by big artistic institutions) as a new phenomenon but, as Jamieson points out (Jamieson, 2012, cited in Papagiannouli, 2016), it dates back to at least 1994 when fine artists Nina Sobell and Emily Hartzell launched 'ParkBench', transforming their studio into a 'time-based public Web installation' (Papagiannouli, 2016, p.2) by creating a weekly, online, live, video-based

performance series called *ArtisTheater*. Despite Cyberformance's rich history, the rapidly evolving technological capacity to stream video and enable video-calling mean that new horizons keep emerging for artists to exploit, as we sought to with The Evidence Chamber.

Immersion

While we would argue that *The Evidence Chamber* produces an experience of immersion in audience members, we hesitate in describing it as "immersive theatre" because it does not feature "an all-encompassing sensual style of production aesthetic" (Machon, 2013, p.66). It also does not fit one of Machon's other definitions of immersive theatre – "that practice which actually allows you to be in 'the playing area' with the performers, physically interacting with them" (Machon, 2013, p.67) for the simple reason that there are no live performers. It does, however, feature the "direct participation of the audience member in the work" (Machon, 2013, p.67).

Gordon Calleja (2011) makes some useful distinctions between different types of im-

mersion in games studies, which Machon (2013) adapts in her study of immersive theatre. Calleja describes "immersion as absorption" (Calleja, 2011, p.26) as following the Oxford English Dictionary (2003)'s definition of that word as "absorption in some condition, action, interest" (Calleja, 2011, p.26). As an example of "immersion as absorption" he mentions playing Tetris, which is highly absorbing but does not involve representational mimesis. "Immersion as transportation" (Machon, 2013, p.63) does, however, use representational mimesis. Machon (2013) develops Calleja's (2011) discussion of immersion to distinguish between "immersion as absorption", "immersion as transportation" and "total immersion" which combines absorption and transportation. The experience of *The Evidence Chamber* seems to generate "immersion as absorption" as it frequently engages the participants fully "in terms of concentration, imagination, absorption and interest; a total engagement in an activity that engrosses...the participant within its very form" (Machon, 2013, p.63). It lacks, however, the scenographic and visceral qualities or the elements of spatiality

required for “immersion as transportation.” These distinctions and how they relate to the work of Fast Familiar are discussed in more detail elsewhere (Barnard & de Meyer 2020a).

Theatre and the law

The Evidence Chamber is part of a long history of narrative and theatrical representations of the law, dating back at least as far as Aristophanes. As Alan Read notes, ‘the relations between theatre and law were always omnipresent’(Read, 2015, p.75). A courtroom provides many of the key ingredients of drama: high stakes, conflict, people of differing status and (usually) a beginning, middle and end. *The Evidence Chamber*, like our previous piece *The Justice Syndicate*, is an evolution of that tradition – focussing, specifically, on the jury deliberation phase of a trial.

The Evidence Chamber and *The Justice Syndicate* are not the first theatrical performance to task its audience with deciding on a verdict. Ferdinand von Schirach’s play *Terror* opened at the Deutsches Theater Berlin in 2015. In Ter-

ror, a large audience watches a court case unfold, from their seats, in a traditional theatrical way – but at the end, they vote about the verdict on small electronic devices. There are other theatrical productions that have placed members of the public in the role of jurors. The most famous of these is perhaps Milo Rau’s *Pussy Riot’s Moscow Trials*. The trial, a one-off performance or ‘re-enacted show trial’, ran over three days in Moscow’s Sakharov Centre. These six Moscow residents were genuinely free to come to their own decision, based on the evidence they heard. These pieces and their similarities and differences with Fast Familiar’s work are discussed in more detail elsewhere (Barnard & de Meyer 2020b).

Games and the law

Craig Newberry-Jones argues that video games differ ‘from other modern cultural texts by providing the user with an active experience, instead of mere passive observation’(Newberry-Jones, 2015, p.78). We would argue that this is also true of playable theatre like *The Eviden-*

ce Chamber. Newberry-Jones goes on to argue that ‘video games encourage the player to critically interrogate [themes of justice] in a more profound way than other modern texts due to their phenomenological characteristics.’ (Newberry-Jones, 2015, p.78) Newberry-Jones argues that:

Whereas the format and codes of communication found in cinema and television are largely based around the role of the audience as passive observer or officious bystander, the role of the user in video games is that of active experimenter or experienter. Video games place decisions and narratives in the hands of the user and allow the player to immerse himself more substantially in the subject matter of the text, engaging more substantially with themes and motifs, choices and decisions.
(Newberry-Jones, 2015, p.84)

Newberry-Jones points out that the experience of playing a video game alternates between a passive and active engagement. *The*

Evidence Chamber similarly alternates between active and passive engagement, with audience members switching between watching testimonies and voting on and discussing the case. Newberry-Jones claims that ‘while there has always been a phenomenological public engagement with law, legality and justice, there has been a shift in recent decades from active public engagement to passive observation, but video games are reviving a more active engagement’ (Newberry-Jones, 2015, p.89). He claims that the decision-making process that video games permit allows ‘the individual player to experiment with his own conceptions of justice (Newberry-Jones, 2015, p.93).’ and this particular type of phenomenological engagement ‘allows players to experience justice and carry forward beliefs into their own consciousness’(Newberry-Jones, 2015, p.99). We would argue that *The Evidence Chamber* operates in a similar way.

Glitch and smoothness

There is a movement within the field of fine art and performance research that celebra-

tes glitches in net art and cyberperformance, arguing that they are a productive disruption. As Christopher Murphy writes, the glitch:

questions assumptions of perfection and beauty within a digital context in which - theoretically - everything one can create is a perfect, binary realisation. Within this perfect world, the glitch represents a rupture within the contexts of idealised representation, challenging the premise that the digital world is one free from imperfection.

(Murphy, 2009 p.1)

While we acknowledge the valuable role that glitches can play in certain contexts, we work to avoid them in our practice. This is not to create the illusion of technological perfection but rather to enable the technology in our work to, as far as possible, disappear. This is because the interaction between audience members is at the heart of our work and we view the technology we use as a means to facilitate this so our aim with the technology is to make it as unobtrusive as possible. This is why we tend to describe our

work as “audience-centric performance.” A glitch would disrupt the interaction between audience members, which is why we work to avoid them. This paper documents our process of endeavouring to do that when converting *The Evidence Chamber* from a co-located performance to an online one.

Adapting *The Evidence Chamber* from a co-located piece to an online one

Challenges we faced

Adapting *The Evidence Chamber* from an experience that took place in a single room with a co-located audience to an experience that could take place online with a geographically dispersed audience posed three key challenges:

- Enabling discussion. In the co-located version of the piece, there were a series of stages in the piece where the participants were prompted to discuss their current feelings about the case with their fellow “jurors.” In a physical room, this was easy to achieve as participants simply spoke with each other until a notification on the iPads prompted them to move on. When we moved the piece online, we were faced with the challenge of how to ensure that the participants could speak with each other.
- Adapting to different devices and browsers. In the co-located version, we provided the devices on which people could experience the piece. These were all the same model of iPad so we could be sure that the software worked in exactly the same way on each device. We could also ensure that they were all running the same version of OS. In the dispersed version, we knew that people would be joining on a wide range of different types of laptop and computer and with different browser versions, resulting in a huge range of variability which we had not previously had to deal with.
- Adapting to different broadband strengths and speeds. In the co-located version of the piece, we would bring our own router to each venue, allowing us to ensure there was a consistent local area network that all devices would be connected to.
- Human-Computer interaction. Adapting from a situation where participants could easily ask each other or the technician for support in navigating the interface (in the

co-located version) to a situation where audience members where dispersed, could not always speak to each other and could less easily communicate with the technician (in the online version) required a greater level of attention to human-computer interaction in the design of the Syndicate Online platform, in comparison to the Syndicate Os platform.

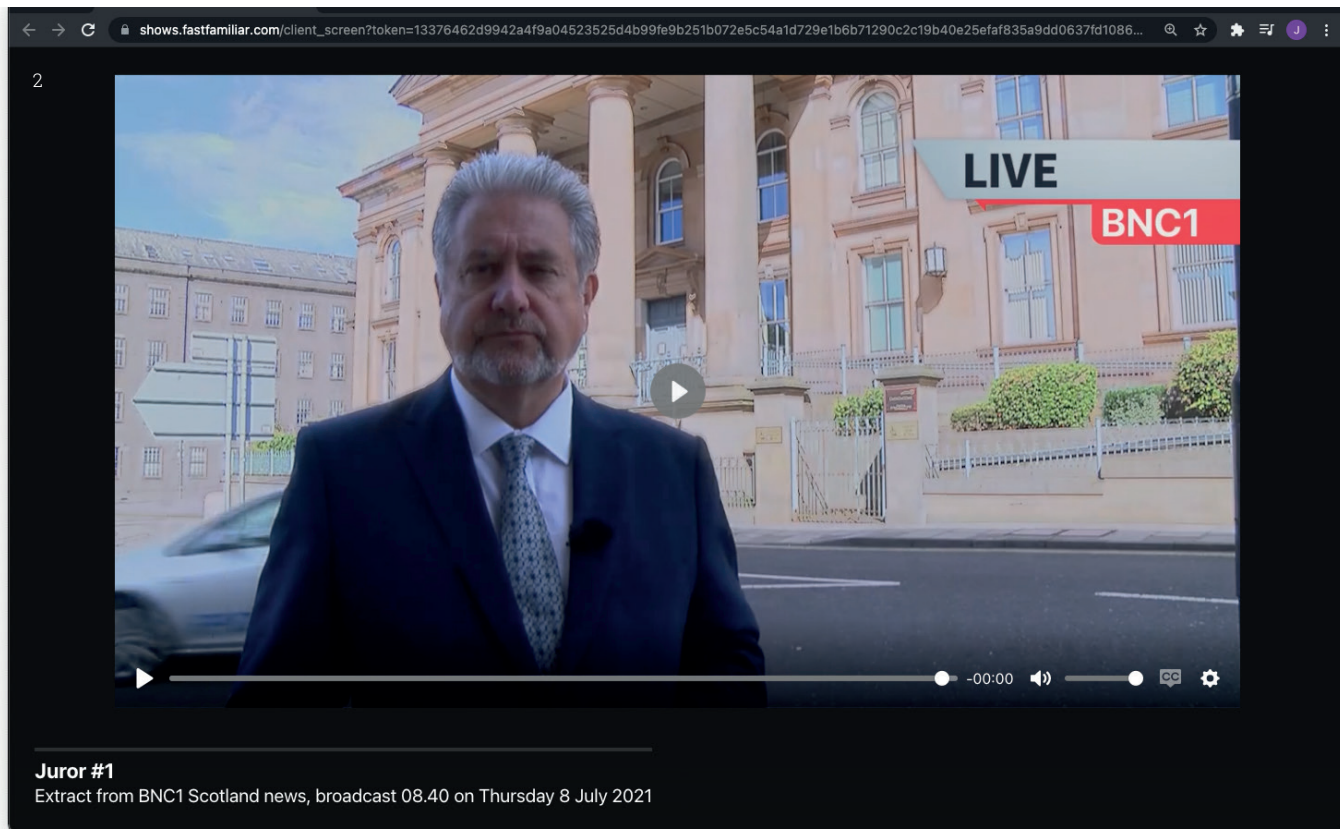
In the next part of this article, we will discuss how we addressed these three challenges and the process that we went on to reach these solutions.

Solutions: enabling discussion

We knew that we wanted the whole experience to run within a single platform so that participants could discuss freely in the discussion sections and also receive all the other elements of the experience (the videos, documents, votes etc.). We therefore decided to build a web-based video chat into the main platform. Ideally, we wanted this video chat to appear for the discussion sections and disappear for other sections. As this was the biggest new element

to the experience, it was the one with which Joe began the process.

He first began by seeking advice from other developers and people who work in telecoms to see whether it would be possible to embed an existing API (Application Programming Interface). He first attempted to embed Jitsi but encountered a problem as Jitsi struggled with compressing individual videos so loading twelve videos at the same time would have put a lot of strain on web browsers and presented a challenge for people with less fast internet speeds or low-powered devices. He then investigated two others: Twilio and Tokbox (which was then bought up by Vonage). Having undertaken stress tests for latency and image quality, he chose Vonage, which seemed to have a slightly better image quality and somewhat more competitive pricing. Using this seemed more efficient than trying to build our own video calling software from scratch, so we decided to use this and set about exploring how to embed it into our platform, which we began to call Syndicate Online to contrast it to Syndicate OS, the software system that runs *The Evidence Chamber* (and



some of our other pieces) on iPads.

The video call interface via *Syndicate Online*

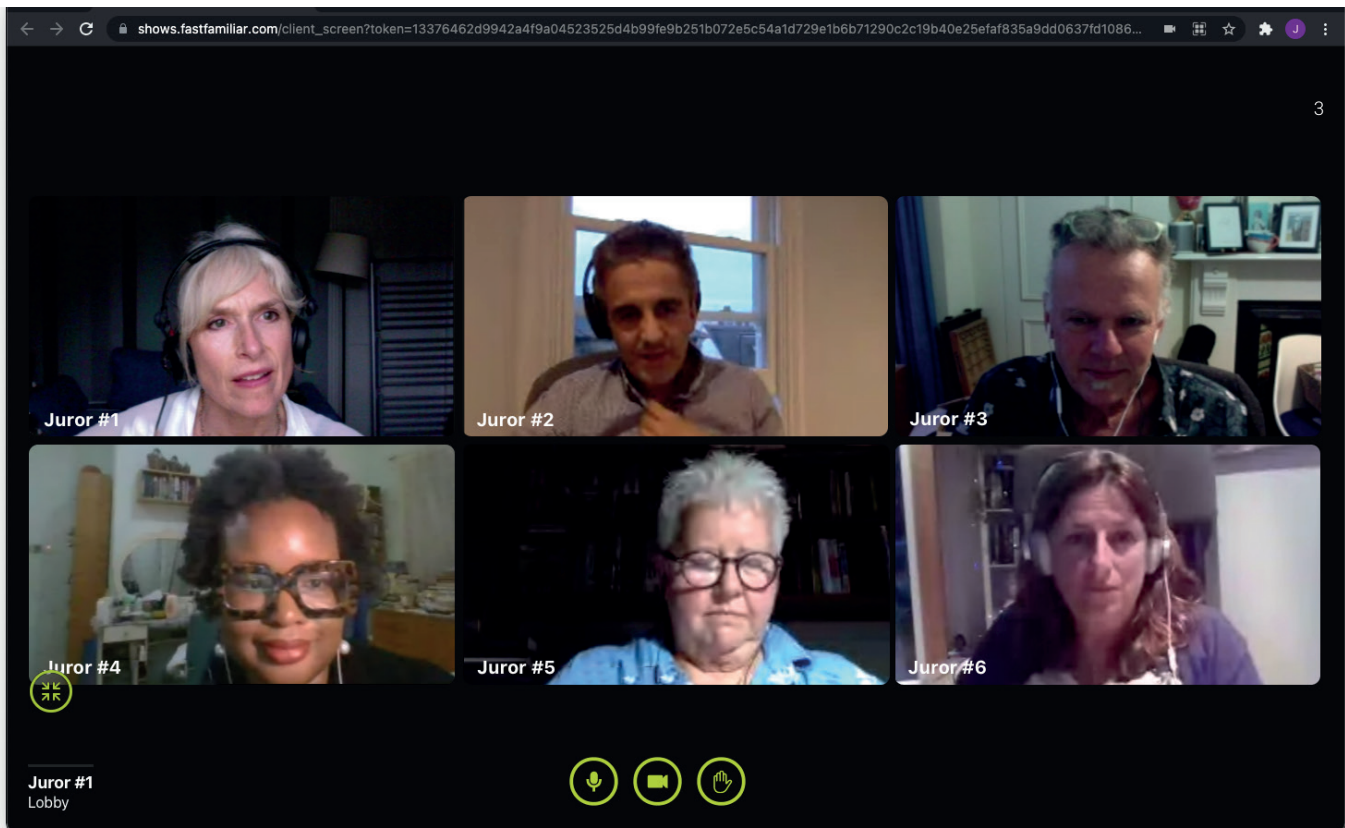
We knew that we did not want the cameras and microphones to be on all the time throughout the performances as the background noise and visuals would be distracting when audience members were reading documents or watching

videos (particularly videos as this risked very distracting echoing sound) so the next phase was to build the ability to hide and reveal the videos and mute and unmute microphones.

Following this, the next phase was to move on to looking at how to stylise the video calling. This involved testing various versions to find something that felt natural, would fit into

the visual style of the rest of the piece and that would ideally feel boring as we felt that if we made something too “glitzy” it would distract people from thinking about the case and the discussion they were having. We first explored a spotlight version that would make the person speaking bigger (similar to Facetime groups) but we remembered that in the co-located performances people would often speak quite quickly,

one after the other and we decided that moving between these different spotlights would be distracting. We then explored where to display the videos and decided to present them in order of juror number, with the lowest numbers in a row at the top of the screen (starting with Juror 1 at the top left) and the higher numbers in subsequent rows (so that Juror 12 was at the bottom right). Participants were assigned a Juror num-



4



ber based simply on the order that they arrived. Keeping this consistent throughout the piece seemed like a useful way to help people remember and recognise strangers, rather than having them moving to different positions on the screen. We also created two different view options, one with the videos all large in a grid view (as described above) and another which allowed participants to minimise the other jurors to the

bottom of the screen to consult the documents that related to the case. During the majority of the discussion sections of the piece, participants used the grid view.

After various internal tests, we then proceeded to test the piece on members of the public. The group that we tested it with included a number of people who did not use video calling for work and did not often watch videos onli-

ne, which created a challenging stress test for the experience. From this experience we found that if people did not wear headphones and did not mute themselves, an echo would be created. This is more pronounced with Vonage than it is with software like Zoom, which applies complex and proprietary filters to minimise this. In response to this, we ensured that the email instructions sent to participants before the experience begins featured clear instructions that they should wear headphones.

Following these tests, we also decided to add a new character to the piece, a Court Clerk called Stan (played by Dan Barnard) who would greet players when they arrived and do various bits of onboarding, including ensuring that everyone was wearing headphones. If people did not have headphones or if their headphones were not working, he told them to ensure that they were always muted when not speaking. Stan was also able to notice if players were having issues turning their webcams on and recommended that they call Joe for tech support.

In the test performance, some people were struggling with internet speeds, so we ad-

ded a broadband speed test link to the pre-show email also.

During the test performance, we also discovered that people would accidentally speak over each other because it is harder to read non-verbal cues about when to speak online than it is when players are co-located. To respond to this, we made two changes. The first was to create the role of a Jury Foreman, which is a member of the jury (of any gender) who facilitates discussion in real life juries. This meant that one of the players could facilitate the discussion and ask people to speak. We also built in a hand raise button (similar to the one in Microsoft Teams), which allowed people to signal to the Foreman that they wished to speak. These adaptations made the discussion process much smoother for players, allowing them to focus on the experience and immerse themselves in it.

Solutions: adapting to different devices

In the co-located version of *The Evidence Chamber*, it is very important that the videos on all devices are in sync as the sound comes from a single source and if the mouth you see on the

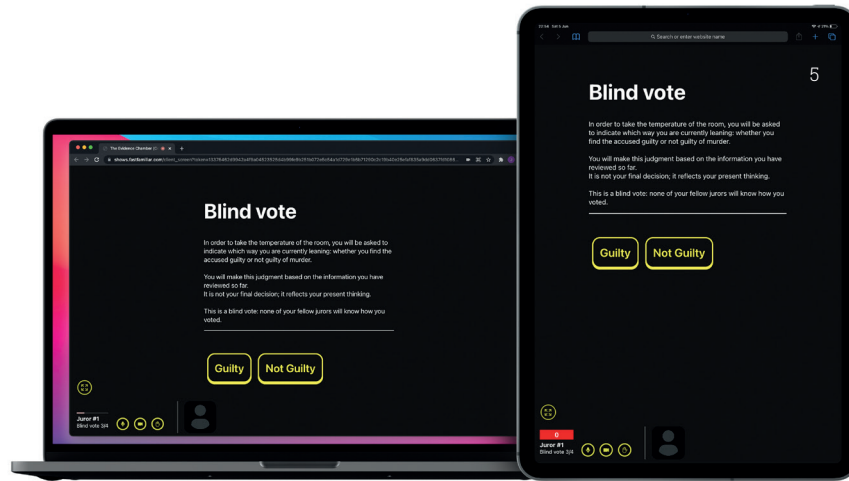
video is not in sync with the audio or you can see that other people's iPads are displaying a different image to yours, this can be distracting and disorientating. Syndicate OS therefore has a very precise video syncing system, which syncs the videos to within +45 to -125 milliseconds, the threshold for audio-visual delay recommended by the ITU-R BT.1359 standard. For Syndicate Online, however, this level of precision was not necessary as participants could not see or hear each other's videos. Using the precise Syndicate OS version requires more processing power and so would have posed a challenge to various people's browsers and devices, so Joe stripped this back, creating a version that allowed a 1-2 second lag between different audience members, requiring considerably less processing power.

The next phase was to try to make these videos play on all browsers. There were problems with Safari so we went with Chrome and Firefox: as they are both free to download, we felt OK about limiting the piece to these two browsers.

Another element that needed to be reworked to function on different browsers was

the document viewer. This had worked well on iPads in Syndicate OS but needed to be rewritten to be compatible with different browsers. Transitioning from iPads to browsers also meant that we could make the buttons smaller (as mouse and trackpad are more precise than tapping with a finger). To improve accessibility, we decided to change to using user-defined font sizes, meaning that players could read text at the size that was most comfortable for them.

During the public test performance described above, some players had issues playing video: Joe built a range of debugging tools which allowed him to see any issues and their probable cause during the show. He also built in the ability for him to message players who were encountering issues directly within the software platform and either tell them how to resolve it or ask them to call him on tech support. This messaging function also allowed him to message all players so that if one player was briefly delayed during a video (due to very slow internet speeds, for example), he could message everyone reassuring them that we would "move on shortly."



Solutions: adapting to different internet speeds

A further adaptation related to how the videos that players watch would be delivered to them. Joe first explored using a 1080p H.264 encoded video with the native web browser video player, as we use it in the co-located version of the piece. This worked well on fast internet speeds but when he tested it on an artificially throttled internet connection (to replicate conditions in some parts of the UK and other countries) this resulted in big delays when waiting for it to pre-load, buffer and start playback, which would have meant that players with a fast internet connection would have finished wa-

tching the videos and would be sitting around waiting for others and wondering if something had broken. He then looked into using adaptive bitrate streaming, rendering multiple versions of each video each accounting for different formats and bitrates similar to techniques used by YouTube, so that the system would adapt to the player's internet speeds and improve or decline in image definition if the player's internet speed changed. To do this Joe used MPEG-DASH encoding.

Solutions: human-computer interaction

The Syndicate Online platform that Joe McAlister created for the online performances of *The Evidence Chamber* employs techniques derived from human-computer interaction (HCI) studies to create a user interface accessible to a wide range of participants with vastly varying needs and requirements. These personal requirements were often different from those presented during physical shows, particularly relating to technical comprehension and confidence, as participants were required to have a reasonable level of control over their own technology. The management of individual technology is a substantial element that McAlister manages in the physical counterpart. Due to this challenge, we needed to create a digital interface for Syndicate Online that focused on increasing the ease of use to achieve an experience similar to the more managed co-located shows, particularly among non-e-literates.

With Syndicate Online, we focused on ways to invoke familiarity within a user interface (UI) by using design similarities within existing software to guide users through interaction

without the need for implicit instruction. Unlike the co-located counterpart, participants cannot always ask each other for help when navigating the UI, so they must learn without intervention. The relation between familiarity and ease of use, particularly among older participants, is well-established: Turner and Van de Walle focus on the effect of introducing metaphor and analogy within a UI to help “bridge the gap” between the technology and the “naïve user” (Turner & Walle, 2006, p.150). They cite the first computer graphical user interface (GUI) found within the Xerox Star and how they used lifelike illustrations of folders within a virtual table-top to guide users confidently into unfamiliar territory. Furthermore, Turner and Van de Walle note how Tognazzini, an influential designer at Apple Inc., described the following “object-based” approach as one of the best ways you can communicate the underlying structure of an interactive system:

It can be realized by using a set of objects (such as elements of the user interface) which can activate a metaphorical or analogical con-

nection to the real world. Having made this connection, the user of the system can anticipate its behavior. (Tognazzini, 1991, p.76)

We directly invoke similar “object” metaphors in multiple stages found within Syndicate Online, including the “document” stages. During this stage, the system presents participants with small photo-realistic previews of available documents presented in a grid, which participants can view with a single press. By styling these icons similar to thumbnails found in a typical computer operating system UI, we can exploit these prior connections to help inform the user of the subsequent actions. Using this approach rather than presenting them in a grid similar to a photo gallery allows us to acknowledge each document’s importance and how they are individual, like files on a computer, rather than belonging to a set of photos. Gibson, a cognitive psychologist, created the term ‘affordance’ (Gibson, 1979, p.1) to describe the relation between a subject and an object. Affordance includes the principle of “designed affordances” from the designer’s point of view or “perceived

affordances” from the user’s point of view. The “object” approach, as described by Tognazzini, is considered to be an example of Skeuomorphic design (Norman, 1990, p.159). This design style takes design cues from real-world objects to inform the design of virtual equivalents. Skeuomorphism is rich in affordances: Oswald and Kolb note how these affordances apply to UI elements, suggesting:

The orientation of the groove of a slider for instance clearly indicates in which direction the slider can be dragged. (Kolb & Oswald, 2014, p.2)

Often referred to as micro-metaphors, Syndicate online uses and uniquely expands upon these techniques. We combine UI design elements with show content to create a cohesive experience that blurs the line between the UI design style and any in-game elements such as documents or graphics. We even use real-world textures such as inverted photocopied paper as the digital backdrop to Syndicate Online. We believe this allows the user to flow natural-

ly between narrative and digital interaction as they appear seamless in design and equally rich in affordances.

Conclusion

The Evidence Chamber is a piece of digitally enabled playable theatre that allows audience members to engage actively with ideas of justice, creating a phenomenological engagement that, as Newberry-Jones puts it “allows players to experience justice and carry forward beliefs into their own consciousness” (Newberry-Jones, 2015, p.99). The absence of live performers in the co-located version and their near absence in the online version allowed audience members to widen their horizon of participation and increase their agentive behaviour.

Translating *The Evidence Chamber* into an online experience during the COVID 19 pandemic presented a number of challenges. The process of adapting to these challenges was one that stretched us and taught us a great deal.

Creating an online version of the piece meant that instead of all the players being from

a single geographical location (as was the case with the co-located version), players could join from disparate locations in different parts of the UK and different parts of the world. This led to a richness and nuance in the discussions which delighted us.

A key learning for us was that when transitioning to an online piece, it is very valuable to build tools that allow for more granular control of the experience. For example, the ability of the technician to mute audience members who had background noise or were creating an echo during discussion phases of the piece (and then unmute them when they wished to talk) allowed audience members to have a smoother and more immersive experience, allowing their attention to be focused on the content of the piece and their interaction with each other, rather than on the technology.

Another valuable lesson that we learned was that, while 12 co-located audience members in a physical room do not need anyone to chair their discussion, 12 online audience members using a video call do, because of issues caused by time lag and the challenge of reading body

language in that context. This is why we added the role of jury foreman and we would recommend that others creating online interactive theatre performances also invite a member of the audience to chair discussions if they do not wish to do so themselves.

We found that for a smooth and easy human-computer interaction, it is beneficial to create a user interface that closely models platforms with which audience members are familiar as this allows the experience to feel more intuitive. However, this also poses a risk that audience members might assume that this platform can do everything that the platform they are most used to can do or that, for example, because they do not need to wear headphones when using Zoom (because Zoom filters out echo and background noise) then they do not need to wear headphones for this. We do, however, believe that building our own software platform rather than using an existing one was worthwhile and would be for other artists. While many theatre artists did make work using Zoom and other platforms during the pandemic, this means adapting to the requirements of that pla-

tform (which is essentially designed for business meetings and webinars). For us, the ability to make the video call only available during discussion sections, to be able to observe audience members without being observed (as a stage manager would in a theatre) and to have the whole piece within a single platform and web browser meant that creating our own platform, Syndicate Online, was absolutely worthwhile.

Perhaps the chief benefit of the transition to an online piece for us personally was the ability to continue to offer engaging experiences that invite people to wrestle with big ideas during the pandemic. It allowed people to have an intense and meaningful interaction with people they did not already know, which became something of a rare experience for many during the pandemic.

References

- Barnard, D., & de Meyer, K. (2020a). The Justice Syndicate: using iPads to increase the intensity of participation, conduct agency and encourage flow in live interactive performance. *International Journal of Performance Arts and Digital Media*. 16 (1), 68-87. <https://doi.org/10.1080/14794713.2020.1722916>
- Barnard, D., & de Meyer, K. (2020b). The Justice Syndicate: how interactive theatre provides a window into jury decision making and the public understanding of law. *Law and Humanities*. 14 (2), 212-243. <https://doi.org/10.1080/17521483.2020.1801137>
- Barnard, D., (2020, December 7). *Putting the Play into Theatre*. Retrieved June 7, 2021 from Fast Familiar workroom website: <https://workroom.fastfamiliar.com/putting-the-play-into-theatre/>
- Calleja, G. (2011). *In-Game – From Immersion to Incorporation*. London: MIT Press.
- Gibson, J. J. (2014). *The Ecological Approach to Visual Perception: Classic Edition*. New York: Psychology Press. <https://doi.org/10.4324/9781315740218>
- Gibson, J. J. (1979). *The Theory of Affordances: The Ecological Approach to Visual Perception*. Boston: Houghton Mifflin.
- Kolb, S., & Oswald, D. (2014, January 1). *Flat Design vs. Skeuomorphism—Effects on Learnability and Image Attribution in Digital Product Interfaces*.
- Machon, J. (2013). *Immersive Theatres: Intimacy and Immediacy in Contemporary Performance*. Basingstoke: Palgrave Macmillan.
- Murphy, C. (2009). *Glitch: Designing Imperfection*. Bangkok: Mark Batty Publisher.
- Newberry-Jones, C.J. (2015). Answering the call of duty: the phenomenology of justice in twenty-first-century video games. *Law and Humanities* 9(1), 78-102. <https://doi.org/10.1080/17521483.2015.1042218>
- Norman, D. A. (1990). *The design of everyday things*. New York: Doubleday.
- Papagiannouli, C. (2016). *Political Cyberformance: The Etheatre Project*. Basingstoke: Palgrave Macmillan.
- Read, A. (2015). *Theatre & Law*. (Theatre&). Basingstoke: Palgrave Macmillan.
- Tognazzini, B. (1991). *The Art of human-computer interface design*. Addison-Wesley Pub. Co.
- Turner, P., & Walle, G. V. de. (2006). Familiarity as a basis for universal design. *Gerontechnology*, 5(3), 150–159. <https://doi.org/10.4017/gt.2006.05.03.004.00>
- White, G. (2013). *Audience Participation in Theatre: Aesthetics of the Invitation*. Basingstoke: Palgrave Macmillan.

Images

1. *The Evidence Chamber* welcome interface;
2. A video segment within *The Evidence Chamber*;
3. The video call interface via Syndicate Online;
4. Co-located version using iPads;
5. *The Evidence Chamber* working simultaneously on a laptop and tablet device.

Tables

1. Outline structure of *The Evidence Chamber* indicating how different stages differ between the co-located and online versions.

Fast Familiar's piece The Justice Syndicate has received 4 star reviews from The Stage and the Irish Times. Smoking Gun was one of The Financial Times' "Top Ten Dramas to Enjoy at Home" and one of The Guardian's "hottest front-room seats".

Twitter: @dandbarnard @fastfamiliar

Instagram: @dandbarnard @fastfamiliarstudio

<https://www.fastfamiliar.com>

Medium: Virtual reality (3D) via GearVR or Oculus /
WebGL (for online experience)/ Video (for replay)

Year of Release: 2020

Link to the artwork:

<https://www.i3s.unice.fr/Through-the-eyes-of-women-in-Engineering/>

Video artist: <https://vimeo.com/458997431>



Through the Eyes of Women in Engineering

Hui-Yin Wu, Johanna Delachambre,
Lucile Sassatelli, Marco Winckler

"[How much discomfort is enough or too much for an audience?"]; while such questions cannot be easily answered, they need to be asked in order to critically detect the blind spots of the society."

ICIDS 2020 Jury

Through the Eyes of Women in Engineering: an immersive VR experience

Abstract

Young women frequently face implicit behavioral biases – through unfriendly gaze, gestures, or speech – in all aspects of their daily lives. This is particularly true in the field of engineering, where women are a minority, making it emotionally difficult for them to fit in and feel at home, and deterring young women to enter these fields. Yet these systematic implicit biases are very hard to observe without being the target of such behavior and being accustomed to the current “norms” and “ways of acting” in the society. At their root is the misalignment between the stereotypes associated with femininity, and those associated with computer engineering – a misalignment whose keystone is how the gaze of others objectifies the body of women, and whose consequence and means of perpetuation is discomfort. Our objective is to create an interactive piece to communicate the discomfort of women in engineering, to tell their stories and expose this misalignment. To address this objective, we harness virtual reality to create an experience that embodies the user in the place of a woman character who travels through three common scenes in her life as an engineer. We design different gaze interactions, gestures, and speech styles that reflect common patterns for implicit behavioral biases, including objectification, isolation, and belittlement. The piece is an application that can be experienced in a headset or in a web browser.

Keywords

*implicit gender biases, women in engineering, virtual reality, embodiment, objectification
male gaze*

Introduction

Feeling uncomfortable, under unexplainable pressure just entering a conference room and sitting in the audience. Being complimented on our looks when being introduced to a new colleague and not being able to pinpoint what is wrong with a seemingly benevolent comment. Or is there something wrong with me and my perception after all?

Implicit behavioral biases – in the form of unfriendly gaze, gestures, or speech – are a shared aspect in the daily lives of young women, particularly those pursuing higher education and careers in engineering, where they are a minority. While these implicit biases are pervasive, they are very hard to observe without being the target of such behavior or when one is made to believe and accept that these are the current “norms” and “ways of acting” in the society. This makes it emotionally difficult for them to fit in amongst their peers and colleagues, brings about feelings of confusion, self-doubt, and fru-

stration when confronting these norms of the society, and eventually deter young women to enter these fields.

This trend is reflected in the numbers. In computer science and engineering, woman representation continues to decrease. Women occupy roughly 11% of executive positions in America’s tech hub Silicon Valley and make up just 24% of computer science jobs in the US, down from 37% in 1995 (NCWIT, 2016). The proportion of women in computer and information technology studies in western countries continues to decline: 37% in 1984, 12 to 17% today (NCWIT, 2016; MESRI, 2020). Literature in sociology, experimental psychology, social cognition and neuroscience has shown that the reasons for which high-school girls do not generally pursue higher education in engineering are complex, but can be generally formulated as a major misalignment between the stereotypes associated with femininity, and those associated with computer engineering – a misalignment whose keystone is how the gaze of others objectifies the body of

women, and whose consequence and means of perpetuation is discomfort.

Our objective is to create an interactive piece to communicate the discomfort of women in engineering, to tell their stories and expose that misalignment. To address this objective, we harness virtual reality to create an embodied experience to expose this misalignment. Our piece embodies the user in the place of a woman character who travels through three common scenes in her life as an engineer. To carry the experience and generate the feelings in all the subtle ways the gender bias is perceived but hardly describable, we design specific interaction techniques occurring between the embodied character and the avatars in the scene. The Non-Player Characters (NPCs) in these scenes react to the player-character using different gaze interactions, gestures, and speech styles that reflect common patterns for implicit behavioral biases, allowing the user to experience these biases first-hand, and reflect on how to create more accommodating environments in

fields dominated by men.

Section II presents relevant existing work. We motivate the design of our piece with theoretical analyses of that discomfort in Section III. This review provides crucial keys to then be able to reproduce synthetically that discomfort. From there, we design different gaze interactions, gestures, and speech styles that reflect common patterns for implicit behavioral biases, including objectification (when walking on the street), isolation (among peers in a lab), and belittlement (when asking a question at a conference). Section IV describes the technical tools used to program the application and Section V elaborates on the creation process, presenting the story and scenes, and detailing the types of interactions. Finally, in Section VI, we reflect on the interactions we had with the visitors of the online exhibition and discuss the potential of VR to contribute to the gender inequality challenge. Section VII concludes the chapter and discusses future work.

Related works

If VR has been most profitable in the gaming industry so far, going from synthetic to real scenes shot with a 360° camera rig makes VR a whole new medium whose immersive capacity provides an unprecedented feeling of presence. VR can indeed be envisioned as a new art form and has been even dubbed “the empathy machine” (Milk, 2016), making for a powerful instrument in a broad range of goals. Domains such as documentaries, storytelling, and journalism (De la Peña et al., 2010) are where the impact of VR can be most substantial and with a much wider adoption than games. An increasing amount of content is being produced, leveraging the anticipated empathy-triggering power of VR to raise awareness on sexual harassment and belittlement (Aitamurto et al., 2018; Facebook, 2020), or to increase the number of women enrolling in engineering studies (NYU Tandon School of En-

gineering).

Peck et al. (2013) showed that embodiment of light-skinned participants in a dark-skinned virtual body significantly reduced implicit racial bias against dark-skinned people. Banakou et al. (2013) showed that people’s mental representations of their own body can be altered with VR. Embodying adults in the body of a 4-year-old child or a scaled-down adult body causes an overestimation of object sizes, while shifting the identification of the self towards child-like attributes. Tajadura-Jimenez et al. (2017) show that auditory cues strengthen the embodiment illusion.

Barreda-Angeles et al. (2020a) question the empathy-triggering power of VR contents. They examine the interplay between empathy towards the characters of a 360° video and the user’s enjoyment of the immersive experience. Results show that the user’s enjoyment may negatively impact the level of empathy. Barre-

da-Angeles et al. (2020b) unveil that cognitive information processing (focused attention, recognition and recall of information) can be impaired by an immersive presentation.

The above works indicate that leveraging VR to raise awareness and possibly lead to empathy must be carried out through careful design. Therefore, to raise awareness towards important issues, aiming for an immersive experience built on embodied cognition should come before enjoyment or thinking. On complex issues, the VR experience can therefore be envisioned as a conditioning step, possibly before carrying out advanced reflection and exchange outside of VR.

Regarding gender inequality, Facebook (2020) released its “VR for inclusion: Women in tech” content, but did not assess its effect. Aitamurto et al. (2018) examined perspective taking and attitude change when participants watched a video showing gender prejudice enacted

against a woman engineer in three modalities: a 360° video where each hemisphere corresponds to the camera placed at the woman’s or man’s head, a 180° video and a flat control video. Participants were adult men and women, whose perception of gender inequality was measured before and after the experiment. The results show intricate effects: while the 360° split view increased the viewers’ feeling of personal responsibility to resolve gender inequality, people choosing to spend more time in the man’s perspective felt less responsibility to address gender inequality.

Recently, Barreda-Angeles et al. (2021) carried out an innovative work to co-create a 360° video with middle-school students, to convey a school bullying experience from a first-person perspective. Analysis of self-reported and physiological measures of emotional state show the effectiveness of VR to elicit higher arousal and to increase empathy towards the victims.

Motivation and theoretical ground

The need for an embodied experience to understand what it is like to undergo internalized bias and prejudice can be concisely explained with an analysis by Bourdieu (1998): "If it is true that [...] the recognition of domination always presupposes an act of knowledge, this does not imply that one is justified in describing it in the language of consciousness [leading] one to expect the emancipation of women from the automatic effect of awareness, ignoring [...] the opacity and inertia that result from the inscription of social structures in bodies." (p. 62).

We hypothesize that the active presentation of these biases through a personal experience to high-school girls can potentially reveal to them the roots of these internalized biases, and the immediate impact they have on their career choices. But how do we find a general enough experience on which high-school girls can begin building this understanding?

On the one hand, we start from a constitutive concept of the norms of femininity, as identified by Beauvoir (1949): the gaze of others

on we women, objectifying our body, which has a great impact on our vision of ourselves and our aspirations. The body is therefore central to the construction of the vision of ourselves, and VR is the key medium to convey the feelings all the way to the most inner perceptions and thoroughly question them. On the other hand, we expose the general representation of computer science through geek culture, and the implicit association between leadership positions and middle-aged upper-class white men.

The impact of the gaze of others: the objectification of the body at the root of the difference

As synthesized by the philosopher Garcia (2018), for Beauvoir, "to understand what a woman is means to understand what it is like to live in first person, that is as a subject, a body first constructed - by the gaze of men - as an object." (p. 175). This analysis is made in sociology by Bourdieu (1998): "Everything in the genesis of the female habitus and in the social conditions of its actualization contributes to making the female experience of the body the universal experience of the body-for-others, constantly

exposed to the objectification operated by the gaze and speech of others.” (p. 90). This constitutive element of the gendered identity of adolescent girls has two consequences that are of interest here.

The first consequence is that the attitude prescribed more or less implicitly to young girls is to attract gaze, often to stage oneself, but always to appeal and please others (Chollet, 2012). As boys and girls align their career choices with the vision of their self, girls overwhelmingly head for studies and careers as caregivers and educators: they are expected to take care of others, not to oppose them (Monnot, 2009).

The second consequence is that “little girls learn to understand themselves not only as weak and fragile but as weaker and more fragile than boys” (Garcia, 2018, p. 215). This perceived weakness translates into an acute lack of self-confidence and a feeling of incompetence. For example, Demoulin and Daniel (2013) show that at equivalent average marks, between the start and end of the first year of high school, girls are less likely than boys to maintain their choice of scientific major for the last two years of high

school. As Chollet (2018) puts it, “eternally mimicking the helplessness and vulnerability of extreme youth is a way to comply in a society that condemns confident women.” (p. 158).

Thus, making a higher-education choice in contradiction with the gender norm may lead to difficulties or increased pressure, anticipated mostly unconsciously by the adolescent.

The image of computer engineering is not aligned with the stereotypes associated with women

As described by Collet (2006), the so-called geek-hacker culture arrived in the 1980s from the USA and lastingly pervaded the imaginary in the 1990s and 2000s, with representations of video gamers and computer scientists exclusively as white men conveyed in the media. Figure 2 shows a typical configuration of esports tournaments. Geek culture has mostly male heroes, and relies on fantasies of power, might and domination. Such fantasies align with hegemonic masculinity traits taught to boys and not to girls, and are therefore deeply internalized by boys (Chu, 2014). Thus, the

psychological traits we associate with computer science and engineering, often seen through the lens of geek culture, and in turn to leadership positions (such as self-assertion and disruptive behavior) are at odds with the traits we normally consider feminine. Moreover, it has been shown that computer science (like mathematics, physics, philosophy) nurtures the idea that abilities are innate, which makes these fields more problematic for women because genius is seen as an exclusively masculine trait (Leslie et al, 2015). Gradually, the unconscious association geek-gamer-hacker-computing-tech entrepreneur is shaping the image of computer science and shaping the supposed prerequisites to enter

these studies and careers.

Therefore, this fundamental divergence between the social stereotypes shaping the general perception of computer engineering and those associated with femininity is at the root of the feeling of discomfort of women in these fields, that can deter students from choosing these studies, or hinder the quality of life and performance of women pursuing these careers. Our piece aims to make the user feel the gaze of others and its impact on the vision of their self, and make the user experience this subtle discomfort and feeling of not-belonging in the computer engineering world.



Tool support for creating an immersive experience

With our goal in mind to create this embodied experience of discomfort, we set about seeking the suitable means to realize the application and scenes. Here we present the design considerations and sketch-up of our framework, and well as the tools we chose to realize our artwork.

Considerations for virtual reality design

We consider 3D worlds that are fully synthetic, populated with scene elements, props and characters that immerse the user in 360° environments, giving them a feeling of presence in the virtual world. VR applications must afford a certain amount of autonomy in the way that users interact with the virtual world, including:

1. Immersion: the user should be offered a certain amount of autonomy to explore and interact with the world, such as to look around

and move around

2. Presence: the world should respond in a way that makes the user feel that they are present in the virtual world, such as Non-Player Characters (NPCs) reacting to the player approaching

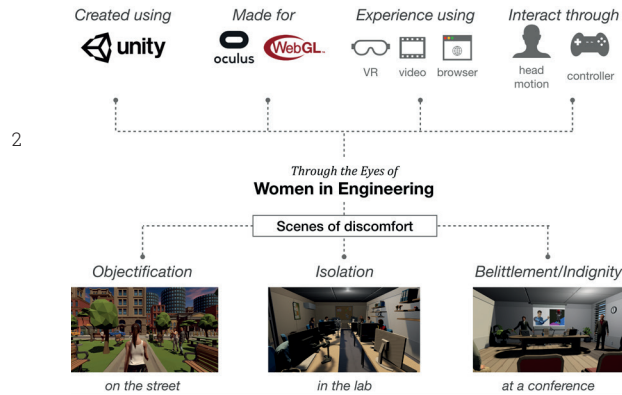
Three aspects come into play when we consider the development of VR experiences: the creation and presentation of the various multimedia content (i.e., sound and visuals), the media and technologies on which it will be deployed, and the management of user experience to allow maximum engagement with the content.

Development choices

Through the Eyes was developed using the Unity Game Engine, which is popularly adopted for creating gaming experiences in 3D, and has easy integration with a variety of VR headsets.

We chose to develop the experience for

Through the Eyes of Women in Engineering



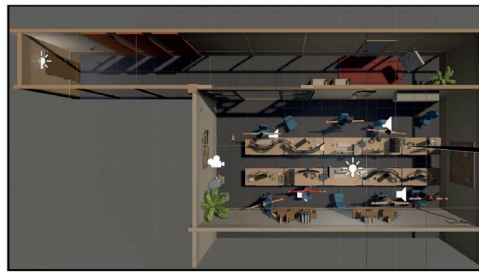
VR headsets, notably the Oculus Rift and Go, which are designed to be fully immersive in terms of graphics quality, interaction options, and sound. Simultaneously, the experience can also be installed on popular Android devices, making it more deployable, but afford much less interaction and realism.

Due to the format of the ICIDS 2020 vir-

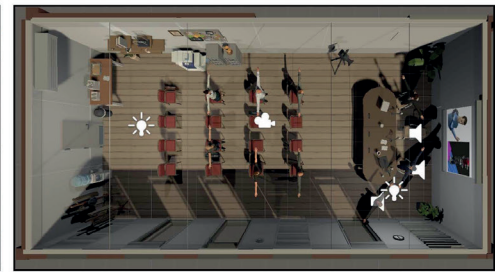
tual conference, we additionally distributed the application using WebGL, allowing the experience to be run from browsers such as Firefox and Chrome. However, this does not offer full immersion and is more akin to a video game experience on standard screens, with mouse and keyboard interaction. Figure 3. summarizes our project framework and content, and Figure



On the street



In the lab



At a conference



Outdoor scene assets



Indoor scene assets



Unity Multipurpose Avatars



Microsoft Rocketbox Characters

4. shows the overhead view of the three scenes described in Section V.

Content creation with toolboxes

To support a wide range of devices and taking into consideration potential latency from rendering, reducing asset size was a priority. For the 3D scenes, we used two sets of low-polygon 3D assets from Synty Studios¹ for outdoor and indoor scenes respectively, as shown in Figure 5. Populating large scenes was a greater challenge. We began with the Unity Multipurpose

Avatar (UMA)² package, an open-source toolkit to generate real-time 3D humanoid avatars whose physique and attire can be customized. The avatars collectively share the same basic body models, allowing us to generate character groups without increasing the application size. We used UMA to populate our outdoor street scene with pedestrians. For the indoor scenes of the lab and conference, which contained less than 10 characters, we could use the Microsoft Rocketbox³ characters with more adapted attire (Figure 6).

¹ <https://www.syntystudios.com/>;

² <https://assetstore.unity.com/packages/3d/characters/uma-2-unity-multipurpose-avatar-35611>;

³ <https://github.com/microsoft/Microsoft-Rocketbox>.

Writing and designing a story of discomfort

We wanted to bring to life snippets of every day that would be immediately relatable and identifiable by any woman in engineering, but would be easily overlooked by and appear alien to someone just a few feet away. We settled on the idea of the role gaze plays in the perception of self both in one's own eyes and in the eyes of others. From this idea, three stories emerged to experience three scenes: in the street, in the lab, at the conference venue, animated with dialogue and realistic situations that we recollected from our experiences in each of the scenes. Each scene represents a different type of gaze and behavioral bias, and thus three different variations of discomfort. This section illustrates story behind each scene, explains the interactions we designed to convey these biases, and finally details the sound design.

Creative process

Our creative process combined reflections on our personal experience as women in engineering with the philosophical and sociological analyses of the origins of women's discomfort in tech-related fields. Looking at the many outreach actions taken in particular with high-school girls to encourage them to participate in tech or to raise awareness on gender biases, we felt that those actions did not speak to the girls' experience. They were systematically designed by external actors, too often men or women with no first-hand experience or awareness of such subtle biases.

In our positions of student, researchers and professors in computer engineering, we felt the need to tell our stories, our colleagues' stories, those of many other women, from our own eyes and bodies. This is grounded in the phenomenological approach mentioned in Sec. III and centered on individuals' stories.

We therefore chose to proceed as fol-

lows: From the literature presented in Sec. III, we selected three behavioral biases faced by women in engineering, which are central to our experience of not belonging, and that we personally experienced ourselves. For every bias, we design a scene where it is at play to make the user experience the feelings it yields. To carry the experience and generate the feelings in all the subtle ways the bias is perceived but hardly describable, we design specific interaction techniques occurring between the embodied character and the avatars in the scene. To give context, carry gender and tell the inner feelings of the embodied character, we resort to a feminine voiceover. The biases, interaction techniques and voiceover are described below and illustrated for each of the three scenes.

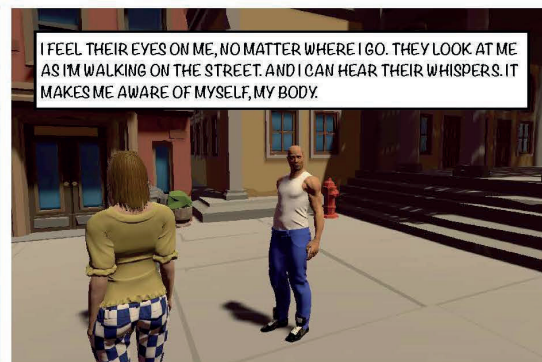
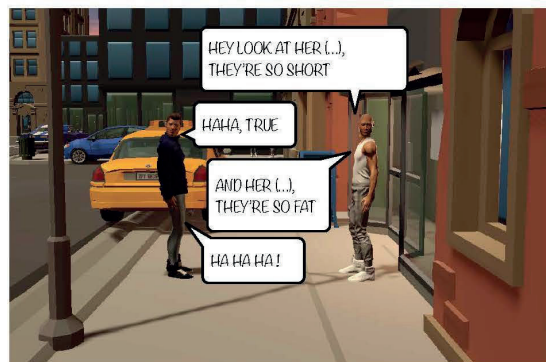
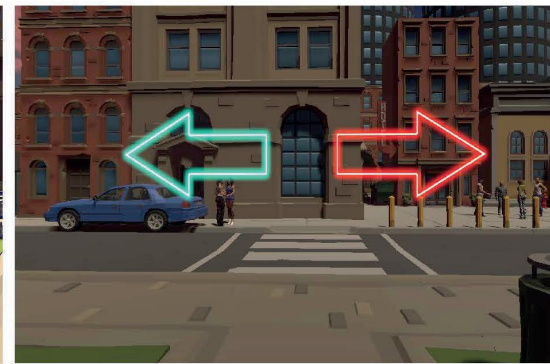
Story: three scenes of discomfort

Scene 1: On the street – Objectification – Bias of Gaze: The story starts from the generally shared activity of walking on the street, bringing

the viewer into a familiar context and introducing the perspective of the woman player-character. The player follows a path through the city. She notices that men would often follow her with their gaze, and even look her up and down. Mixed with the city sounds is that of conversation, some of which she notices is about her, about her appearance, her body. The scene allows the user to discover that they are embodied in a woman's body, and are the target of the gaze and whispers. Finally, reaching their destination, the player exits through a door. In the voiceover, the embodied woman expresses her thoughts and feelings of discomfort aloud.

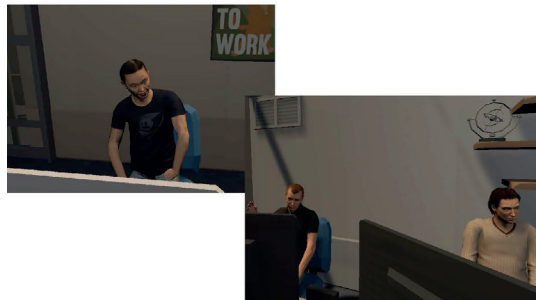
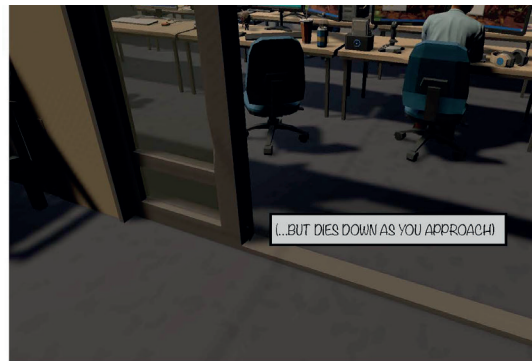
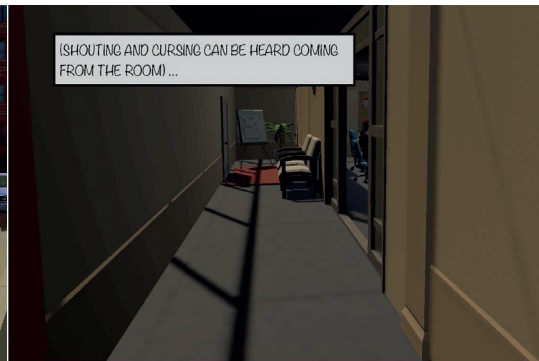
The central feeling of discomfort here is objectification. The gaze and speech of the men NPCs do not at all consider the player-character as a person with emotions, thoughts, and identity. Instead, they look at and comment on her body and appearance as if she were merely an object of interest within their view. The storyboard for Scene 1 is shown in Figure 7.

Through the Eyes of Women in Engineering



Scene 2: In the lab – Isolation – Bias of Gesture: The player walks down an indoor corridor. She is drawn towards the sounds of unruly shouting and cursing on top of what is clearly video game music. As she approaches the source of the sound, she sees that it is a lab with rows of computers occupied all by boys. Aware of the “intrusion”, the boys drop into an awkward si-

lence and concentrate on their screens. As the player walks between the rows of computers, the boys steal glances at her, perhaps wondering whether she might stay, or if she could just go and allow them to continue their gaming. Ultimately, she does not find a place for herself, and leaves the lab. She can hear the shouting resuming as she exits the room. She leaves at the



I FEEL THE EYES OF MY COLLEAGUES ON ME, BUT WHEN I TRY TO INTERACT WITH THEM, THEY LOOK AWAY. THEY ARE ALL BOYS.



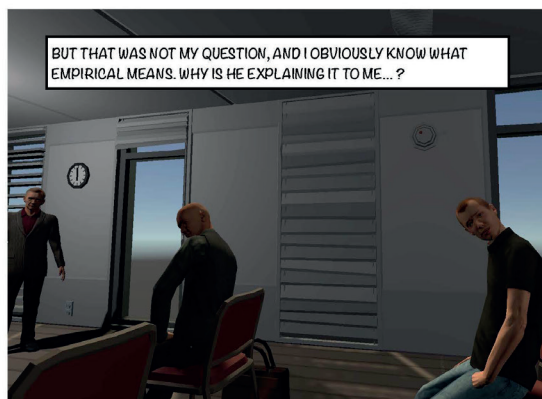
next door.

The feeling of discomfort intended here is isolation. Departing from scene 1 where gaze and dialogue are actively directed towards the woman player, in this scene she is excluded from the gaming activities that the boys in her laboratory are taking part in. While her colleagues in the room are clearly aware of her presence, they also indicate a reluctance to interact with her when met with her direct gaze. The key takeaway here is that language and gestures are as much a vehicle of discomfort as the lack of them when they are the embodiment of implicit biases. The storyboard for Scene 2 is shown in Figure 8.

Scene 3: At a conference – Belittlement / Indignity – Bias of Speech: The player is seated in the second row of a conference audience and is listening to the end of a talk on robotics. When the talk ends, the audience is invited to ask questions. The player ponders on how

to inquire on a point in the talk and attempts to strike up a conversation with the speaker. However, the speaker immediately dismisses her statement as trivial and proceeds to divert the conversation by mansplaining to her basic concepts. She is left somewhat confused by the speaker's behavior and asks to clarify her point, but is stopped by the session chair from asking a follow-up. The inner thoughts of the woman are told aloud and express frustration.

This scene introduces discomfort through indignity and belittlement in a professional setting. The speaker brushes aside the player's question, seeing it as a challenge to their work, whereas the player simply wishes to engage in a scientific discussion. The speaker further belittles the player by assuming that she is not sufficiently knowledgeable in the domain. In the end, the session chair did not intervene to guide the exchange, but rather prevented the player character from pursuing their point, which fur-



ther adds to the indignity due to the inability to have a fair and equal peer-to-peer conversation. The storyboard for Scene 3 is shown in Figure 9.

Interaction design

Different interactions and NPC behaviors are woven into each scene in order to show the user the various manners implicit behavioral biases can manifest itself in each context.

Gaze behaviors of NPCs vary between the different scenes. In the street scene, the men NPCs will begin to follow the player's progression as soon as they are within visual field, even before the player looks towards them. As the player approaches, the men will also look the player up and down, and sometimes direct comments towards the player. In the computer lab, the boy NPCs will also follow the character, but divert their gaze to their screens when the player returns gaze. The room is also completely silent, with no NPCs attempting any interaction with the player. This is magnified by the fact that voices of the NPCs can be heard when the player is in the corridor outside the computer lab, but

not at all while the player is inside. In the last scene, the NPCs generally look at the speaker in the front, and only look at the player when they are in conversation with the speaker.

The player's movement in the scenes is restricted. In the first and second scene, the player camera moves automatically down a pre-designated path. The first scene is an open outdoor scene, whereas the second scene is in a more confined space. In the third scene, the player is seated in a chair at the conference venue. In all three scenes, the player is free to look around in whatever direction they wish, and only at specific points of choice making, the camera will be fixed in a direction to allow easier interaction.

At some points in the story, the player is given what resembles a choice through a menu, but these choices are not presented to the player in a manner where they can make a decision on a logical or rational basis. Ultimately they are put in similar if not identical outcomes. These occur in Scene 1, to select which direction to go in, and in the third scene, to choose how to inte-

ract with the speaker.

Sound design

The voiceover is instrumental to convey the gender of the player-character and narrate the feelings to guide the experience. Women and men speaking the characters' voices and dialogues were recordings by the authors as well as from volunteers known to the authors, though they have mostly asked to remain anonymous. All dialogue content was scripted by the authors.

All the scenes feature ambient environmental sounds from Creative Commons licensed clips. The first and third scenes used ambient street sounds and indistinct conversation sounds of men from Youtube Audio Library (CC-BY-3.0). The second scene features office sounds such as keyboard typing, mouse clicking, and paper shuffling sounds from the Sound Gallery (CC-BY-4.0).

Reflections on the ICIDS 2020 exhibition

This year's virtual conference offered two events for the artists of the exhibition: the main event on Discord voice channels that allowed conference attenders to approach the artists directly for a close discussion, and the social event plus a panel hosted on Gather Town that served as a more general exchange between artists.

Target audience and awareness

Given the rise in awareness towards gender issues through multiple recent movements including #MeToo, the message that we aimed at communicating through our piece was not really shocking or unfamiliar to our audience. On the contrary, many attendees of ICIDS were women in engineering fields who struggle day to day with the very feelings of discomfort shown in our piece. Thus, many wanted to know: why did we create this experience, and who was it targeted towards?

A few lively discussions surrounded the topic of men being the target audience of the artwork. Our original intention was to help high-school girls become aware of issues of bias in engineering, and be forces of change in their future studies and careers. However, throughout the development, we came to realize that some scenarios – particularly the laboratory and scientific conference – may be far off from experiences of younger students. On the other hand, male colleagues and scientists did express surprise and were unaware of the implicit behavioral biases shown in the piece, never having been a minority in the field nor subject to catcalling. With the immersion provided through VR, the experience could also serve to raise awareness amongst the general public and for men in engineering fields, to promote change in multiple directions.

User experience and behavioral change

Another important point that came up during discussions, foreseen as future work, is the possibility of conducting user studies and

collecting feedback on the experience itself. Our motivation for *Through the Eyes* is indeed to investigate the potential of VR to contribute to the challenge of gender equality.

The first aspect is to understand how narratives relying on embodied cognition and embedded in a video game-like content influence user experience. In the field of Human Computer Interactions (HCI), studies of user experience are comprised of numerous dimensions (such as stimulation, mean and value, etc.). Of interest to us are those that assess how such content can impact the immediate state of the user such as identification and emotions including arousal and empathy. Their means of evaluation then rely on self-reported (e.g., questionnaire, comments), experimenter-reported (e.g., direct observation, discourse analysis) and psychophysiological measures (e.g., electrodermal activity, heart rate, EEG). Barreda-Angeles et al. (2021) collected both self-reported and psychophysiological measures on middle-school students watching a video on school bullying in two dif-

ferent formats: flat screen and 360° with a headset.

The second aspect is to understand the effectiveness of VR for invoking long-term changes in people's everyday lives and perspectives – and in the case of *Through the Eyes*, raise awareness of implicit behavioral biases towards women in engineering fields, or trigger empathy in the user. This aspect is more challenging as it requires follow-up studies with users over longer-time periods after the experiment to observe its lasting effects. It is however crucial for VR to be considered as a true lever towards tackling complex societal issues. Dasgupta (2015) showed that having a same-sex mentor in the first year of college for STEM women students significantly improves students' sense of belonging and confidence, resulting in a lasting impact on their education choices in subsequent years. However, we are not aware of similar long-term evaluations of the impact of a VR experience, and discuss this point as a future

work in Section VII.

General discussion on discomfort

Over friendly drinks and vibrant exchanges during the social event, the question of this year's theme "Texts of Discomfort" arose. How did artists choose to include discomfort in their pieces, and in particular, how much discomfort was enough or too much for an audience?

In *Through the Eyes*, we had a pre-defined theme of discomfort that we wished to follow for each scene. The focus was to make the user aware of the implicit behavioral biases by putting them in the place of the target of such biases. Moreover, it is not our intent to make the user feel like the NPC behaviors are personal attacks. These scenes thus needed to be sufficiently general, portraying not just "a single" experience of harassment or bias, but a "collective" experience of all women being subject to systematic bias. Therefore, in our choices of scenarios to portray, we chose not to focus on

discomfort that is explicit or aggressive in nature, but the kind that is hard to observe when one is not the target of the behavior, or when we are accustomed to the current “norms” and “ways of acting” in the society and unaware of these systematic biases.

In his *The Defense of Poesy*, Philip Sidney pointed out that poesy “is an art of imitation, [...] a speaking picture, with this end,—to teach and delight.” (Sydney & Cook, 1890, p. 9) Discomfort is not meant to stop the user from feeling the wonders and joys of being immersed in a virtual 3D scene, and to try to interact with the scene. Rather it serves the function of teaching, of also bringing to light how VR and storytelling can be a vessel to communicate such subtle types of bias and foster discussions around gender equality without people feeling victimized or being pointed fingers.

Conclusion and future work

Through the Eyes sprung out of our strong motivation to initiate a contribution to address the challenge of the underrepresentation of women in the tech industry, engineering research, and higher education in these fields. Discomfort being the manifestation of the divergence between the stereotypes associated with women and those associated with engineering, we devised a piece where VR is leveraged to create an embodied discomfort commonly experienced by women in the engineering world.

Our immediate future work is to build on such an approach to work with high-school students and jointly identify with them how to use VR for their peers to more tangibly perceive what implicit gender biases are, and how they impact them. Specifically, given the importance of the body in the construction of a feminine

self during adolescence, we intend to leverage VR to co-create better suited experiences for high-school students to identify the hidden reasons for their education choices, rooted in the implicit biases we are all prey of. Implicit biases cannot be erased, but understanding their impact on our decisions enables us to exert control and make decisions better aligned with who we want to be. *Through the Eyes* will be used to prompt discussion and analysis during the co-creation process.

Acknowledgements

We thank the volunteers for the voice-overs of men characters, who wish to remain anonymous. For the video trailer, we thank women engineers Evgenia Kartsaki and Selma Souihel for lending us their voices. This work was partly supported by the French government, through the UCA JEDI and EUR DS4H Investments in the Future projects ANR-15-IDEX-0001 and ANR-17-EURE-0004. This work was partly supported by EU Horizon 2020 project AI4Media, under contract no. 951911 (<https://ai4media.eu>).

References

- Aitamurto, T., Zhou, S., Sakshuwong, S., Saldivar, J., Sadeghi, Y., & Tran, A. (2018). Sense of Presence, Attitude Change, Perspective-Taking and Usability in First-Person Split-Sphere 360° Video. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems* (pp. 1–12). Association for Computing Machinery.
- Banakou, D., Groten, R., & Slater, M. (2013). Illusory ownership of a virtual child body causes overestimation of object sizes and implicit attitude changes. *Proceedings of the National Academy of Sciences*, 110(31), 12846–12851.
- Barreda-Ángeles, M., Aleix-Guillaume, S., & Pereda-Baños, A. (2020a). An "Empathy Machine" or a "Just-for-the-Fun-of-It" Machine? Effects of Immersion in Nonfiction 360-Video Stories on Empathy and Enjoyment. *Cyberpsychology, behavior and social networking*, 23(10), 683–688.
- Barreda-Ángeles, M., Aleix-Guillaume, S., & Pereda-Baños, A. (2020b). Virtual reality storytelling as a double-edged sword: Immersive presentation of nonfiction 360°-video is associated with impaired cognitive information processing. *Communication Monographs*, 1–20.
- Barreda-Ángeles, M., Serra-Blasco, M., Trepát, E., Pereda-Baños, A., Pàmias, M., Palao, D., Goldberg, X., & Cardoner, N. (2021). Development and experimental validation of a dataset of 360°-videos for facilitating school-based bullying prevention programs. *Computers & Education*, 161, 104065.
- Beauvoir, S. (1949). *Le Deuxième Sexe*. Paris: Editions Gallimard.
- Bourdieu, P. (1998). *La domination masculine*. Paris: Editions du Seuil.
- Chollet, M. (2012). *Beauté fatale : Les nouveaux visages d'une aliénation féminine*. Paris: Editions La Découverte.
- Chollet, M. (2018). *Sorcières: La puissance invaincue des femmes*. Paris: Editions La Découverte.
- Chu, J. Y. (2014). *When boys become boys: Development, relationships, and masculinity*. New York University Press.
- Collet, I. (2006). *L'informatique a-t-elle un sexe? Hackers, mythes et réalités*. Paris: L'Harmattan.
- Dasgupta, N. (2015). *Role models and peers as a social vaccine to enhance women's self-concept in STEM*. The American Society for Cell Biology.
- De la Peña, N., Weil, P., Llobera, J., Spanlang, B., Friedman, D., Sanchez-Vives, M., & Slater, M. (2010). Immersive Journalism: Immersive Virtual Reality for the First-Person Experience of News. *Presence: Teleoper. Virtual Environ.*, 19(4), 291–301.
- Demoulin, H., and Daniel, C. (2013). Bulletins scolaires et orientation au prisme du genre. *L'orientation scolaire et professionnelle*, 42(3).
- Facebook (2020). VR for inclusion: Women in Tech. VR application, Retrieved March 2nd, 2021, from <https://vrforinclusion.fb.com/>
- Garcia, M. (2018). *On ne naît pas soumise, on le devient*. Paris: Editions Flammarion.
- Leslie, S.J., Cimpian, A., Meyer, M., & Freeland, E. (2015). Expectations of brilliance underlie gender distributions across academic disciplines. *Science*, 347(6219), 262–265.
- Milk, C. (2016). The birth of virtual reality as an art form. *TED Talk*.
- Ministère de l'Enseignement Supérieur de la Recherche et de l'Innovation (2020). Vers l'égalité femmes-hommes ? Chiffres clé dans l'enseignement supérieur, la recherche et l'innovation. Report, Retrieved March 2nd, 2021, from https://data.esr.gouv.fr/FR/E265/P101/vers_l_egalite_femmes_hommes_chiffres_cles_-_etablissement_d_enseignement_superieur
- Monnot, C. (2009). *Petites filles d'aujourd'hui. L'apprentissage de la féminité*. Paris: Éditions Autrement (coll. Mutations).
- National Center for Women & Information Technology (2016). *Women in Tech: the Facts*. Report, Retrieved March 2nd, 2021, from https://www.ncwit.org/sites/default/files/resources/womenintech_facts_fullreport_05132016.pdf
- Peck, T. C., Seinfeld, S., Aglioti, S. M., & Slater, M. (2013). Putting yourself in the skin of a black avatar reduces implicit racial bias. *Consciousness and Cognition*, 22(3), 779–787.
- Sidney, P. & Cook, A. S. (Ed.) (1890). *The Defense of Poesy, Otherwise Known as An Apology for Poetry* (Vol. 10). Ginn and company.
- Tajadura-Jiménez, M. (2017). Embodiment in a Child-Like Talking Virtual Body Influences Object Size Perception, Self-Identification, and Subsequent Real Speaking. *Scientific Reports*, 7(1), 9637.

Images

1. *Through the Eyes of Women in Engineering* is a virtual reality application that takes the user on a journey through three everyday scenes in the life of a woman minority in the field of computer science and engineering: on the street (middle), in the lab (left), and at a conference (right);
2. An esports tournament. Image credit to sirusgaming.com ©;
3. The application was developed on Unity for Oculus headsets, compiled to WebGL. Three scenes of discomfort were created to demonstrate the various implicit behavioral biases and associated discomfort a woman in the field of computer science and engineering felt in their everyday lives;
4. An overhead view of the three scenes made in our application. White icons indicate positioning of lighting, cameras, and sound sources;
5. We used two sets of assets designed by Synty Studios for the indoor and outdoor scenes. The 3D models were low-polygon due to application size and latency considerations, but provided a large enough variety of props and environmental elements to create rich and lively scenes;
6. To populate our scenes, we used the Unity Multipurpose Avatars (UMA) and Microsoft Rocketbox toolboxes. UMA allowed the real-time generation of diverse characters without compromising application size, which was very suited to populating the first city scene with pedestrians. Rocketbox provided professional models adapted to portraying characters in the second and third scenes;
7. In scene 1, the player experiences objectification from men on the street. She has a choice of movement direction (upper-right) in the beginning, and has a voiceover of her thoughts (lower-middle) on how she feels watched and talked about (text bubbles do not appear in the app);
8. In scene 2, the player feels isolation from colleagues in a computer lab. As she approaches, there are sounds of the boys gaming, but they fall silent when the player enters the room. She notes the awkward interactions with her colleagues (lower-left) and feels out of place (lower-middle);
9. In scene 3, the player experiences belittlement and indignity at a scientific conference. She is seated in the audience. After the talk, she interacts with the speaker (upper-middle), but receives unfriendly and belittling responses, which she notices and questions (lower-middle).

Hui-Yin Wu is a research scientist at Université Côte d'Azur, Inria. Her domain of research is interactive and multimedia storytelling, with a focus on the study of user attention, content generation, and assisted creativity in immersive 3D environments.

Johanna Delachambre is a student in computer sciences and management in Université Côte d'Azur. She obtained her Bachelor degree in 2020 and she is pursuing her studies with a Master degree in the same domain.

Marco Winckler is full professor at Université Côte d'Azur, and leads the Human Computer Interactions group at the I3S laboratory. His research focuses on methods and tools enabling the development of reliable, usable and effective interactive systems.

Lucile Sassatelli is an associate professor at Université Côte d'Azur, and is a junior member of Institut Universitaire de France. Her research focuses on immersive media communications, considering machine-learning based and interdisciplinary approaches to network streaming and content editing.

Discomfort in Visuality

Discomfort also permeates the discipline of visual design.

As we can see in all the artworks contained in this book, the discomfort can manifest itself in the interactive digital storytelling field in different forms, from the physical to conceptual. If we look at the visual design field, we can find out the same complex situation: here discomfort manifests too from different points of view.

Discomfort can be provoked by formal choices, for example the combination of background and text colours, the choice of the font, the distribution of contents, the management of space, the use of low quality images, or the use of effects like blur and move. Those choices can bring difficulty to read or to understand the meanings of artworks. Sometimes those formal choices are involuntary, errors of the designer or of someone not so professionally involved in the field, but other times those are conscious choices made to obtain discomfort as a result, or to provoke.

The use of some visual forms or colours, or dynamic graphics, in fact, can create real physical discomfort. For example the use of striped patterns and filtered noise (Sheedy, Hayes, & Engle, 2003).

However, there is also a deeper but not immediately perceptible discomfort in visuality. Every visual choice made by the designer is influenced by the cultural background of the designer herself. This means that every visual project is permeated by cultural and socio-political influences, and so it is everytime, even when we proclaim our project to be neutral and objective. The factors that lead to this condition are stratified and consolidated and this aspect is difficult to be perceived and grasped both by those who receive the visual artefact, and by those who design the artefact.

A design cannot be disconnected from the values and assumptions in which it was created, from the ideologies behind it. It can be difficult to



1

see how visual communication and ideology are related because ideology is in everything around us, we perceive it as natural." (Paters, 2016)

Let's think about the globe map we use every day in Google Maps, or in school classrooms. It was designed by the cartographer Gerardus Mercator in 1569 and it does not report realistic proportions of lands, but the map distorts reality from a colonial and north-centric point of view. Let's think about the use of colours in gender stereotypes context, or about the historical meanings behind some graphical signs; or the use of hyper sexualized women figures in advertising for decades.

Every visual project is permeated by the designer's unconscious subjectivity. Every visual project is interpreted in a different and subjective way by the viewer.

In both cases it happens because of cognitive bias and because of cultural and socio-political reasons and it is clear how much discomfort this can bring when we, as designers

or users, realize it.

Sometimes visual design puts together all those "discomforting" approaches consciously just to deceive the user. Especially when visual design is made to advertise, it has the goal of hiding the disturbing sides of reality behind a brand, instead highlighting fascinating and attractive aspects to make the product pleasant and buyable; it is useful for hiding violence, murder, socio-political problems and exploitation in pursuit of profit (Paters, 2021).

Visuality can hide, deceive and declare falsehood to make profit. And this can happen easier in the fast media society we live in, a reality which is surrounded by that: just think of how many visual (advertising) fast stimuli we have when we just walk on the street, or when we just switch our smartphone on. Visual fake-ness surrounds us constantly and it can be uncomfortable.

The graphic project of this volume wants to play with this concept and with the deceiving of visuality. Blur is the visual tool used as means

to create misunderstanding and uncertainty.

If we look at the cover we don't understand what is the figure in the background, it is a blurred and moved black and white picture. If we strive to visualize the figure, we see maybe something like a fuzzy and moving night mountain landscape with moon and stars. So we can think it is a blurred photo, but it is not. The original image was created by scanning different pieces of white and transparent paper in a scanner. The blur and moved effect was added digitally, to disguise the fictional representation.

The result is a fake image of reality, a deceiving picture that became even more incomprehensible with the addition of blurriness.

The blur theme is reported in every artwork's cover, where an image provided by the author is transformed into something blurred and incomprehensible, so the reader is invited to understand what it is about by taking the time to read the full article.

The choice of colours, black, white, grey, and magenta, is a reference to ICIDS 2020's art exhibition website^[1].

The graphic concept of the book is projected to transform the book itself into an uncomfortable object. Discomfort is brought on the cover to emphasize the power to deceive that a design choice can have. Inside the book, the discomfoting blurred images of the selected artworks are meant to create suspense and to invite readers to discover the *texts of discomfort*.

^[1] <https://icids2020.bournemouth.ac.uk/exhibition/>

References

- O'Hare, L., Hibbard, P.B. (2013). Visual discomfort and blur. *Journal of Vision*. 13(5):7. doi: <https://doi.org/10.1167/13.5.7>.
- Monmonier, M. (2005). Lying with Maps. *Statist. Sci.* 20(3) 215 - 222. doi: <https://doi.org/10.1214/088342305000000241>
- Pater R. (2016). *The Politics of Design. A (Not So) Global Manual for Visual Communication*. Amsterdam: BIS.
- Pater R. (2021). *CAPS LOCK*. Amsterdam: Valiz.

Images

1. *Fake night landscape. Paper on scanner. Valeria Piras 2021.*

Valeria Piras is a freelance visual designer and a PhD candidate in Design at the University of Genova, Italy.

About the ETC press

The ETC Press was founded in 2005 under the direction of Dr. Drew Davidson, the Director of Carnegie Mellon University's Entertainment Technology Center (ETC), as an open access, digital-first publishing house.

What does all that mean?

The ETC Press publishes three types of work: peer-reviewed work (research-based books, textbooks, academic journals, conference proceedings), general audience work (trade non-fiction, singles, Well Played singles), and research and white papers

The common tie for all of these is a focus on issues related to entertainment technologies as they are applied across a variety of fields.

Our authors come from a range of backgrounds. Some are traditional academics. Some are practitioners. And some work in between. What ties them all together is their ability to write about the impact of emerging technologies and its significance in society.

To distinguish our books, the ETC Press has five imprints:

- **ETC Press:** our traditional academic and peer-reviewed publications;
- **ETC Press: Single:** our short "why it matters" books that are roughly 8,000-25,000 words;
- **ETC Press: Signature:** our special projects, trade books, and other curated works that exemplify the best work being done;
- **ETC Press: Report:** our white papers and reports produced by practitioners or academic researchers working in conjunction with partners; and
- **ETC Press: Student:** our work with undergraduate and graduate students

In keeping with that mission, the ETC Press uses emerging technologies to design all of our books and Lulu, an on-demand publisher, to distribute our e-books and print books through all the major retail chains, such as Amazon, Barnes & Noble, Kobo, and Apple, and we work with The Game Crafter to produce tabletop games.

We don't carry an inventory ourselves.

Instead, each print book is created when somebody buys a copy.

Since the ETC Press is an open-access publisher, every book, journal, and proceeding is available as a free download. We're most interested in the sharing and spreading of ideas. We also have an agreement with the Association for Computing Machinery (ACM) to list ETC Press publications in the ACM Digital Library.

Authors retain ownership of their intellectual property. We release all of our books, journals, and proceedings under one of two Creative Commons licenses:

- **Attribution-NoDerivativeWorks-NonCommercial:** This license allows for published works to remain intact, but versions can be created; or
- **Attribution-NonCommercial-ShareAlike:** This license allows for authors to retain editorial control of their creations while also encouraging readers to collaboratively rewrite content.

This is definitely an experiment in the notion of publishing, and we invite people to participate. We are exploring what it means to "publish" across multiple media and multiple versions. We believe this is the future of publication, bridging virtual and physical media with fluid versions of publications as well as enabling the creative blurring of what constitutes reading and writing.