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DIGITAL NARRATIVES — THEORIES, CRITICISM(S), ACHIEVEMENTS

NARRATIVAS DIGITAIS — TEORIAS, CRÍTICA(S), RESULTADOS

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(Eds.)

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Abstract

This issue of RCL addresses how an awareness of digital technologies, platforms and algorithms can help us understand newly emerging digital narratives in our current globalized network society. Digital narratives include stories in computer games, electronic literature, virtual and augmented reality, chat bots, web and mobile apps as well as stories that circulate in social media or are AI-generated.

Our goal was to motivate the analysis of how digital narratives remediate our cultural contexts and re-integrate literary modes and methodologies, by confirming or opposing the specific affordances of platforms, and how these exchanges create opportunities for media literacy, education and social justice. To achieve this, we invited scholars and artists to submit papers that address the interaction between human storytelling and computational methods, providing a triangular structure that included approaches based on Theories, Criticism(s), and Achievements.

The impacts of algorithmic narrativity on renewed and emerging narrative forms demand contextualized and situated studies about how they are produced, circulated and extracted, as well as self-assessment and criticism to explain how interactions of human authors with non-human agents are programmed, structured and delivered.

Resumo

Este número da RCL aborda o modo como a compreensão de tecnologias, plataformas e algoritmos nos pode ajudar a entender as narrativas digitais emergentes na nossa sociedade em rede e globalizada. As narrativas digitais incluem histórias em jogos de computador, literatura eletrónica, realidade virtual e aumentada, chatbots, web e aplicações móveis, assim como histórias que circulam nas redes sociais ou são geradas por Inteligência Artificial.

O nosso objetivo foi motivar a análise sobre o modo como as narrativas digitais remedeiam os nossos contextos culturais, confirmando ou opondo-se às possibilidades específicas das plataformas, e como essas trocas criam oportunidades para a literacia mediática, educação e justiça social. Para isso, convidámos investigadores a submeter artigos que abordassem a interação entre a narrativa humana e os métodos computacionais, fornecendo uma estrutura triangular que incluía abordagens baseadas em Teorias, Crítica(s) e Resultados.

Os impactos da narratividade algorítmica em formas narrativas renovadas e em desenvolvimento requer estudos contextualizados e situados sobre como elas são produzidas, de que modo circulam e como são recebidas, bem como autoavaliação e crítica para explicar como as interações de autores humanos com agentes não humanos são programadas, estruturadas e comunicadas.

ÍNDICE INDEX

Digital Narratives — Theories, Criticism(s), Achievements: Introduction

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Digital narratives include stories in computer games, electronic literature, virtual and augmented reality, chat bots, web and mobile apps as well as stories that circulate in social media or are AI-generated. Algorithms play a central role in our everyday experiences of these stories, increasingly contributing to the organization, generation, and structuring of narratives.

The publication of this thematic issue coincides with the launch of the Center for Digital Narrative (CDN), a Norwegian Center of Research Excellence. The Center has an express focus on "algorithmic narrativity": simply stated, this constitutes the human capacity for storytelling with the effects of the computer's ability to generate and manipulate symbols. The ways that we tell stories have changed significantly in recent years as the mediation of computers in their networked contexts have added another agent in the storytelling process. Digital narratives are no longer simply negotiated

between a storyteller and an audience: systems influence, afford, and constrain those stories through a layer of algorithmic processing. CDN will investigate manifestations of this algorithmic narrativity in venues ranging from electronic literature to computational narrative systems, from computers to social networks.

This issue of RCL coheres with the concerns of the CDN in a variety of ways. It specifically addresses how an awareness of digital technologies, platforms and algorithms can help us understand newly emerging digital narratives in our current globalized network society. Our goal was to motivate the analysis of how digital narratives remediate our cultural contexts and re-integrate literary modes and methodologies, by confirming or opposing the specific affordances of platforms, and how these exchanges create opportunities for media literacy, education and social justice. And to achieve this, we invited scholars and artists to submit papers that address the interaction between human storytelling and computational methods, providing a triangular structure that included approaches based on *Theories* (with speculations and reflections on cross-disciplinary and foreign languages, and a digital repurposing of narrative genres), *Criticism(s)* (the interpretation and discussion of narratives that preceded print and again focus on themes, disputes, cultural interactions and hypertextual displacements, more than solitary immersion in a linear narrative), and *Achievements* (the presentation of processes and models embedded in digital narratives).

Research on digital narratives not only requires interdisciplinary investigation, it also requires cross-cultural inclusivity and community-building, as Hannah Ackermans argues in her contribution to the present gathering. For Ackermans, the field of electronic literature is "built on a transmedial narration of the field itself" by a community. This "self-narration" of the field takes place "across media, from academic articles, conferences, exhibits, databases, Zoom meetings, and some artistic work and personal communications." *Inclusivity* across languages and nationalities is for Ackermans central to "the institutionalization of electronic literature, in academia and beyond." And community, too, is presented by Ackermans as a formative element in electronic literature. Indeed, the creation and the collective act of building communities emerges in her article as a vital concept in understanding digital narratives in the globalized network society in which they emerge.

The emphasis on communal inclusivity in Ackermans coincides with what Diogo Marques and Ana Gago regard as a "(Re)creating" of our "Heritage through Digital Literature." Theirs is an artistic and cyberliterary research project that aims to use artistic creation as a platform, not for making something 'new' or placing algorithms and amassed data on display for its own sake. Rather, their re-creations, re-interpretations, and remediations aim at rebuilding an emerging cultural heritage that can be found outside museums.

Ana Monteiro and Miguel Carvalhais similarly regard narratives as "essential to our perception of the world." In their contribution they trace some of the history of

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interactive digital narratives with a particular discussion of the reader's agency and arguing for an enactive approach. As we see in each of the contributions to this issue of the *Journal of Communications and Language*, there's more to the "glocal" project of digital narrative than novelty. Now that we're decades into the algorithmic creation (and structured digital archiving) of literary arts, authors of born digital literature channel their computational interests and "embodied sensorimotor making" (Monteiro and Carvalhais) into an emergent narrative formation from elements that represent, and to some extent generate communities in formation.

David Thomas Henry Wright and Chris Arnold take a practice-based approach to digital narrative. Their paper for this issue first discusses the maximalist novel through Stefano Ercolino's theory and novels by Zadie Smith and Jonathan Franzen, then presents their practice-led research, where they created a digital novel, *The Perfect Democracy*, that responds to the maximalist print novels. With maximalist bravado, they aimed "to capture the entirety of contemporary (Australian) culture." Wright and Arnold argue that creating a digital novel in response to theory and print literature serves to "extend, subtend, and resolve the literary research".

In their "Computational Models for Understanding Narrative," Montfort and Pérez y Pérez similarly argue that theory should be operationalized, as they write, although they have developed generative models rather than an individual work to do this. In their paper, Montfort and Pérez y Pérez demonstrate how computationally modeling theories of narration not only produce systems that can generate narratives, the process of operationalizing the theories in software code actually helps to refine the theories by identifying gaps and lack of specificity. Through a discussion of two computational narrative generators, Pérez y Pérez's MEXICA and Montfort's Curveship, the authors develop specific insights gained regarding the theories they model: the Engagement-Reflection Cognitive Account of Creative Writing and Genette's narratology.

Those modifications, which make us more aware of our own (often unconscious) cognition and unreflective flow of ideas, take on literary and cultural value through reflective processes that connect our work in progress with our own (and our readers') moment by moment awareness of ourselves in relation to others. A digital work can sometimes produce loosely structured, multi-vocal gatherings, but our reflective (and reflexive) cognition is capable of turning these loose and free flowing engagements into sustained and interactive narratives. It all depends on how both authors and readers, engaged and reflective cognizers adopt and adapt to digital media, how the works circulate among authors, co-authors, and readers, and how we creatively and critically play with networked and multimodal forms of writing.

While Pérez y Pérez and Montfort develop computational models to improve our understanding of narrative theory, Davin Heckman develops theory to improve our understanding of large language models and artificial intelligence. He boldly argues that "the human has become a text, and the machinic apparatus its reader and writer".

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Heckman draws upon theories from Foucault, Barthes, and Simondon to understand humans' *prosopopeia* or personification of AI, and uses these insights to analyze a selection of works of electronic literature that use machine learning in various ways, including D. Fox Harrell's *Chimeria* (2014), John Cayley's *The Listeners*, Allison Parrish's *Reconstructions*, Ian Hatcher's *Prosthesis*, the netprov *Grand Exhibition of Prompts*, Talan Memmott's *Introducing Lary* (2023) and more. Heckman describes these works as "electronic/generative literature that reflects the current situation and perhaps make it more habitable and/or readable in some sense." At the end of the article, Heckman has a brief look back at some of the generic and narratological anticipations. By thus drawing upon the history of those who have come before and anticipating those who will come in the future, Heckman hints at how literature has always imagined its own future through acts of remembering. Reinventing, and not just citing prior works.

Finally, we publish Tegan Pyke's review of The New Media Writing Prize 2022, the 13th edition of an initiative that involves digital narratives. Pyke provides a detailed description and analysis of the artworks of the three winners: *Anonymous Animal*, by Everest Pipkin; *Future is Uncertain, Memory is Real*, by Media-Lab Glagol, the Belarusian Touristic Union, and the EVZ Foundation; and *Penrose Station*, a virtual reality narrative by Kathryn Yu.

As computational environments emerge from our distributed and ever changing media ecology, our cultural contexts shift and transform as well. The impacts of algorithmic narrativity on renewed and emerging narrative forms demand contextualized and situated studies about how they are produced, circulated and extracted, as well as self-assessment and criticism to explain how interactions of human authors with non-human agents are programmed, structured and delivered.

The editors would like to thank all the authors who have contributed to this issue, as well as the reviewers who have contributed with their evaluations and assessments of the received submissions.

We are also thankful to Talan Memmott for the authorization to use an image from *Introducing Lary*, an AI-driven project concerned with cancer survival, on the cover of this issue. The project is an exemplar of how emerging platforms can be harnessed for new forms of digital narrative. More information about the project can be found at: https://talanmemmott.info/?tag=introducing-lary-project

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Narrativas Digitais — Teorias, Crítica(s), Resultados: Introdução

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As narrativas digitais incluem histórias em jogos de computador, literatura eletrónica, realidade virtual e aumentada, *chatbots* e aplicações *web* e móveis, bem como histórias que circulam nas redes sociais ou são geradas por inteligência artificial. Os algoritmos desempenham um papel fulcral na nossa experiência quotidiana com essas histórias, contribuindo crescentemente para a organização, geração e estruturação de narrativas.

A publicação deste número temático coincide com o lançamento do Center for Digital Narrative (CDN), um Centro de Excelência na Investigação norueguês. O Centro debruça-se expressamente sobre a «narratividade algorítmica»: em termos simples, esta consiste na capacidade humana de contar histórias com os efeitos da capacidade do computador de gerar e manipular símbolos. As nossas formas de contar histórias alteraram-se significativamente nos últimos anos, dado que a mediação dos computadores nos seus contextos de rede acrescentou um outro agente ao processo narrativo. As narrativas digitais já não são meramente negociadas entre um contador de histórias e um público: os

sistemas influenciam, possibilitam e limitam essas histórias através de uma camada de processamento algorítmico. O CDN investigará manifestações dessa narratividade algorítmica em cenários que vão da literatura eletrónica aos sistemas narrativos computacionais, dos computadores às redes sociais.

Este número da RCL alinha-se com as preocupações do CDN de várias formas. Nele se aborda, em particular, o modo como o conhecimento de tecnologias, plataformas e algoritmos digitais nos pode ajudar a compreender as novas narrativas digitais emergentes na nossa atual sociedade em rede e globalizada. O nosso objetivo foi o de fomentar a análise de como as narrativas digitais remedeiam os nossos contextos culturais e reintegram modos e metodologias literários, confirmando ou opondo-se às possibilidades específicas das plataformas, e de como esse intercâmbio cria oportunidades para a literacia mediática, a educação e a justiça social. Para o concretizarmos, convidámos académicos e artistas a apresentarem artigos que versem sobre a interação entre narrativas humanas e métodos computacionais, definindo uma estrutura triangular que incluía abordagens baseadas em *Teorias* (com especulações e reflexões sobre línguas transdisciplinares e estrangeiras e uma adaptação dos géneros narrativos ao digital), *Crítica(s)* (interpretação e discussão de narrativas que antecederam a imprensa e novamente se centram em temas, controvérsias, interações culturais e deslocalizações hipertextuais, mais do que na imersão solitária numa narrativa linear) e *Resultados* (apresentação de processos e modelos integrados nas narrativas digitais).

A investigação sobre narrativas digitais requer não só investigação interdisciplinar, mas também inclusão transcultural e criação de comunidades, como defende Hannah Ackermans no seu contributo para a presente recolha. Para Ackermans, o campo da literatura eletrónica «assenta numa narração transmediática do próprio campo» por uma comunidade. Esta «autonarração» do campo ocorre «em vários meios, desde artigos académicos a conferências, exposições, bases de dados, reuniões Zoom e alguns trabalhos artísticos e comunicações pessoais». A *inclusão* de várias línguas e nacionalidades é, para Ackermans, fulcral para «a institucionalização da literatura eletrónica, na academia e para lá dela». Também a comunidade é apresentada por Ackermans como elemento constitutivo da literatura eletrónica. Com efeito, a criação e o ato coletivo de criar comunidades emergem, no seu artigo, como um conceito essencial para a compreensão das narrativas digitais na sociedade em rede e globalizada em que surgem.

O destaque dado por Ackermans à inclusão comunitária coincide com aquilo que Diogo Marques e Ana Gago consideram ser uma «(Re)criação» do nosso «Património através da Literatura Digital». O objetivo do seu projeto de investigação artístico e ciberliterário é o de utilizar a criação artística como plataforma, mas não para fazer algo "novo" ou colocar em exposição, por si só, algoritmos e dados acumulados. Diversamente, as suas recriações, reinterpretações e remediações visam reconstruir um património cultural emergente que pode ser encontrado fora dos museus.

De modo semelhante, Ana Monteiro e Miguel Carvalhais consideram as narrativas digitais «essenciais para nossa perceção do mundo». No seu contributo, percorrem parte

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da história das narrativas digitais interativas, discutindo em especial a agência do leitor e defendendo uma abordagem enativa. Como podemos ver em cada um dos contributos para este número da *Revista de Comunicação e Linguagens*, o projeto das narrativas digitais «glocais» não se cinge à novidade. Atualmente, após décadas de criação algorítmica (e arquivamento digital estruturado) das artes literárias, os autores da literatura digital de raiz canalizam os seus interesses computacionais e a sua «criação sensório-motora incorporada» (Monteiro e Carvalhais) para uma formação narrativa emergente feita a partir de elementos que representam, e que nalguma medida geram, comunidades em formação.

David Thomas Henry Wright e Chris Arnold adotam uma abordagem à narrativa digital baseada na prática. O seu artigo para este número começa por discutir o romance maximalista através da teoria de Stefano Ercolino e dos romances de Zadie Smith e Jonathan Franzen, apresentando depois a investigação conduzida pela prática que realizaram e por meio da qual criaram um romance digital, *The Perfect Democracy*, como resposta aos romances maximalistas em suporte impresso. Com ambição maximalista, propuseram-se «apreender a totalidade da cultura (australiana) contemporânea». Wright e Arnold defendem que criar um romance digital em resposta à teoria e à literatura em suporte impresso permite «ampliar, delimitar e resolver a investigação literária».

Em «Computational Models for Understanding Narrative» [Modelos Computacionais para a Compreensão da Narrativa], Montfort e Pérez y Pérez defendem, de modo semelhante, que a teoria devia ser operacionalizada, como escrevem, embora para o fazer tenham desenvolvido modelos generativos em vez de uma obra individual. No seu artigo, Montfort e Pérez y Pérez demonstram como não só as teorias de modelagem computacional da narração criam sistemas que podem gerar narrativas, mas o processo de operacionalizar as teorias em código de *software* também ajuda a aperfeiçoar as teorias ao identificar lacunas e falta de especificidade. Através de uma discussão sobre dois geradores de narrativas computacionais, o MEXICA de Pérez y Pérez e o Curveship de Montfort, os autores aprofundam os específicos conhecimentos obtidos acerca das teorias que modelam: a explicação cognitiva da escrita criativa com base no modelo *Engagement-Reflection* [Ensimesmamento-Reflexão] e a narratologia de Genette.

Essas modificações, que nos dotam de maior consciência da nossa própria cognição e do nosso próprio fluxo de ideias irrefletido (muitas vezes inconscientes), revestem-se de valor literário e cultural através de processos refletidos que estabelecem uma ligação entre o nosso trabalho em curso e a consciência que (nós e os nossos leitores) temos, a cada momento, de nós mesmos e dos outros. Uma obra digital poderá, por vezes, produzir encontros multivocais vagamente estruturados, embora a nossa cognição refletida (e reflexiva) seja igualmente capaz de converter esses *engagements* [ensimesmamentos] vagos e de livre fluir em narrativas sustentadas e interativas. Tudo depende de como autores e leitores, conhecedores envolvidos e refletidos, adotem e se adaptem aos meios digitais, de como as obras circulem entre autores, coautores e leitores e de como usemos, criativa e criticamente, as formas de escrita multimodal e em rede.

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Enquanto Pérez y Pérez e Montfort desenvolvem modelos computacionais para reforçar a nossa compreensão da teoria narrativa, Davin Heckman desenvolve a teoria para reforçar a nossa compreensão de grandes modelos linguísticos e de inteligência artificial. O autor afirma arrojadamente que «o humano tornou-se num texto, e o dispositivo maquínico no seu leitor e escritor». Heckman recorre a teorias de Foucault, Barthes e Simondon para compreender a prosopopeia ou personificação da inteligência artificial pelos humanos, servindo-se destes conhecimentos para analisar uma seleção de obras da literatura eletrónica que utilizam a aprendizagem automática de diversas formas, incluindo *Chimeria* (2014), de D. Fox Harrell, *The Listeners*, de John Cayley, *Reconstructions*, de Allison Parrish, *Prosthesis*, de Ian Hatcher, a netprov [narrativa improvisada em rede] *Grand Exhibition of Prompts*, *Introducing Lary* (2023), de Talan Memmott, entre outras. Heckman descreve estas obras como "literatura eletrónica/generativa que espelha a situação atual e talvez, em certo sentido, a torne mais habitável e/ou legível". A concluir o artigo, Heckman lança um breve olhar retrospetivo sobre algumas das antecipações genéricas e narratológicas. Apoiando-se assim na história daqueles que o precederam e antecipando aqueles que futuramente virão, Heckman alude ao modo como a literatura sempre imaginou o seu próprio futuro através do ato de recordar. Reinventando, e não meramente citando, obras anteriores.

Por último, publicamos a apreciação crítica de Tegan Pyke do The New Media Writing Prize 2022, a 13.ª edição de uma iniciativa que envolve narrativas digitais. Pyke descreve pormenorizadamente e analisa as obras de arte dos três vencedores: *Anonymous Animal*, de Everest Pipkin; *Future is Uncertain, Memory is Real*, do Media-Lab Glagol, da Belarusian Touristic Union e da Fundação EVZ; e *Penrose Station*, uma narrativa de realidade virtual de Kathryn Yu.

À medida que os ambientes computacionais vão emergindo da nossa ecologia mediática distribuída e em constante mutação, também os nossos contextos culturais se vão alterando e transformando. O impacto da narratividade algorítmica em formas narrativas renovadas e em desenvolvimento requer estudos contextualizados e situados sobre o modo como são produzidas, como circulam e como são recebidas, bem como autoavaliação e crítica para explicar de que forma as interações de autores humanos com agentes não humanos são programadas, estruturadas e comunicadas.

Os editores gostariam de agradecer a todos os autores que contribuíram para este número, bem como aos revisores que deram o seu contributo sob a forma de apreciação e avaliação das propostas recebidas.

Estamos igualmente gratos a Talan Memmott pela autorização para usar uma imagem de *Introducing Lary*, um projeto impulsionado por IA relacionado com a sobrevivência ao cancro, na capa desta edição. O projeto é um exemplo de como as plataformas emergentes podem ser aproveitadas para novas formas de narrativa digital. Mais informações sobre o projeto podem ser encontradas em: https://talanmemmott.info/?tag=introducing-lary-project

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ARTIGOS

ARTICLES

Unfolding Community in Electronic Literature

Desdobramento da Comunidade em Literatura Electrónica

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Abstract

Although the creative practice comprises a wide variety of narratives emerging in digital environments, we consider 'electronic literature' to be a scholarly and artistic field. Its sense of community is built on a transmedial narration of the field itself. I explore the development of the field in relation to the sense of community to identify a collection of trends that have emerged in electronic literature as an academic field. My findings center around three themes: 1) belonging and demarcation, 2) infrastructure and resources, and 3) transnationality and inclusivity. I combine theory about communities with sources that reference community in electronic literature, drawing from sources across media. I further argue for the urgency of considering 'community' as a formative element in electronic literature, a vital concept in understanding digital narrative in the globalized network society in which they emerge.

Keywords

electronic literature | community | taxonomy | infrastructure | inclusivity

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Resumo

Embora a prática criativa compreenda uma grande variedade de narrativas emergentes em ambientes digitais, consideramos a 'literatura electrónica' um campo académico e artístico. O seu sentido de comunidade é construído sobre uma narração transmédia do próprio campo. Neste artigo, exploro o desenvolvimento desse campo em relação ao sentido de comunidade para identificar uma coleção de tendências que surgiram na literatura eletrónica como um campo académico. As minhas descobertas giram em torno de três temas: 1) pertencimento e demarcação, 2) infraestrutura e recursos e 3) transnacionalidade e inclusão. Para tal, combino a teoria sobre comunidades com fontes que fazem referência à comunidade na literatura eletrónica, extraindo fontes em todos os média. Ao mesmo tempo, defendo a urgência de considerar a 'comunidade' como um elemento formativo na literatura electrónica, um conceito vital para a compreensão da narrativa digital na sociedade em rede globalizada em que emergem.

Palavras-chave

literatura eletrónica | comunidade | taxonomia | infra-estrutura | inclusividade

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The field of electronic literature is built on a curious paradox: it requires the open-endedness of digital environments to experiment with modes of storytelling as well as the institutional structures inherent to academia to build a sustained collective memory. As Davin Heckman states: "a watershed moment in the history of the field, then, might very well be the decision to form an institution around such an unfixed practice" (2021, 60). As creative output, electronic literature involves "new forms and genres of writing that explore the specific capabilities of the computer and network—literature that would not be possible without the contemporary digital context" (S. Rettberg 2019, 2). Yet any media-textual definition is insufficient to understand electronic literature: as a tradition of practice, electronic literature relies on community. Both the "unfixed practice" of electronic literature and the "institutions" within and around the community are consolidated in digital interfaces as a mode of communication and publication. In this article, I analyze how the material, discursive history of electronic literature is entangled with 'community'.

I feel a sense of community in the field of electronic literature, but this is such a nebulous concept that it is difficult to pinpoint where the community begins and ends. This fluidity is not only a trait of electronic literature, but of the simultaneously common and contested use of the concept of 'community'. Anthropologist Anthony P. Cohen calls the concept of bigger communities "a rhetorical figment" (1985, 13) because they tend to be more aspirational than descriptive, whereas small communities do have an actual reality. In the pivotal book *Imagined Communities,* political scientist Benedict Anderson argues that on a national level, communities are imagined: "it is imagined because the members of even the smallest nation will never know most of their fellow-members, meet them, or even hear of them, yet in the minds of each lives the image of their communion" (2016, 6). Although not even close to the scale of most nations, academic fields, too, are now too big to know everyone in the field, but does this necessarily mean we need to look for an alternative for 'community'? Gerard Delanty pragmatically notes in his book *Community:* "virtually every term in social science is contested, and if we reject the word *community* we will have to replace it with another term" (2003, 2, original emphasis). In his foreword to Cohen, Peter Hamilton points out that while the end of 'community' was announced in western sociology, "people throughout the Western world in modern industrialized societies were aggressively asserting their locality and ethnicity, their membership of communities which were real enough for them if not for those who ought to be studying them" (1985, 7). He concludes that "people manifestly believe in the notion of community, either as ideal or reality, and sometimes as both simultaneously. [...] if people believe a thing to be real, then it is real in its consequences for them" (1985, 8). How, then, can we understand electronic literature's contested emphasis on community as a formative value?

Although the creative practice comprises a wide variety of narratives emerging in digital environments, we consider 'electronic literature' to be a scholarly and artistic field. Its sense of community is built on a transmedial narration of the field itself. I trace the field's self-narration across media, from academic articles, conferences, exhibits, databases, Zoom meetings, and some artistic work and personal communications. I initiated the process of finding sources by searching the ELMCIP Knowledge Base for records tagged with 'community', which led among other reflections to a special issue in which authors described the electronic literature communities. I combined this with a snowball sampling method of going through sources of my original findings and sharing my research with others who then recommended further sources and memories. I do not offer a systemic, complete overview of the literature which would put stricter constraints on the types of content that could be included in my sample; the more scattered cross-format sources including both sources with community as their main argument and sources with incidental mentions of community do, I believe, give a more realistic representation of the community as it is experienced by its members. My aim is not to provide the reader with a timeline of the field

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that fact-checks if the community is 'real enough', but rather a collection of trends that have emerged throughout internally identified sense of community in electronic literature as an academic field—as such, I do not include a comparative scope to other ways in which computer-mediation has led to communities online. My findings center around three themes: 1) belonging and demarcation, 2) infrastructure and resources, and 3) transnationality and inclusivity. I take a step back from individual discussions in the field, while arguing for the urgency of considering 'community' as a formative element in electronic literature, a vital concept in understanding digital narrative in the globalized network society in which they emerge.

1. Belonging and Demarcation

I attended my first Electronic Literature Organization conference in 2015 in Bergen (Norway), the summer before I was to study a semester abroad at the University of Bergen. I had never met anyone in the field and my experience of reading electronic literature was limited at the time, yet everyone at the conference was welcoming and answered all my basic questions without looking down on me. During the annual 'Town Hall' meeting, someone stood up to say that they had always felt connected to the electronic literature community since their first ELO conference, where they realized that "these are my people". I recognized this feeling that touches the heart of what community is. Despite the indefinable nature of community, Delanty states that "if anything unites these very diverse conceptions of community it is the idea that community concerns belonging" (2003, 4). This sentiment resonates in Norwegian artist Ottar Ormstad who notes, "I was invited by Scott Rettberg to do a reading and screening of my web poetry at the E-Lit in Europe conference in Bergen, Norway (2008). This was an essential event that made me feel more part of the community since I had productive conversations with several participants" (2012, n.p.). Belonging to the community, then, is tied to the dialogues about electronic literature with others. In electronic literature, a field with a strong entanglement between scholars and artists, the arenas for dialogues include both publications and events such as conferences, festivals, and exhibitions. Belonging to a community cannot be understood without meshing this social aspect with common demarcations of the field.

The ontology of a field, even when formulated rigorously, always runs a risk of being too narrow or too broad. When I introduce my students to electronic literature, I tend to take an agnostic stance as to what 'counts' as electronic literature; when students ask me if a creative work they encountered (often online) is electronic literature, I ask them what they would gain from analyzing it *as* electronic literature, rather than within another discipline. At the same time, the process of collectively contemplating definitions and narrations of a field can further a sense of belonging. Jill Walker Rettberg comments on the broad definition of electronic literature by the Electronic Literature Organization as a way to bring "together genres that in many ways were seen

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as separate in the early years" (2012, 13). She cites Lori Emerson's blog post "On e-literature as a field": "what did not exist until the founding of the Electronic Literature Organization in 1999 [...] is a name, a concept, even a brand with which a remarkably diverse range of digital writing practices could identify: electronic literature" (Emerson in JW. Rettberg 2012, 13). A definition, then, is not only an ontological issue, but also a force for community and identity.

Different histories of classifying various types of electronic literature have been developed—which both shapes and is shaped by the community. The Electronic Literature Organization (ELO) used to define electronic literature on their website as "works with important literary aspects that take advantage of the capabilities and contexts provided by the stand-alone or networked computer" (n.p.). Remarkably, the ELO has removed even this broad definition from their website as it was considered too limiting. Yet the ontology and history of electronic literature remain essential parts of the field. The start and development of electronic literature have been narrated repeatedly in various media and channels to grasp the origins of the field.

In 2002, N. Katherine Hayles gave a keynote address at the Electronic Literature Organization at UCLA, where she made the distinction between "first-generation" electronic literature, referring to early works of electronic literature, and "second-generation" electronic literature, referring to works produced after around 1995[1]. In *Electronic Literature: New Horizons for the Literary* (2008), Hayles places electronic literature in a literary tradition. In 2019, Leonardo Flores followed Hayles's first- and second-generation demarcation and updated it with a third generation. The third generation in Flores' conception started around 2005, which "uses established platforms with massive user bases, such as social media networks, apps, mobile and touchscreen devices, and Web API services" (2019, n.p.). This does not mean that it replaces the second generation: "this third generation coexists with the previous one and accounts for a massive scale of born-digital work produced by and for contemporary audiences for whom digital media has become naturalized" (Flores 2019, n.p.). However, it has a relevant chronological aspect concerning the first two generations: "each generation builds upon previous and contemporary technologies, access, and audiences to develop works and poetics that are characteristic of their generational moment" (2019, n.p.). Including third-generation works as electronic literature is a site of debate within the community, with Eugenio Tisselli and Rui Torres as its most vocal opponents: "why should e-literature seek to go mainstream, when the mainstream is, *par excellance* [sic], the medium where the disruptive cosmology of Technic reproduces itself?" (2020, n.p., original emphasis) They argue that social media-based works lack the self-reflexivity of the first and second generation. Even so, third-generation

1 She later kept her division but updated her terminology in her 2008 book to "classical" and "contemporary" to "avoid the implication that first-generation works are somehow superseded by later aesthetics" (7). With the continued development of new phases in electronic literature, the numerical distinction stuck better than "classical" and "contemporary".

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works are becoming more common case studies in written publications and conference presentations and the term has entered the shared vocabulary of the field. Discussions around the taxonomy of electronic literature, then, furthers the community even (or especially) when there is disagreement about it.

Yet not every history of the field uses a demarcation based on chronological cohorts. Chris Funkhouser's *Prehistoric Digital Poetry: An Archaeology of Forms, 1959–1995* (2007) traces digital poetry back to early computer experiments (rather than a literary tradition stipulated by Hayles) and defines electronic literature types by providing case study analyses. Scott Rettberg's 2018 book *Electronic Literature* considers electronic literature in line with experimental art traditions prior to electronic literature, stating: "they are not exclusively of digital lineage. They have particularly deep connections to experimental writing and avant-garde art movements of the twentieth century" (2018, 6). As such, his book chapters each cover a specific genre of electronic literature that traces the analog origins and digital evolution of each genre. This approach reflects a general focus in the field on experimental literature within the context of electronic literature, exemplified most clearly in the PO.EX Digital Archive of Portuguese Experimental Poetry.

Exhibitions also play a role in putting forward alternative material histories of the field. The 2013 exhibition *The Emergence of Electronic Literature* (S. Rettberg et al., 2013) in Bergen included various key documents and objects that hold significance in the history of electronic literature and placed special attention on the role of the University of Bergen in the development of electronic literature as a field. The exhibition *No Legacy|| Literatura electrónica* (Saum-Pascual and Ortega 2016) criticizes the history of electronic literature by removing the linear history and instead proposes that "all literature is contemporary." More recently, the Indian digital art movement dra.ft curated an exhibition of Indian electronic literature in the context of *ELO 2021: Platform [Post?] Pandemic*. This exhibition included *Excavating E-lit,* which explores Indian electronic literature between 2000 and 2021, highlighting that this meant "looking at places which might not have been tagged as E-lit but if thought upon can be considered one" (dra.ft 2021, n.p.). Renegotiating electronic literature's history and definition, then, epitomizes the narration of the field, which functions as a tool to discursively imagine the community.

Demarcations within electronic literature—questioning what genre and/or generation a work belongs to—have a powerful effect on the development of the community. At the same time, social factors affect the evaluation of the material: the community around creative works affects whether a work is regarded as electronic literature. Flourish Klink pointed out in their presentation at *ELO 2015 The End(s) of Electronic Literature* that the definition as set by ELO was broad enough to include all sorts of genres, "but to do this is to ignore the differences in the communities that supported these texts' creation. Similarly, it is tempting to declare the 'end of e-lit,' since so much e-lit can also be framed as fan fiction, video art, games, etc., but to do this is to ignore the impact

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of the e-lit community and its structure" (2015, n.p.). This productive aspect of community creation is brought forth by Mia Zamora at ELO 2015, where she highlighted that "community develops around a collaborative fictional enterprise" (2015, n.p.). This aligns with the findings of anthropologist James Leach who foregrounds that creation is a critical element of binding social groups.

The ontology of the field, then, is not a detached theoretical academic discussion, but rather a dynamic imperative to build the field further. Delanty states that "as a discourse of loss and recovery, community can be utopian and at the same time nostalgic" (2003, 11). The nostalgia in the narration of electronic literature often relates to the community's small size in its starting days which inspires the sense of belonging. Electronic literature author Bill Bly hosted an ELO Virtual Salon session in 2020 to discuss the history of his work *We Descend*, which brought forth many reflections on the history and development of the community. About the Cybermountain conference in 1999, he says "the whole gang was there" (2020, n.p.), explaining that "it occurred to me at the time that this was likely the last time that you'd be able to get everybody who was involved in this movement into one place" (2020, n.p.). By 'this movement' he seems to refer to the North-American writing community, which at the time was not as cross-continental as current efforts in the field. He explains: "every name of everybody that I knew was writing this kind of literature seems to be sitting there [...] or else was hooked up to us via dial-up modem on various communication venues on the web" (2020, n.p.). This nostalgia towards the early days might relate to Cohen's assessment that a community's size influences the extent to which perceived relations are based in reality. At the same time, both past and current utopian expressions embrace the professionalization of the field. Infrastructure and resources, then, are required for the community to function—which begs the question of how these logistics affect the community's development.

2. Infrastructure and Resources

Although I have always been an avid reader, I did not encounter electronic literature until some works were assigned in one of my BA classes in literary studies. This experience corresponds to developments in electronic literature years before I started university. In her 2007 keynote address "Is the Future of Electronic Literature the Future of the Literary?", Hayles argues that the future of electronic literature is in academia. And Scott Rettberg notes two years later that "electronic literature is slowly but surely working its way into academic contexts as literature programs, digital culture programs, and other academic departments hire new faculty with specializations in digital textuality" (2009, n.p.). The development of the electronic literature community cannot be separated from the infrastructure, and accompanying resources, in which it developed, both inside and outside academia. For example, in her reflection on the electronic literature community, Yra van Dijk argues that "literary festivals, conferences and workshops form temporary communities in which planned collaboration takes

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place" (2012, n.p.). Community is not simply as social practice but also facilitated by infrastructure. As such, I turn to the prevalence of discussions of infrastructure in the electronic literature to elaborate on the role of resources and the gift economy in further developing the field.

Although romanticized as a small-scale community, electronic literature has developed within institutional support in various contexts throughout its existence. In her recent book *Pre-web Digital Publishing and the Lore of Electronic Literature,* Astrid Ensslin examines the case study of *Eastgate Quarterly Review of Hypertext*, a hypertext journal from the mid-1990s, noting that "the mutual generosity between Eastgate writers was and still is an important part and trademark of the electronic literature community" (2022, 32). Hypertext conferences organized by Eastgate facilitated this network:

> To Eastgate founder and "serious hypertext" pioneer Mark Bernstein, the Hypertext conferences likely meant "some kind of currency" (Douglas, interview) with the emergent hypertext writing community. These events proved to be a key incubation platform for soliciting new ideas and publications as they brought together existing and new talent. (8)

The community, then, was part of an infrastructure. Ormstad also notes, about the E-Poetry festival series, that the ability to organize events has a crucial influence on community formation: "I realized that the openness and freedom I felt were part of the basis of the community, and that the interdisciplinary cooperation I had been missing from the sixties also was another important element" (2012, n.p.). He reflects that "I understood how these dimensions in combination with resources and new technology made it possible to present such a remarkable and massive festival program" (2012, n.p.). These anecdotes function as examples of Cohen's note that "community continues to be of both a practical and an ideological significance to most people" (2012, 8). Talking about the electronic literature community, then, helps with the practical organization for the community itself and the ideological association of the values associated with this community. These values often build on a sense of belonging and inclusion. This egalitarianism contributes to the imaginary of the development of electronic literature, but must, according to Cohen, also be handled with caution:

> The complaint we should make against this claim of egalitarianism is not that it is incorrect or empirically unwarranted, but that it is inadequate. It rarely distinguishes among equality as an ideology ('We should all be equal here'), as a rhetoric ('We are all equal here'), and as pragmatism ('We behave as if we were all equal here'). None of these should be confused with a description of actual social relations. (1985, 33)

It might seem like this discussion about equality would be a better fit for the next section, in which I discuss inclusivity in electronic literature. Yet I consider a discussion

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of resources and dependence on infrastructure a prerequisite to fully understanding the inclusivity of the community.

The dynamics within the electronic literature community are not self-contained but instead embedded in academic structures at large. Its development fits with the general tendency that: "the patterns of internationalization and globalization of academic networking are [...] increasingly conditioned by social structural factors and economic considerations" (Becher and Trowler 2001, 95). It is no surprise, then, that the double-edged sword of the 'gift economy' pops up again and again in both discussions of academic expectation and the electronic literature community. In its most general definition, the gift economy refers to a culture in which services or goods are not exchanged for monetary value but rather given without explicit one-to-one return. In some cases, the gift economy is profiled as a form of egalitarianism. Members of a community "may denigrate the disparities of wealth and power, or the competitiveness which they perceive elsewhere, to justify and give value to their espousal of equality" (Cohen 1985, 35-36). In this way, positioning academia as a gift economy can be posited as a way to place it, ideologically, outside monetary transaction and replace it with the 'transaction' of social and cultural capital. Actions to further the academic field, through peer review and conference organizing to name a few, consolidate and the often implicit shared standards of any academic community. For example, Erik Dean Rasmussen asked the question "what can we—i.e. the authors, artists, critics, coders, scholars, students, writers and readers thinking at the interface of these social systems—do to create environments in which e-lit can flourish?", proposing that the gift economy of making networked and open-access environments "bypasses conservative paternalism and neoliberal corporatization, which undermine higher education and literary culture by emphasizing training elites and making profits" (2009, n.p.). He combines, then, both literary and academic culture in this movement in which the gift economy is a (partial) resolution to favorable development of the field.

The sentiment around this gift economy as an ideological position was already present in the 1990s with "the birth of the copyleft movement, with Creative Commons becoming the new standard for digital publishing and sharing" (Ensslin 2022, 31), which challenged "the more copyright-leaning intellectual property model followed by Eastgate" (Ensslin 2022, 31). However, the gift economy does not operate outside of infrastructure and institutional resources. Ensslin, for example, describes the gap between free-market thinking and the need to preserve works: "since the free market economy cannot be reasonably expected to undertake this mammoth task, concerted government, institutionally and charity-funded scholarly undertakings are needed to preserve the enormous legacy left by pioneer enterprises like Eastgate" (2022, 38). In other words, the gift economy requires institutional support to function. ELO was planned at

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the TP21CL[2] conference in 1999 by electronic literature authors and scholars. Even so, it wasn't until later that year that Scott Rettberg (ELO's co-founder and first executive director) announced: "ELO is a go" at the Cybermountain conference (Bly 2020, n.p.) when they received a donation of startup funding from publisher and internet investor, Robert Ziff, and their official nonprofit status would follow by the end of the same year (personal communication with S. Rettberg). ELO grew out of a grassroots community, but its success relies on its ability to raise funds. The history page on ELO's website also exemplifies this by emphasizing the different universities ELO has been affiliated with and the organization's received grants over the years. In 2009, Rettberg explained that authors and scholars can think of their work as separate from the free market because they are "ensconced within universities" (2009, n.p.) before hailing this gift economy as "a progressive evolution of the distribution of thought, enabled by the technology of the global network" (2009, n.p.). Steffen Hantke, on the other hand, critiques academia's functioning as a gift economy, as academics are expected to do various tasks such as writing articles, attending conferences, and sitting on editorial boards without monetary return besides their employment. This system then presumes that everyone has relatively stable employment and freedom to work on their 'gifts' inside the terms of their employment. This is, however, often not (or no longer) the case. As such, the gift economy parallels Miranda Joseph's description of nonprofits:

> Nonprofits are defined through their relation to capital. Nonprofits are supposed to be *not* for profit—the capital they accumulate cannot be distributed as profit—but they are also not non-capitalist and especially not anticapitalist. Nonprofits are often posited as the institutional form in which community complements capital. (2002, 70, original emphasis)

Although communities can be presented as egalitarian and criticized for not being egalitarian enough, as Cohen stipulates, Joseph's insight into community as a complement to capital raises questions about positions of power in nonprofits, ELO among them. The lack of monetary flow within nonprofit academic organizations requires willing exploitation of intellectual labor of the dedicated community to function. Although ELO directors seem to have institutional power, their proximity to capital necessitates a note that these positions tend to come from a place of free labor. This labor can be partially provided within the context of the academic gift economy, in which professors have the possibility to consider their nonprofit work as part of their employment, yet anecdotally we know that many of the people in these 'positions of power' work considerable overtime. This overtime is required to achieve top positions in a field, which increasingly relies on metrics and competitions. Additionally, we must acknowledge

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the paradox that someone in a position of power has more freedom to do this free labor, while it is also more difficult to refuse free labor when one has not (yet) reached the career stability to do so. What we think of as 'egalitarian', then, is more complex than an academic appointment. The institutionalization of electronic literature, in academia and beyond, entails a multifaceted understanding of infrastructure and resources. This includes a perspective on the transnational nature of electronic literature and the inclusivity of the community.

3. Transnationality and Inclusivity

After I attended ELO 2015 and studied abroad at the University of Bergen, I returned to my home country but remained a research assistant in Bergen. Not only was I able to do all my work and communication online, my taken-for-granted ability to speak Dutch was suddenly a distinctive skill I could use to find and document Dutch electronic literature that was lacking in the ELMCIP Knowledge Base. This experience highlights the dependence on local institutional situatedness combined with digital connectivity. The general shift from local communities to Marshall McLuhan's 'global village' corresponds to the expansion of media technologies. There is, however, a limit to what just 'being connected' can do in terms of community development. The practical realization and outcomes of making a 'global village' are portrayed in the electronic literature community as a herald of the increasing awareness of internationalization in academia—it has been transnational from its conception as a field. When describing electronic literature authors, Thomas Swiss points out:

> the electronic literary community, which typically works and meets in cyberspace, diverges from the historical avant-garde in that geographical place has not been a defining feature as it had been, say, for earlier outsiders, including mid-twentieth century collectives such as the San Francisco Beat writers and the New York School of Poets. (2004, 15)

Jerome Fletcher and Lisa Somma take such an observation to the next level by contrasting it to the academic infrastructure, highlighting "the discrepancy between the geographical situatedness of the Academy on the one hand, and the dispersed nature of networked e-lit communities and of e-literature as a practice on the other" (2012, n.p.). Digital connectivity has affected academic institutions to become more internationalized, yet local institutional situatedness continues to influence the field and a transnational community does not escape societal biases. This begs the question what electronic literature, which depends so heavily on both dispersed networks and institutional infrastructure, gains and loses through its transnational status.

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3.1. Language

Considering the transnational nature of electronic literature combined with its inherent focus on language (it is, after all, literature), it is perhaps not surprising that multilingualism has been a concern of the field for a long time. The ELO 2007 conference included an "International Electronic Literature" panel (Baldwin, Borràs Castanyer, Gervais, Gutiérrez, Marino, JW Rettberg 2007), "the goal of which was to turn ELO's attention to work being written in other languages and other cultures, specifically Spanish and Catalan" (personal communication with Marino 2022). At this panel, Mark Marino pointed out that almost everyone in the room was a white American (personal communication with Marino and S. Rettberg 2022). One year later, a conference called *Electronic Literature in Europe* built on previous conferences in Paris and The Netherlands. Apart from one Norwegian and one French work, however, all presentations and works were in English. The year after, in 2009, Rettberg profiles translation and inclusion of different language communities as a major goal. He outlines various actions "toward common goals and to work together across language communities" (S. Rettberg 2009, n.p.). Rettberg, who later spearheaded the ELMCIP Electronic Literature Knowledge Base, suggests that "one very important effort would be to develop shared bibliographic and metadata standards for electronic literature, and to create descriptive records that are both open and shared" (S. Rettberg 2009, n.p.). In the same article, he also envisions translation of both electronic literature works and introductory essays about electronic literature to foster cross-language communication about different types of electronic literature in communities around the world. Yet despite these early developments, the discussion around transnationality and language communities continues to this day. Since no one speaks every language, but we also want to avoid the balkanization of research, the field grapples with questions of how to escape its historically Anglo-American focus.

Both artistic and academic practices reveal engagement with multilingualism—often creating a mosaic understanding of language rather than a melting pot. Ormstad uses it as a creative drive by creating a multilingual work made up of different languages used by people in the electronic literature community. He explains that "people will experience the video differently dependent upon their language background. A person knowing just one language will probably get less out of it than a multi-lingual viewer. On the other hand, the sounds of the words are also important so the impression will be different based on the focus of the viewer" (2012, n.p.). The inability to speak every language, then, becomes a requirement that enables varied experiences and interpretations of the work, rather than a weakness. This acceptance that most people will partially understand the work also runs through other experiments with multilingualism in the electronic literature community. The 2015 exhibition *Decentering: Global Electronic Literature* (Seiça et al.) displayed works from Brazil, Peru, Poland, Portugal, and Russia to decenter English as the lingua franca of the field and demonstrate the value of encounters with artistic practices and traditions outside one's linguistic knowledge.

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At ELO 2018 in Montreal, Canada, the conference contained several French sessions among the majority of English sessions, and the introductions to plenary sessions were done in both English and French. Some translation work has been done in the context of electronic literature research. Monika Górska Olesińska and Mariusz Pisarski translated *Sea and Spar Between* (Montfort and Strickland 2012) into Polish (2013). They presented the translation process as an interrogation of the code and literary aspects of the work. Individual scholars also research electronic literature in different languages. Reham Hosny, for example, does essential work in researching and promoting Arabic electronic literature through the Arabic Electronic Literature (AEL) Network. She states: "to get a broader understanding of the field, we should reflect upon different perspectives on e-lit from different parts of the world. [Sandy Baldwin and I] felt that it's the time to shift the world e-lit community interest from the western e-lit to e-lit in other parts of the globe such as the Arabic e-lit as well as propose new concepts and ideas on e-lit derived from the Arabic culture specificities" (2017, n.p.). Several language-specific databases, such at PO.EX, NT2, and Ciberia (initiated in 2005, 2005, and 2012 respectively), were also created in part to function as a corrective to the field's focus on English-language works in the past (Goicoechea; Portela and Torres; Saemmer). More recently, in 2021, Yohanna Joseph Waliya built the MAELD & ADELD Database of African electronic literature in collaboration with Jason Boyd. They did this work as part of the ELO Research Fellowship, to bring African works to the attention of the majority of the electronic literature field unfamiliar with these works. These projects contribute to a more inclusive community and ensure that works are not overlooked as quickly because they are not in English. Due to the various artistic traditions in different cultures, electronic literature is indeed an international phenomenon but can also have distinct characteristics based on language and cultural tradition.

3.2. Communication Technologies

Communication technologies are inherent to the community of electronic literature, so much so that it is a common theme in the narrative around its development. Swiss states, for example: "Trace, started in 1996, is another well-known online community for writers, including hypertext and New Media writers. Based at Nottingham Trent University in England, the community conducts its business by email, sponsors live meetings and events via the Internet, and has a large site on the Web" (2004, 19). Ensslin, too, highlights the communication technologies between authors, following up her comment on the sense of community between Eastgate authors with:

> The mutual generosity between Eastgate writers was and still is an important part and trademark of the electronic literature community. Nevertheless, developing this community spirit, with multidirectional links and effective information and technological exchange, was no small feat when the fastest and most accessible way of communicating

was via landline telephone, especially if email addresses were unknown. Many hypertext writers never met each other in person. (2022, 32)

Similarly, Ormstad reminisces on the email threads used a decade later to discuss issues such as "nakedness on stage and also our relation to other parts of the world" (2012, n.p.), highlighting the convenience and importance of 'mail debates' between physical meetings. Despite their ease, he does express the desire to have these discussions embedded in the timetables of physical meetings. Communication technologies, then, provide a lot of opportunities but do not seem to fully replace face-to-face communication, especially when it comes to confrontation.

Communication technologies mentioned above are mainly text-based, and to a certain extent, 'private' or at least addressed to specific people. Communication in the electronic literature community now also involves social media such as Facebook groups and Twitter as well as video meetings. In January 2020—two months before COVID-19 made video conferences ubiquitous—a small group of researchers and writers led by electronic literature author Deena Larsen started the ELO Virtual Salons on Zoom, which continues on a monthly basis. Each month, a different host presents a topic or leads a workshop, followed by a discussion among the attendees. With this type of communication, the aim is to have more accessible and frequent meetings between the annual ELO conferences, although, unavoidably, time zones and unstable internet connections continue to be a problem.

3.3. EDI(A) discussions

Discussions about inclusivity—mainly regarding language and geography—have preoccupied ELO for over a decade and a half. During the spring of 2021, these debates soared. Various issues concerning equity, diversity, inclusion, and accessibility (EDIA) were raised in the ELO Facebook group[3] that continue to affect ELO's actions and the relations between ELO members. The initial spark was the *Posthuman* exhibition in Bergen, Norway. Various community members took offense that four men had curated the exhibition and that there was a gender imbalance among the artists in the exhibition. The critique concentrated on what was only one of a collection of events and exhibitions, while the organizers had kept track of the inclusivity of the Arts programs as a whole. Although the curators upheld that the acceptance rate was equal for men and women when considering their unequal number of submissions, this led to a more extensive discussion around how the pandemic had disproportionately affected women in terms of care work. This has meant that female academics (especially mothers) submitted less work overall (Krukowski; Minello), and according to some people in the discussion, this

3 I do not identify or directly cite any of the individuals in the discussion, but rather speak in general terms.

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should have been considered by the curators. The discussions also expanded beyond the exhibition and the issue of gender balance to include EDIA in the ELO activities at large. In response, the ELO initiated monthly "EDI in the ELO" conversations every first Friday of the month on Discord, led by Leonardo Flores who was ELO president at the time. The ELO Virtual Salons hosted a non-recorded session called "Inclusion Solutions" in Zoom breakout rooms on April 12, 2021, which invited people to share solutions on various topics related to EDIA. Furthermore, Margaret Rhee, the ELO Amplify Anti-Racism Research Fellow of 2020-2021, hosted "Intersectional E-Lit: A Workshop" on Zoom on July 1, 2021. As I argued above, one person can be in a position of power in one sense (for example, by being on a board of directors) while underprivileged for another reason (for example, doing free labor at an underfunded university). Rather than an issue isolated to ELO, these developments echo similar discussions in academia and culture at large. The 2021 discussions have revealed not only that there is a lot of room for EDIA improvement but also that participants build on community practices and appeal to a sense of belonging when engaging with these issues.

The last few years have also seen more interest in accessibility, both in community and artistic practice, be it more erratic than the sustained consideration of gender and language. A key example is the creative work *Byderhand* (Greyling and team 2015-2020), a locative narrative made for a blind/low-vision target audience. Franci Greyling (the project leader) and Gustaf Tempelhoff (the web editor) have presented this work at several electronic literature conferences. Deena Larsen, electronic literature author and prominent member of the ELO, started envisioning a working document to provide electronic literature authors with the knowledge to create more accessible works. Parallel to the successful "Acid-Free Bits" (Montfort et al. 2004) and "Born-Again Bits" (Liu et al. 2005), this resource would be called "Accessible Bits". More time and focused labor are necessary to create this vital resource. Discussions around accessibility can be difficult within the community—after all, it requires not only inviting more disabled people to the table, but also potential behavior change from disabled and non-disabled authors alike to create more accessible works while understanding the impossibility of creating works that are accessible to *everyone*. In my article calling for more accessible electronic literature, I use 'we' and 'us' to address the field as a community to help people move towards a readiness to scrutinize the accessibility of their own works and events.

4. Concluding Remarks

Digital narratives do not appear out of thin air but are created by people in specific contexts. The Center for Digital Narrative advances the understanding of trends within genres and contexts of digital narratives without losing their specificity. This requires a consideration of how technological aspects intersect with social and cultural practices. Alongside the use of technologies for creative works of electronic literature, the narration of the field is also transmedial, including among other things email threads,

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academic publications, teleconferencing platforms, and social media. The decades of deliberate intertwining between artistic and academic practice require scrutiny and accountability of academia's impact on 'the community'. Providing a discursive history of electronic literature gives access to the nebulous but material influence of community. The practice and positioning of community as a value relies on the entanglement of social and material factors, which reveals a three-fold dialectics. The verbal and textual negotiation of demarcation and classifications focuses on the objects that are being created and researched within the field. Rather than a foundation, ontology functions as a tool in the field. This ontology falls short without considering the negotiations taking place on the structural level, including the transactions between monetary, cultural, and social capital. This focus on institutions contextualizes electronic literature within academia. Finally, the negotiations of inclusion and transnationalism focuses on people while opening up discussions about the ontological and institutional frictions. These dialectics can in themselves be productive to keep the community going. As Yra van Dijk puts it: "the goals and the creative energies of the community are to an important extent concerned with the description, the establishment, and the rules of the community itself" (2012, n.p.). Without romanticizing 'the community', the discursive and material force of community development needs to be recognized in order to understand electronic literature as a practice and field within the wider digital narrative landscape. Electronic literature benefits from its openness, or "unfixed practice", as Heckman describes it. The experimental impulse inherent in electronic literature enables problem-solving as new technological, social, and institutional issues arise. Like other fields, electronic literature continues to unfold over time, allowing the community to cultivate it in the directions we want to see going forward.

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Biographical note

Hannah Ackermans completed their dissertation *The (Inter)Faces of Electronic Literature: Scholarly Experiments that Built a DH Field* in Digital Culture at the University of Bergen (Norway). Throughout their PhD, they have taught courses on electronic literature and digital humanities, co-organized the Digital Humanities Network at UiB, and served as co-convenor of the Digital Culture research group. Additionally, Ackermans was an editorial board member of the ELMCIP Electronic Literature Knowledge Base, co-organizer of the Electronic Literature Organization annual global conference in 2021, and editor of the *Platform [Post] Pandemic* special issue ('gathering') in Electronic Book Review.

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MOIRA: Literatura Digital na (Re)criAÇÃO de Património

MOIRA: (Re)creating Heritage through Digital Literature

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Resumo

MOIRA é um projeto de investigAÇÃO artística, de natureza ciberliterária, que procura reinterpretar e (re) criar versões algarvias das lendas de Mouras Encantadas. MOIRA visa usar a criação artística como plataforma para questionamento e mobilização de grupos e comunidades em torno do património cultural imaterial, recorrendo à criação artística como um agente dinâmico para novas interpretações e usos desse património, fora das instituições museológicas. Ao combinar a criatividade computacional com a revitalização do património cultural imaterial, o projeto MOIRA visa ainda refletir sobre problemáticas sociais prementes como questões de género e direitos das mulheres. Através do uso da literatura digital e do conceito de património digital, o projeto procura preservar, disseminar e gerar múltiplas formas de conhecimento à escala *glocal*.

Palavras-chave literatura digital | património digital | narrativas orais | mouras encantadas

Abstract MOIRA is an artistic and cyberliterary reSEARCH project that seeks to reinterpret and recreate local versions of the Algarve legends of Enchanted Mouras. The project aims to use artistic creation as a platform for questioning and mobilizing groups and communities around intangible cultural heritage, viewing artistic creation as a dynamic agent for new interpretations and uses of that heritage, outside museums. Combining computational creativity with the revitalization of intangible cultural heritage, the MOIRA project aims to reflect on social issues such as gender and women's rights. Using digital literature and the concept of digital heritage, the project seeks to preserve, disseminate, and generate multiple forms of knowledge on a *glocal* scale.

Keywords digital literature | digital heritage | oral narratives | enchanted mouras

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> The storyteller began to put forth words, not because he thought others might reply with other, predictable words, but to test the extent to which words could fit with one another, could give birth to one another, in order to extract an explanation of the world from the thread of every possible spoken narrative, and from the arabesque that nouns and verbs, subjects and predicates performed as they unfolded from one another.
>
> — Italo Calvino, *Cybernetics and Ghosts*

> Storytellers are wayfarers. And like all wayfarers, they need to attend to things as they go, to recognise subtle cues in the environment and to respond to them with judgement and precision. They need to be able to tell, for example, where animals have been from their tracks, how the weather is about to change, how the river runs.
>
> — Tim Ingold, "Of Work and Words: Craft as a Way of Telling"

PreparAÇÃO

Das três *Moirai* e *Parcae* da mitologia greco-romana à Moura Encantada presente no folclore galaico-português, as lendas, narrativas de base oral, em torno destas figuras, são sempre um retrato da civilização em que ressurgem, refiguradas. Se, na mitologia grega, as *Moirai* eram responsáveis por fabricar, tecer e cortar o destino tanto de deuses como de humanos, na mitologia romana, com as Parcas, essa regência passaria a atuar de modo exclusivo sobre a dimensão humana, isto é, controlando o destino — ou *fatum* — dos mortais. Mais tarde, coincidente com a prevalência do monoteísmo, esta trindade ver-se-ia reduzida a uma só unidade, ainda que ligada a múltiplos lugares e variações. Assumindo a forma de uma serpente, de longos cabelos negros ou loiros, presa na torre de um castelo ou no fundo de um poço, penteando-se junto ao leito de um rio ou escondendo-se por entre pedras de afloramentos rochosos, a Moura Encantada apresenta-se como figura temida e, ao mesmo tempo, admirada, que tanto é capaz de dar como de tirar. Espécie de oráculo-esfinge, que finge por enigmas, a sua presença tanto pode significar uma sala repleta de tesouros ou um presságio com terríveis consequências, que é como quem diz, uma bênção ou uma maldição.

"Histórias reconvertidas" a partir de "narrativas míticas" (Frazão e Morais, *apud* Casinha Nova 2012, 30), enquanto formas de compreender e de pertencer, as lendas de Mouras Encantadas são parte de uma herança cultural, arquétipos capazes de refletir o inconsciente coletivo de uma cultura, manifestando-se por meio das histórias e simbologia que a permeiam. Tratando-se de experiências e valores compartilhados através do tempo e do espaço, nas entrelinhas destas narrativas encontramos ainda estereótipos, com frequência relacionados com estórias de anteriores ocupações, *autênticas* recriações históricas, e que, no caso das lendas de Mouras Encantadas na região do Algarve, costumam surgir associadas à ideia de disputa entre 'mouros' e cristãos. Isto é, uma *narrativa* que toma um lugar central na (re)construção historiográfica (re)conhecida como Reconquista[1], apesar de estas serem bastante comuns, não só noutras zonas do país, como noutros países (desde logo Espanha, com particular incidência na Galiza, mas também França, Alemanha, Itália ou Grécia).

A este respeito, para Isabel Cardigos, a designação de 'mouros', no contexto de lendas de Mouras Encantadas, é distinguível dos vestígios de património cultural efetivamente deixados pelos povos islâmicos que viveram na Península Ibérica entre os séculos VIII e XV. Daí que tenha apontado para a presença de um imaginário popular ibérico, que substitui, na memória popular, vagas de ocupantes/habitantes muito anteriores à realidade da presença islâmica pela ideia de um mundo em que todas as grutas, penedos, poços e antas pertencem "ao tempo dos mouros" (Cardigos 2008, 105-28). Ainda a propósito do termo 'mouro', na linha de Cardigos, Dias Marques fala mesmo de

1 Vide também Casinha Nova 2012, 50-52.

diferentes hipóteses linguísticas, históricas, arqueológicas e antropológicas que perseguem uma tentativa de fixação etimológica, exemplificando com a ideia de que o termo não deriva do latim *maurus*, ou habitante da Mauritânia, mantendo com o primeiro uma relação exclusivamente homofónica, nem dos árabes ismaelitas que terão ocupado a Península Ibérica por volta do século VIII (Dias Marques 2021, 255-258).

Não obstante, ter-se-á iniciado, a partir de meados do século XIX, um movimento, primeiramente, de associação das mesmas a um ideário de identidade nacional e, numa fase posterior, pela ação de autores como Teófilo Braga ou Ataíde Oliveira, a uma identidade regional (Dias Marques 2021, 238), como a correspondência trocada entre os dois folcloristas permite, aliás, atestar, sendo disso exemplo carta de Ataíde Oliveira endereçada a Teófilo Braga com data de 1901, em que o primeiro se queixa, em tom de desabafo, de um certo desfavorecimento do Algarve face a outras regiões[2]. A este ímpeto romântico, guiado por uma necessidade de validação identitária, tirando partido do "prestígio" e "pedigree histórico" (241) deste conjunto particular de lendas, seguir-se-iam outras ações de "patrimonialização não erudita" (243), porém, igualmente estratégicas, resultando numa folclorização e cristalização das lendas de mouras encantadas enquanto 'produto cultural' da região algarvia:

> Se, no início, (...), as lendas de mouras eram encaradas como traço identitário português, mas de nenhuma região em particular, na segunda metade do séc. XIX surge uma ideia que depois veio a ganhar força e chegou aos dias de hoje: as lendas de mouras encantadas seriam uma caraterística da tradição oral do Algarve. A primeira atestação que conheço está numa obra de Teófilo Braga de 1867, mas a afirmação é feita com ar de coisa consabida, pelo que, provavelmente, era algo que andava no ar já há algum tempo, pelo menos no meio intelectual" (Dias Marques 2021, 238).

Como tal, os processos de patrimonialização não podem ser entendidos separadamente dos seus contextos culturais e económicos mais amplos, conforme destaca Françoise Choay (2008) ao enfatizar o potencial de capitalização do património enquanto produto cultural, fabricado e difundido numa lógica consumista. De resto, Christian Barrère (2013)[3] posiciona, de forma inequívoca, o património no domínio da gestão dos territórios, tanto como objeto de consumo como meio de produção em si, acompanhando a globalização das economias e dos hábitos de lazer (Gago 2022).

2 Arquivo em linha do Museu da Presidência. Mais informação disponível através do seguinte endereço: https://www.arquivo.museu.presidencia.pt/details?id=9214 (acedido a 29/12/2022).

3 Reflexão incluída em artigo que serviu de base à comunicação no 5.º Colóquio da Associação de Ciência Regional de Língua Francesa (ASRDLF), em 2013.

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InvestigAÇÃO

Tendo como universo referencial versões algarvias das lendas de Mouras Encantadas, MOIRA[4] é um projeto artístico, ciberliterário, da autoria de d1g1t0 indivíduo_colectivo (https://wreading-digits.com), que conjuga criatividade computacional e uma abordagem capaz de promover a revitalização do património cultural (i)material[5]. Partindo da descrição processual e apresentação dos principais resultados deste projeto, procuraremos, neste artigo, discutir o potencial da (re)criação artística (digital), enquanto plataforma para a dinamização de movimentos de questionamento por parte de grupos e comunidades.

Alinhando-nos com autores como Kimberley Marwood e focando a nossa atenção no processo, teremos como referência um tipo de investigAÇÃO que "empodere os participantes, revelando e contestando iniquidades dentro dos projetos e além destes" (2019, 171-172). Ao adotar uma metodologia de ação, mobilizadora e interventiva, procuraremos abrir caminho à defesa de práticas de "co-produção de investigação" e de um entendimento de património enquanto "processo criativo e social — em vez de património enquanto corpo de factos imutáveis sobre o passado" (Marwood *et al*. 2019, 171-172, tradução nossa[6]). Nesse sentido, posicionamo-nos na senda do trabalho desenvolvido no campo dos Estudos Críticos do Património por autores como Emma Waterton e Laurajane Smith, dando eco a discussões em torno da ideia de "comunidade", ou de "património comunitário", enquanto espaços permeáveis a apropriações políticas ou institucionais (2010). A este respeito, e a título de exemplo, em *The Uses of Heritage*, Smith descreve o modo como o conceito de património foi (re)construído durante o século XIX, enquanto parte de uma estratégia *romântica* de coesão identitária em torno de um ideal (e ideário) das novas nações em emergência[7]. Num outro aspeto, a distinção proposta por Smith, entre vozes autorizadas (a dos especialistas e profissionais de museus), e vozes não autorizadas, ser-nos-á fundamental para dar continuidade à reflexão em torno dos processos de fixação de discursos oficiais sobre património (Smith 2006).

A este propósito, em artigo publicado no volume *History and Approaches to Heritage Studies* (2019), e alargando o conjunto de vozes, ou de *praticantes* de património, Kate Clark afirma:

4 https://wreading-digits.com/site/pt/projectos/as-moiras/ (acedido em 29/12/2022).

5 Mais informação disponível sobre o projeto, a partir do seguinte endereço em linha: https://wreading-digits.com/site/pt/projectos/as-moiras/ (acedido em 29/12/2022).

6 Reflexão integrada em artigo "From researching heritage to action heritage", onde Kimberley Marwood *et al.* apresentam os resultados do projeto Researching Community Heritage (RCH), desenvolvido pela Universidade de Sheffield.

7 Em *Património Cultural e Paisagístico: Políticas, Intervenções e Representações* (2012), João Luís J. Fernandes menciona especificamente o papel que os artistas visuais assumiram na promoção de estratégias de *marketing* territorial, para o desenvolvimento de políticas colonialistas das nações novecentistas.

> Heritage practitioners come from many different backgrounds. In addition to those who hold traditional knowledge, or who are passionate about local places or things, there are many others. They include anthropologists, architects and surveyors, curators, planners, archivists, ecologists, landscape architects, archaeologists, and conservators (2019, 151).

Considerando o papel que tem vindo a ser assumido pelos artistas, na reinterpretação e até mesmo revitalização de processos patrimoniais, propomos, por isso, que estes sejam acrescentados à lista (Gago e Castro 2021, 48). Desta forma a (re)criação artística poderá ser olhada, não apenas como uma ferramenta para o registo, salvaguarda e transmissão, mas, acima de tudo, como um agente dinamizador de novos discursos e de novos usos (a partir) desse património, abrindo-o a outras formas de saber, e de agir: *fazeres múltiplos*[8].

A partir desta compreensão alargada de património e dos seus praticantes, veremos como o projeto MOIRA engloba diferentes modos de engajamento, associados às distintas etapas do seu desenvolvimento, e que aqui nos servirão de base para a discussão, servindo também de estrutura a esta *narração* processual. Assim, para além da presente secção que, depois de preparar o leitor, abre caminho pela investigAÇÃO, fazendo aparecer diante de si o pretexto e antecipando o contexto, encontraremos duas outras secções que compõem uma fórmula na qual se destaca a palavra AÇÃO:

investigAÇÃO + instalAÇÃO = (re)criAÇÃO

Correspondendo, como referimos, às etapas processuais do projeto MOIRA, estas três componentes acabam, de igual modo, por corresponder aos próprios atos de contar, ouvir e recontar uma história.

Assim, a primeira etapa do projeto subdivide-se em dois momentos essenciais, com referência a tempo passado e tempo presente. No que respeita ao primeiro, o processo de investigAÇÃO teve início com a recolha de diferentes versões de lendas de Mouras Encantadas, quer em fundos como o Arquivo Português de Lendas[9], quer em antologias — com destaque para aquela compilada pelo historiador Francisco Xavier d'Ataíde Oliveira, em finais do século XIX, intitulada *As Mouras Encantadas e os Encantamentos do Algarve* (1898). Terminada a fase de recolha, procedeu-se a uma análise comparativa das diferentes versões, durante a qual se levou a cabo um levantamento

8 Termo frequentemente utilizado no âmbito da definição de estratégias para a promoção da diversidade cultural, e, de forma particular, no domínio dos estudos pós-coloniais, compreendendo, entre outros aspetos, o reconhecimento de diferentes modos de produção e de expressão de conhecimento.

9 O projeto MOIRA contou com a consultoria do Centro de Estudos Ataíde Oliveira (https://www.ualg.pt/centro-de-estudos-ataide-oliveira), sediado na Universidade do Algarve, fundado por Isabel Cardigos e J. J. Dias Marques, e dedicado ao estudo da tradição oral (património cultural imaterial) nos seus vários géneros. O Arquivo Português de Lendas (APL), projeto liderado pelo CEAO (PTDC/ ELT/65673/2006), pode ser visitado através do seguinte endereço em linha: https://www.lendarium.org/pt/ (acedido a 29/12/2022).

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exaustivo de vocabulário, com foco nos diferentes encantamentos que as lendas contêm, e com vista a posterior construção de base de dados textual.

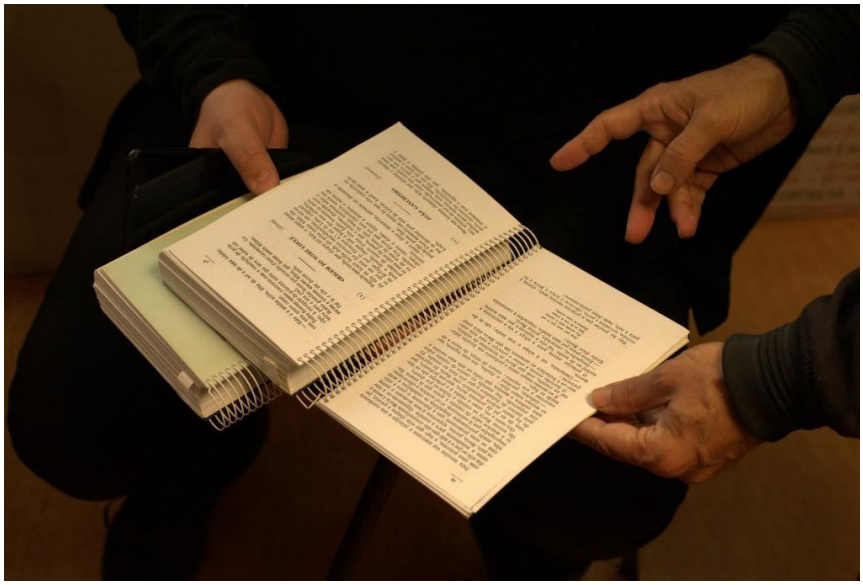

Imagem 1
Pesquisa em Centro de Estudos Ataíde Oliveira, Universidade do Algarve, maio de 2022 | créditos: d1g1t0 indivíduo_coletivo.

Ainda no que concerne a ligação com o passado, atendendo ao contacto direto com a terra e as gentes que a habitam, procurámos, como premissa geral, perceber a relação de construção que existe entre as paisagens e as pessoas que a constroem e nela se constroem. A ligação da lenda ao lugar é, precisamente, um dos fatores de distinção entre lenda e mito, apontados por Alexandre Parafita (2006), com base em duas características fundamentais: por um lado, a associação da primeira a uma localização espaciotemporal e, por outro, a ausência de necessidade de ritualização para a sua transmissão. Desta forma, "a função social que cada relato desempenha e o valor pragmático que lhe é dado, tanto pelo narrador como pelo ouvinte" (2006, 68), serão fatores determinantes para a sua transmissão, tornando-a indissociável da relevância que apresenta para o momento em que se desenrola. Por isso, apercebendo-nos da forte ligação de muitas destas lendas a ambientes aquáticos, levámos a cabo uma visita de campo para observar diferentes construções associadas ao abastecimento de água, como fontes, poços e fontanários, mais concretamente na freguesia de Santa Catarina da Fonte do Bispo, concelho de Tavira.

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Imagens 2 e 3
Trabalho de campo em Santa Catarina da Fonte do Bispo, maio de 2022 | créditos: d1g1t0 indivíduo_coletivo.

A opção por esta área geográfica concreta prender-se-á, ainda, com a segunda fase desta etapa de investigação, e que diz respeito ao momento presente, já que, constituindo-se em boa medida como projeto de arte participativa, MOIRA procurou promover o envolvimento da comunidade, enquanto agente fundamental para o questionamento e (re)criação artística do (seu) património. Embora com algumas particularidades, a saber: a aplicação de práticas de investigação artística na recriação do património cultural material e imaterial, por meio de uma retextualização poética de lendas de Mouras Encantadas, com recurso a processos e ferramentas de criação literária assistida por computador, em articulação com outros meios tecnológicos, e com vista à promoção de uma reflexão expandida sobre temas tão prementes quanto os direitos das mulheres e a igualdade de género.

Para tal, em contexto de residência artística, começámos por organizar um conjunto de oficinas, na região de Tavira, com um grupo de mulheres bordadeiras no lugar de Santa Catarina da Fonte do Bispo. Este trabalho de campo foi realizado com o apoio do Museu Zer0[10], museu dedicado às artes digitais e, à data de escrita deste artigo, em construção naquela localidade algarvia. Desenvolvidas ao longo de uma semana, estas oficinas tiveram como objetivo ampliar a recolha de versões de lendas de Mouras Encantadas e proceder, uma vez mais, ao levantamento de vocabulário associado às lendas e à região, embora assumindo neste contacto processos de infeção e de contaminação. Infeção, na medida em que, para proceder a esta recolha, as bordadeiras foram confrontadas com versões de lendas recolhidas na fase anterior, portanto, transpostas para o papel, publicadas em códice, constituindo parte de um cânone específico; e contaminação, porque, durante esta segunda recolha, decidimos não excluir vocabulário

10 https://www.museuo.pt/o-museu-zero/sobre-nos/

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alheio às lendas, incluindo, na base de dados textual, palavras e expressões orais utilizadas pelas bordadeiras, por exemplo, em dizeres relacionados com costumes, aspetos do seu quotidiano e do seu entorno.

Quanto ao material recolhido, registamos ainda o facto de certas versões atestarem alguma da documentação científica utilizada como referência, por exemplo, os estudos precursores levados a cabo por Isabel Cardigos[11], e que poderão ser pertinentes para abordar problemáticas de género e direitos das mulheres. Nomeadamente, e a título ilustrativo, o relato de uma lenda em que uma jovem virgem tem de beijar uma serpente, por forma a libertar-se do encantamento — ao contrário da habitual fórmula nesta tipologia de lendas, em que se atribui ao elemento masculino a responsabilidade de quebrar o encantamento. O que vai ao encontro de uma das mais reputadas análises de Cardigos, sobre o simbolismo da serpente na relação com o feminino (e do feminino consigo mesmo), bem como com processos de regeneração, no dualismo vida/morte, que atravessam várias mitologias. Desde logo, na mitologia grega, fazendo referência às ménades com os seus cabelos entrançados de serpentes; mas também, na iconologia cristã, materializando-se, de forma mais evidente, na história de Eva e da Serpente, e com claras repercussões na atualidade, no que diz respeito a estereótipos e papéis de género definidos entre homem e mulher. Ou, em termos simbólicos, lagarto e cobra[12], se tivermos como exemplo a história partilhada pelo grupo de bordadeiras sobre o dia em que os animais foram pedir pernas ao *Criador*, e em que este decide dar pernas ao lagarto, por ser conotado com o sexo masculino, deixando que a serpente, conotada com o sexo feminino, rastejasse, por ter manifestado o seu desejo ou interesse sexual[13].

InstalAÇÃO

Se, na etapa subsequente, de investiGAÇÃO, as diferentes fases dão conta de um processo de leitura e de releitura crítica das lendas recolhidas e das vivências associadas à região, nesta segunda etapa, à recolha realizada acrescenta-se um segundo nível de participação, com a conceção, desenho e exposição de uma instalAÇÃO ciberliterária *in situ*, patente na Ermida de São Roque, entre os meses de julho e agosto de 2022.

Porém, antes ainda de entrarmos nos detalhes que caracterizam esta instanciação do projeto MOIRA, será porventura pertinente referir exemplos de abordagens que

11 Para além de ter cofundado o referido centro para a recolha e estudo da Literatura Oral, em Portugal, Isabel Cardigos fundou a revista internacional de Estudos de Literatura ORAL (ELO), que dirigiu entre 1994 e 2007.

12 Este binómio simbólico está presente em diferentes latitudes e diversos contextos culturais, incluindo em representações e objetos associados a rituais de fertilidade levados a cabo em várias regiões do continente africano.

13 Deixamos aqui a sua transcrição, tal como narrada pela informante: "Havia a lenda dos animais que foram pedir pernas. Isto a minha mãe, ou o que é, contava isto, eu já não sei como era. Mas diz que quando foi o lagarto, foi pedir a nosso senhor, ou não sei quem, as pernas e ele procurou porque é que ele queria as pernas, ele disse que era pra fugir atrás das mulheres. Atão o lagarto trouxe pernas. A última, pelos vistos, foi a cobra e procurou pra que é que a cobra queria as pernas e ela disse que era para fugir atrás dos homens, então não lhe deram pernas e é por isso que ela rasteja. Como era para ir atrás dos homens, não lhe deram pernas, e é o único bicho que rasteja. Os outros bichos, que seja a aranha, que seja tudo, tudo tem uma perninha, e a cobra não tem!" [sic]

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poderão revelar-se úteis para endereçar questões metodológicas e levantar pontos de discussão sobre o potencial da investigação artística para o estudo de objetos patrimoniais, e, sobretudo, para a promoção de processos participativos em torno desses objetos. Mais concretamente, uma abordagem de "*multiple making*", utilizada por Bowen *et al*. (2018), em estudo de caso apresentado no contexto do 3rd Digital Heritage International Congress (DigitalHERITAGE)[14]. Inspirando-se na análise de autores como Giaccardi e Palen, Bowen *et al.* promovem uma concepção de "produtores de património", por contraste com "consumidores de património" (com referência às comunidades desse património e/ou aos visitantes desse mesmo património), para o desenho de instalações artísticas, em diálogo com sítios ou objetos patrimoniais:

> Designing interactive media and technology for engagement with heritage sites should also embrace their dynamic and socially-constructed character as places, and, in doing so, consider whose heritage it is. Developing these points, Giaccardi and Palen discuss the social production of heritage as place-making, reflecting broader shifts to seeing communities and visitors as heritage producers rather than consumers. (Bowen *et al* 2018, 1)

A ideia de *multiple making* surge, nesse artigo, igualmente associada ao recurso a *mixed media* e à utilização de uma abordagem *Do-It-Yourself* (DIY), de carácter híbrido, no desenvolvimento de instalações artísticas. A utilização deste tipo de abordagem por parte dos autores relaciona-se ainda com a exploração de processos de "making in public", em modelo de atelier aberto, com o acompanhamento por parte dos visitantes, em diferentes etapas processuais, como parte da referida estratégia de capacitação (e consequente engajamento) dos mesmos. Não obstante, saem reforçados o caráter evocativo das tecnologias digitais, assim como os aspetos performativos, com ênfase na corporização (*embodiment*), como geradores de experiências imersivas (ou mais interativas), sobre e a partir de lugares ou objetos patrimoniais:

> Our work (...) suggests that such multiple making can be a means of bringing the aspects of a heritage site, the evocative and interpretive potential of interactive media and technology, and community concerns together into a *productive correspondence*. And that such making can be part of an ongoing process of producing and sharing cultural heritage. (Bowen *et al.* 2018, 8)

Neste ponto, e em consonância com a ideia de "multiple making" acima convocada, será pertinente referir o conceito de "fazer" ("*making*"), tal como proposto por Tim Ingold, enquanto "correspondência": uma série de movimentos centrípetos e centrífugos na consciencialização cinestésica do praticante com os utensílios, os materiais, o seu entorno, na qual

14 Não deixa de ser curioso, o facto de este congresso, que teve lugar em 2018, ter sido realizado a par com a 24th International Conference on Virtual Systems & Multimedia.

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se inclui a observação do fluxo inevitável e contínuo de ambos. Nas palavras de Ingold:

> Essa correspondência não é silenciosa e parada, mas barulhenta e turbulenta, aberta e viva em relação ao mundo. Para descrever essa realidade, adotamos a noção de hapticalidade. No âmbito da hapticalidade, o pensamento é a agitação de uma mente que se move e é movida pelos sons e pelos sentimentos do ambiente. É por isso que a ação habitual é também ponderada, caracterizada por uma consciência que não é tanto cognitiva quanto «concentrative». (...) as palavras também são coisas vivas, imersas nas correntes da hapticalidade. Assim, refuta-se a oposição, que se incorporou na própria constituição da academia, entre verbalização e incorporação. Trabalho e palavras, insistimos nesse ponto, são animados. Ambos se desdobram no hábito e possibilitam os diversos modos de contar, de dizer. (Ingold 2020, 13-14; tradução de resumo por Vítor Oliveira Jorge)

Assim, quando falamos de relações entre *mind*, *body* e *world*, ou, por outras palavras, de processos de corporização em experiências imersivas e de *mixed reality* (onde, como veremos adiante, poder-se-ão incluir as várias instanciações de MOIRA), falamos, não de um conjunto de círculos, de reservatórios, compartimentados, que se sobrepõem como blocos independentes com base na *interferência*, mas de *formações arquipelágicas*: "dynamically sustained formations in the current of life" (26), "like waters flowing around and between the islands of an archipelago". (19).

Centrando-nos no caso específico da instalação MOIRA, numa primeira estAÇÃO, dividida em dois pontos de escuta distribuídos por dois altares pré-existentes nas paredes laterais da nave da ermida, os visitantes (doravante designados como leitores), foram convidados a sobrepor a sua própria voz ao conjunto de registos sonoros que compõem parte do arquivo referente à etapa de investigAÇÃO, consistindo na gravação sonora das sessões com o grupo de bordadeiras. Para além de poder escutar este material sonoro, ao público foi dada a possibilidade de gravar o seu próprio testemunho, acrescentando um ponto particular à teia, ou palimpsesto, de lendas recolhidas, e reforçando o processo (simbólico) de transmissão, ou de "redobrar" do encantamento[15].

15 A ideia de "redobrar do encantamento" surge referida por Ataíde Oliveira na sua coleção de lendas de Mouras Encantadas, como constituindo grande entrave ao trabalho de recolha de lendas naquela região, tal como se pode ler no seguinte excerto de uma conversa com uma informante reportada pelo próprio Ataíde Oliveira:
"Estou certo que importante seria a colheita d'estas lendas, se os que as sabem não estivessem convencidos de que a sua narração a pessoas curiosas redobra os encantamentos. A uma velhinha d'aqueles sítios, a quem contei a história da moura transformada em estátua de pedra, no intuito de a animar a contar-me outras lendas, ouvi as seguintes palavras:
— Não sei que gosto o senhor possa ter em fazer mal a esses infelizes.
— Não é meu intuito fazer-lhes mal, respondi.
— Pois sim... e contou-me essa história que eu sei de muito criança.
— Que mal lhes faço contando esta história?
— Não se faça ignorante. O senhor sabe perfeitamente que contar-se a história de uma d'essas infelizes sem intuito de a salvar é o mesmo que redobrar-lhe o encantamento.
E por esta razão é ainda hoje muito difícil formar-se uma boa colecção de todas as lendas de mouras encantadas no nosso Algarve" (Oliveira 1898, 99).

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Dito de outro modo, os leitores, enquanto agentes responsáveis por decidir o destino das gravações que compõem o arquivo sonoro, incorporam, por meio de um sistema de autorreferencialidade, os próprios modos de transmissão e recriação das lendas.

Tratando-se de uma instalAÇÃO em que se colocam em jogo processos de (re) construção de memória, tanto individual como coletiva, propusemo-nos ainda explorar o efeito de presença que se produz na e através da voz, por meio das suas manifestações de *rarefação*, *interrupção* e *aparição*. Para tal, optámos por reforçar estética e conceptualmente o espaço da ermida, com a utilização de fita magnética, por um lado, emulando os fios de cabelo (ou rastos de serpente) da Moura Encantada; por outro, trabalhando com a ideia de materialidade da própria fita de cassete, onde a voz continua a ter uma forma de presença, e uma materialidade específica, mesmo quando não se faz ouvir (em certo sentido, tal como a voz das Mouras Encantadas, que é muitas vezes excluída dos relatos das lendas, excluída do seu processo de encantamento e de desencantamento, não significando, porém, um apagamento total, já que é a sua ausência presente que dá "voz" à narrativa).

Revelando a faceta artivista desta instalação, procurou-se também evidenciar a forma como a perspetiva da Moura, enquanto mulher — os seus pensamentos, motivações, emoções e vontades — tende a ser ignorada, na medida em que as lendas de Mouras Encantadas são quase sempre narradas por terceiros, destes dependendo o seu (des)encantamento. Assim como, numa outra camada de leitura, lemos histórias de mulheres que, à imagem de Echo, se encontram privadas da sua voz, por vezes do seu corpo, com frequência por força do poder paterno que, na iminência de ver sacrificada e violada a sua linhagem direta, condenavam a filha a uma eternidade espectral — a não ser que um valeroso cavaleiro cristão a viesse libertar, com ela casando e renunciando aos "santos óleos" do baptismo, o que, inevitavelmente, se afigura como tarefa hercúlea e quimérica. Por consequência, na medida em que estes arquétipos nos ajudam a situar processos de estereotipagem de género, como acontece no caso do 'olhar masculino', ou *male gaze*, também estas representações encontram eco no património (i)material que as lendas vão entre-tecendo em permanência.

Passando agora a uma breve descrição da segunda estAÇÃO, junto dos dois pontos de escuta supramencionados, foram colocados dois sensores de deteção de movimento, incorporados num conjunto de duas estruturas alusivas às origens greco-romanas das mouras encantadas (ou seja, duas estruturas a servirem em simultâneo como ponto de escuta e como ponto de leitura háptica).

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Imagens 4 e 5
Estações 1 e 2, MOIRA, Ermida de São Roque, julho de 2022 | créditos: Museu Zer0 e Vico Ughetto.

Tal como podemos ver no esquema referente a um percurso proposto, embora multidirecional, de natureza ergódica[16], a passagem por determinados pontos sequenciais representa a busca de uma chave de leitura para a desencriptação do enigma final. Ao incluir o leitor enquanto potencial coautor, acrescenta-se, pois, mais uma camada a este nível experimental de participação: passando pelos sensores, os leitores ativam três ecrãs, em sequência, na capela-mor, ao fundo da Ermida, dispostos num quadro tríptico reminiscente de uma cena da Crucificação. Um primeiro ecrã, à esquerda, onde os leitores podem ler o primeiro verso ativado do encantamento; um segundo ecrã, à direita, onde surge o segundo verso, por eles ativado, do encantamento; e os três versos, ou seja, todo o encantamento, no ecrã ao fundo, colocado no interior de um poço construído com recurso a materiais produzidos na região, tijolo burro artesanal, e inspirando-se nas técnicas e desenhos das estruturas supramencionadas, emanações de uma determinada *cultura de água*, que surgem associadas ao conjunto de relatos recolhidos.

16 Fazemos aqui uso deste termo da física que, derivado do grego, associa trabalho, *ergon*, e caminho, *hodos*, do qual Espen Aarseth se apropriou, em 1997, para fazer referência, no seu livro *Cybertext: Perspectives on Ergodic Literature*, a um "esforço não trivial" exigido pelo cibertexto e para que o leitor possa "atravessar" esse mesmo texto (1997, 1).

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Tropo recorrente em literatura, incluindo aquela de base oral, a imagem de poços com água costuma significar um local iniciático onde pode ser encontrada a chave da vida, ou um espaço de encontro social onde ocorrem conversas com poder suficiente para mudar trajetórias de vida. Porém, interessa-nos sobretudo a ideia de poço enquanto câmara de eco literal e figurativa onde a voz é amplificada ou distorcida, consoante as intenções de quem por lá passa. Não apenas de modo aural, mas também visual, seja Narciso que se apaixona pelo seu próprio reflexo, seja um espelho de água a partir do qual hidromantes traçam o futuro. Dito de outro modo, cura, conhecimento, sabedoria, transformação em toda a sua ambiguidade e imprevisibilidade, tal como referem Frazão e Morais: "Águas, fertilidade e regeneração, a cobra e as mouras encantadas, [são] todos mitemas do mesmo conjunto" (*apud* Casinha Nova 2012, 139).

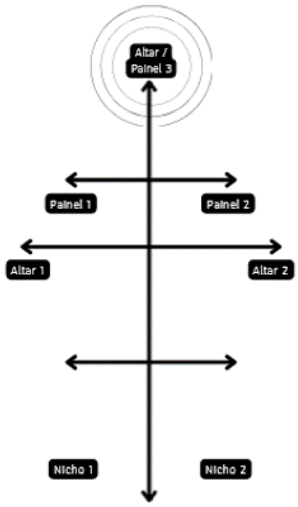

Imagem 6
Esquema geral de instalação MOIRA, Ermida de São Roque, julho de 2022 | créditos: d1g1t0 indivíduo coletivo.

Imagem 7
Vista geral de instalação MOIRA, Ermida de São Roque, julho de 2022 | créditos: Museu Zer0 e Vico Ughetto.

Chegados ao poço, à medida que os leitores se aproximam do mesmo, tornam-se, uma vez mais, responsáveis pelo desenrolar da narrativa, neste caso, pela geração de um poema-enigma, consistindo no referido encantamento da Moira e na forma de quebrá-lo, proporcionando-se, desse modo, uma experiência de leitura imersiva, potenciada pela interação visual, háptica e aural dos leitores com a obra. Aqui entendido como fórmula poética, mas também alquímica — já que pretende representar uma conjunção entre

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componentes emissivas e recetivas, duas modalidades de ação distintas com relação a um mesmo elemento —, o referido encantamento é composto por três versos gerados por processos (re)combinatórios em meio computacional, gerando resultados potencialmente únicos a cada leitura e interação com a obra; ainda que fechados, posto que o seu algoritmo se encontra dependente de uma base de dados textual fixa, composta pelo vocabulário recolhido, como referido acima, isto é, a montante, nas versões reunidas por Ataíde Oliveira, em finais do século XIX, e a jusante, no contacto com as bordadeiras.

VA + (EA1 + CP1) +
+ (CA1 + EP1)
e VP + EA2 + EP2

Legenda:
VA/VP — Verbo Ativo/Verbo Passivo
EA/EP — Elemento Ativo/Elemento Passivo
CA/CP — Complemento Ativo/Complemento Passivo

Exemplo:
Procura(VA) o Fio(EA1) de Prata(CP1)
nos Braços(CA1) de um pão(EP1)
E Acharás(VP) o Sangue(EA2) no Coração(EP2)

Através desta fórmula, o potencial resultado surge sempre revelado na forma do já referido encantamento, que por sua vez pode também ser lido enquanto '(des)encantamento', sobretudo se pretendermos fazer alusão às diferentes aceções desta(s) palavra(s), como aquela que remete para o dualismo magia vs. ciência. Tratando-se de uma fórmula que recorre à linguagem natural para expor esse mesmo poema-problema, ela acaba por evidenciar o papel mediador que a tecnologia tem sobre as duas partes do dualismo supramencionado, por exemplo, no processo de (re)mitificação que esta opera a partir das diferentes retextualizações da lenda. E, neste sentido, um pouco à semelhança do que Ana Hatherly refere em relação ao poema concreto que, numa tentativa de desmitificação da arte, acaba por remitificá-la, dessa forma aproximando "objecto funcional" de "objecto mágico" (Hatherly 1975, 10-11).

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Imagens 7 e 8
EstAÇÃO 3 MOIRA, Ermida de São Roque, julho de 2022 | créditos: Museu Zer0 e Vico Ughetto.

Por último, num segundo movimento, através do recurso a equipamento e *software* específicos para captura de voz e de imagem, o leitor é incentivado a fazer ecoar nas paredes do poço o encantamento gerado, um movimento que permitirá acionar uma outra componente visual da instalação, transformando o fundo do poço num espelho digital. No final, e tal como, aliás, acontece em muitas das versões de lendas de Mouras Encantadas, perante a impossibilidade de desencantamento (por vários motivos, incluindo precipitação, receio, ganância, indiscrição ou, simplesmente, incompatibilidade[17]), não é uma Moira que encontramos, mas sim a oportunidade de sermos confrontados com o nosso próprio reflexo, carregado de outro tipo de representações. Sendo uma etapa autorreflexiva em relação às próprias lendas, eis uma possível leitura: por um lado, tal como nas lendas, em que, qualquer que seja a ação do interveniente, a moira não pode ser libertada, também aqui o encantamento é contínuo e ilusório. Em suma, uma teia de fio e de fita magnética que reúne (i)materialidade analógica e digital, através de um conjunto de vozes fabricadas, cortadas e de novo entretecidas, num percurso tríptico, multissensorial, que testa a possibilidade de nos descobrirmos, junto a um lugar de (des)encantamento: o lugar da MOIRA[18].

(Re)criAÇÃO

Se atentarmos em possíveis definições dos conceitos de 'literatura digital' e 'património digital', podemos afirmar que, enquanto a primeira implicará, sobretudo, um enfoque no aspeto da *criação*, a segunda parece jogar com uma ideia de *recriação*. Com respeito a este último, isso mesmo se verifica pelo facto de comummente pressupor uma ação de preservação das diversas (i)materialidades históricas e culturais do objeto patrimonializado, que, ao contrário do que acontece com processos analógicos, implica uma mediAÇÃO geradora de materialidades próprias, *affordances* culturais indissociáveis dessa mesma *digitalidade*, entendida enquanto processo e enquanto manifestação processual. Daí que, no que respeita às narrativas moldadas pelo formato tecnológico digital, Geoffrey Winthrop-Young, ainda antes do virar do milénio, tenha salientado que:

> One of this century's more interesting ideas is that narratives are shaped by their technological format to such a degree that we cannot understand a narrative without first understanding its medial underpinning. This idea is frequently associated with Marshall McLuhan, not because he was the first modern media savant (that was another Canadian, Harold Innis) but because he was the first to (loudly) insist that the how of communication

17 A este respeito, Dias Marques salienta: "O final infeliz parece ser o próprio desta lenda, como indica o facto de ser muito maior o número de versões que acabam mal do que o número de versões que acabam bem (...). A mensagem desta lenda pareceria ser, pois, a de que as uniões entre contrários não se devem realizar, ideia que espelha, afinal, os valores da sociedade tradicional, que não via com bons olhos o casamento entre pessoas de aldeias diferentes e, muito menos, de raças ou religiões diferentes" (2021, 234).

18 Mais informações, registo fotográfico e videográfico da instalação poderão ser consultados em página do Arquivo Digital da PO.EX: https://po-ex.net/exposicoes/exposicoes-individuais/d1g1t0-moira/ (acedido a 30/12/2022).

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— the technology involved in a communication act — is far more relevant than the what — the message or meaning communicated. (Winthrop-Young 2018 [1997], 31)

Esta reflexão, partilhada, a título de exemplo, por autoras como Fiona Cameron e Sarah Kenderdine — aqui parafraseadas por Nick Higgett e Jenny Wilkinson — ganha especial relevância em resposta à aparente procura de representações (ultra)realistas, e a um ideal de resgate do passado que não tem em conta a não neutralidade dos *media* digitais, que com frequência é seguido na utilização de computação gráfica 3D, Realidade Virtual e/ou Aumentada, neste domínio:

'Digital technologies are implicated with historical transformations in language, society and culture, and with shifting definitions of the museum.' [Thus], Digital objects — and processes — are themselves cultural and have their own 'social lives' (Appadurai, 1988), in which they circulate and are valued in different ways. Our analysis here is therefore not simply about the extent to which the 3D reconstructions are perceived as historically accurate or authentic (Galeazzi, 2018), but about the relationships that cohere around them and the links between past, present and future that they enable. (Higgett e Wilkinson 2019, 86)

Não obstante, tal como apontam Higgett e Wilkinson, essa característica de *imprinting* cultural poderá ser utilizada para estabelecer pontes entre passado, presente e futuro, possibilitando, de modo consciente, movimentos de reinterpretação. Na sua forma de instalAÇÃO ciberliterária, MOIRA procurou tirar partido do potencial "evocativo" das tecnologias digitais, reforçando processos (ativos) de construção de lugares (*placemaking*), inerentes ao próprio processo de "fazer" património, em detrimento de uma ênfase excessiva na técnica, e promovendo processos mais participativos de interação com a obra poética. Essa participação poderá assumir uma dimensão expandida, de um contexto local para um contexto global, já que, para além desta instanciação, a obra poética que emergiu dos diferentes relatos locais da lenda foi (re)aberta à sua (re)interpretação pelo público em rede, através da experienciação de uma versão em linha. Assumindo diferentes abordagens, instanciações e resultados, MOIRA promove, deste modo, um entendimento deste *património vivo*, as narrativas em torno de lendas de Mouras Encantadas, enquanto processo em transformação e transformativo, numa relação simbiótica com os meios (técnicos e humanos) através dos quais são transmitidas, escutadas e recontadas.

Entre a criação literária e a recriação patrimonial em ambiente digital existe, pois, um denominador comum, que consiste no potencial do ato criativo aplicado em torno de um dado artefacto, com o objetivo de o disseminar e de o abrir a novas (re)leituras e (re)interpretações, de modo amplo e complexo, através de uma série de redes. Esse denominador, com efeito tensor, será, à partida, aquilo que justifica os potenciais cruzamentos entre as duas partes da equação. Por exemplo, na utilização de literatura digital na (re)interpretação e (re)contextualização de materiais ou elementos com carácter

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patrimonial, mas, também, na (re)utilização desses mesmos elementos como fonte de inspiração ou enquanto base de dados para a criação literária com recurso a meios tecnológicos digitais. Daí que, tanto a literatura digital como o conceito de património digital possam ser usados em conjunto para preservar e, em simultâneo, disseminar, mas, sobretudo, com o intuito de gerar múltiplas formas de conhecimento à escala *glocal*.

Neste sentido, o que poderá, aliás, distinguir a literatura digital de outras formas artísticas ou literárias é, por um lado, o facto de, tal como os precedentes movimentos de vanguarda, a própria ter resultado de um processo de (re)criação e de valorização patrimonial: a da transformação do computador, no seu valor de uso, acrescentando-lhe uma função artística e literária (Barbosa 1996). Por outro lado, se pensarmos nas aplicações didáticas que proporciona, a partir da literacia processual, para a literacia linguística e, por fim, para a literacia artística, a utilização de meios tecnológicos digitais acaba por contribuir para aumentar níveis de literacia digital, junto de grupos e comunidades que com eles interagem, frequentemente não familiarizados com o espectro amplo das suas possibilidades (simbólicas, poéticas, estéticas). Assumindo uma natureza e um percurso ergódicos, ainda que possa espoletar uma determinada experiência estética de frustração, processos de estranhamento como, por exemplo, a indução de perda de controlo sobre uma interface aparentemente funcional, convertem-se em formas potencialmente desencadeadoras de conscientização sobre o processo interpretativo (Marques 2022).

A Convenção UNESCO para a Salvaguarda do Património Cultural Imaterial — que assinala, no presente ano de 2023, duas décadas de existência — apresentou uma definição de património cultural imaterial que compreende, de forma indissociável, "práticas, representações, expressões, conhecimentos, competências", bem como os "instrumentos, objetos, artefactos e espaços culturais que lhes estão associados" (UNESCO 2003, 3), sendo, no entanto, o valor (artístico) dos mesmos não apenas considerado por si, mas em relação ao valor de uso ou performativo dos mesmos. Num outro ponto fundamental, no artigo 13.º relativo a "Outras medidas de salvaguarda", sugere-se a realização de estudos artísticos no âmbito de metodologias de investigação que garantam uma salvaguarda eficaz do património — em particular, aqueles que correm maior perigo (7), mas também tradições e expressões orais. Mais recentemente, o *Manifesto for Critical Heritage Studies* veio encorajar a "coleta de 'dados' de uma ampla gama de fontes de maneiras novas e imaginativas (...), aumentando o diálogo e o debate entre investigadores, profissionais e comunidades (...), abraçando as perceções do património de pessoas (...) que têm sido tradicionalmente marginalizadas na formulação de políticas de património" (Smith 2012, tradução nossa).

Este objetivo, como afirma Luigina Ciolfi ao questionar-se sobre se as interações digitais poderão apoiar novos diálogos em torno do património, significará não só o envolvimento de um conjunto mais diversificado de *stakeholders*, mas também o desenvolvimento de "designs mais inovadores, indo para além da simples transmissão de informação, mas caminhando para facilitar o diálogo com grupos que podem oferecer diferentes

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perspetivas" (2018, 4, tradução nossa).[19] E significará, ainda, passar de um paradigma de envolvimento para um de coprodução, potenciado pela investigação artística enquanto diálogo e processo de "*enskilment*" (Ingold 2000, 416),[20] aberto à inclusão de diferentes formas de saber e de diferentes resultados, por vezes inesperados, ou não planeados (Graham e Vergunst 2019, 18-20), que vão além de uma só instanciação, ou de um produto final (e finalizado); uma "abordagem dialógica" (2019, 9-13) que compreende a criação artística como um lugar possível para a experimentação de formas (mais) comunitárias de investigação, ou "*inquiry*", no campo de ação alargado do património:

> From the point of view of communities involved with heritage through research, it is not simply about discursively arguing against a mainstream interpretation of the past. (...) Framing this work as 'inquiry' also draws attention to the ways in which 'ways of knowing' are also *ways of acting* in the world, ways of creating change and using the past for future-making, what we call (...) 'heritage as action'. (Graham e Vergunst 2019, 3)

Imagens 9 e 10
MOIRA, Ermida de São Roque, julho de 2022 | créditos: Museu Zer0 e Vico Ughetto.

Indo ao encontro desta premissa, o projeto MOIRA não só reflete a pesquisa documental e historiográfica realizada sobre as lendas de Mouras Encantadas, como também

19 "Truly focusing on heritage with a practice lens should encompass a greater and more diverse set of stakeholders. On one hand, this would mean more innovative designs, going beyond just conveying information but moving toward facilitating the dialogue with groups that can offer different perspectives" (Ciolfi 2018, 4).

20 A noção de *enskilment*, tal como utilizada por Tim Ingold, pode encontrar tradução através da expressão *aprender fazendo*, um processo em que o *aprender* não se distingue do *fazer* (Ingold 2000, 416). Graham e Vergunst relacionam este conceito com formas de "inhabitation and dwelling", presentes, por exemplo no trabalho arqueológico ou na investigação antropológica, argumentando que "it is through a matrix of social relations that skill develops and is expressed, in conjunction with specific forms of tools and technology" (2019, 8).

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o trabalho de campo etnográfico realizado na sua feitura, já que se propõe refletir *sobre*, na medida em que pode servir de plataforma para aprofundar investigação (artística) sobre este tema, convocando o público, ou leitores, na geração contínua de novos conhecimentos através de cada interação com a(s) obra(s) de arte. E fá-lo de modo autor-reflexivo, emulando a natureza orgânica, auto-(re)criativa, mutante e transmutável, e muitas vezes surreal, das lendas, ou narrativas de tradição oral, que são constantemente (re)combinadas por quem as lê e (re)conta ao longo do tempo e do espaço. O que, por sua vez, acarreta, ainda, um exercício de metarreflexividade, já que são os próprios processos de construção e de transmissão das narrativas populares de base oral que se colocam em evidência, por meio de uma série de interfaces digitais que permitem que a lenda seja ativada enquanto suporte e mote para (des)codificar os vários mecanismos linguísticos e literários, assim como instrumento que opera e procura materializar a imaterialidade das estórias e dos seus contadores (Marques e Gago 2020, 99).

Porém, tal como refere Luigina Ciolfi ao questionar a relevância das interações digitais enquanto forma de gerar diálogo em torno do património, as tecnologias digitais apresentam uma ambiguidade que se divide entre o elogio e a crítica:

> Overall, digital technologies in heritage contexts have been both praised and critiqued: for the way in which they can mediate the experience of heritage (Are they distracting? Do they negatively affect social interaction?), affect the management of a heritage institution (Do they add to the workload of curators and guides?), and support representation (Do they exclude communities who might not be digitally literate or able to access such tools?). Much of this debate is ongoing. Furthermore, while many technological platforms and their application to heritage settings have been explored, interaction designers have been largely reproducing one model of engagement with heritage: the one in which an expert curator or guide acts as the voice of the museum, providing information to visitors. (Ciolfi 2018, n.p.)

Daí que Ciolfi prefira reforçar o facto de qualquer processo de patrimonialização ser, na sua génese, "difícil, político, ideológico e desafiador". E o mesmo serve para a infraestrutura responsável por mediar a sua interpretação, podendo ser "difícil e desafiadora", mas, também, desafiada (n.p.). As narrativas orais apresentam uma capacidade inata de mobilização, pondo em diálogo diferentes tempos, interlocutores, perspetivas passadas e futuras, numa relação interdependente. Ao aplicar a criatividade computacional na revitalização daquele património, o projeto MOIRA combina investigação-criação artística e digital para refletir criticamente sobre questões sociais tão prementes quanto a igualdade de género e dos direitos das mulheres. Enquanto narrativa, o património abre-se a novos usos e à formação de novos sentidos, de um discurso sobre o tempo e lugar, em (re)construção pelos seus diferentes contadores e ouvintes, *praticantes* ou *performadores*; neste caso, os artistas, um grupo de bordadeiras e todos os passados e futuros *escrileitores* de (des)encantamentos.

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An Enactive Approach to the Construction of Meaning in Interactive Digital Narratives

Uma Abordagem Enactiva da Construção de Significado nas Narrativas Digitais Interactivas

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Abstract

Narratives are essential to our perception of the world. Considered ubiquitous in all activities involving the representation of events in time, they play a crucial role in collaborative sense-making in society. As the potential and uniqueness of computing as a storytelling medium become increasingly visible, narratives become volatile, unstable, dynamic, and unpredictable, allowing systems and readers to collaborate to tell stories together.

Interactive Digital Narratives are essential artifacts to how we relate with the world and causally link structured states and events. They expand with conventional narratives because their interaction dynamics are involved in procedural, performative, and interactive forms that shape the narrative and readers' experiences. Considering that the aesthetic experience of Interactive Digital

Narratives consists mainly of perceiving and enhancing the outcomes of the interaction between agents, we seek to understand how action influences the construction of meaning by the readers.
In this paper, we reassess the emergent properties of Interactive Digital Narratives, framing how the aesthetics of behavior has a significant role in this embodied and action-guided medium. Through the lens of the enactive theory of cognition, we want to understand how Interactive Digital Narratives incorporate information and structure the processes of reception, functioning as complex semiotic meaning productions and embodied sensorimotor making. For that, we establish and describe a strategy that specifies the behaviors a system can have to fulfill some abstraction layers that include their external surface and internal processes. We contribute to the discussion about how action and interaction promote new readership performances and subsequently affect the readers' subjectivity.

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Keywords
interactive digital narratives | emergence | action | construction of meaning | readers

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Resumo

As narrativas são essenciais para a nossa percepção do mundo. Consideradas omnipresentes em todas as actividades que envolvem a representação de eventos no tempo, elas desempenham um papel crucial na produção colaborativa de significado na sociedade. Quando o potencial e as possibilidades únicas da computação como meio de contar histórias se tornam cada vez mais visíveis, as narrativas tornam-se voláteis, instáveis, dinâmicas, e imprevisíveis, permitindo aos sistemas e leitores colaborar para contar histórias em conjunto.
As Narrativas Digitais Interactivas são fundamentais na criação de eventos situados, sendo representativas dum novo modo de contar histórias e que caracteriza a nossa relação com os outros e o mundo. Representadas por dinâmicas de interacção, tornam-se processuais e performativas, divergindo em novos modos narrativos, bem como diferentes experiências do leitor. Considerando que a experiência estética das narrativas digitais interactivas consiste principalmente em observar e reflectir os

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resultados da interacção entre agentes, procuramos compreender como a prática da acção influencia a construção de significado por parte dos leitores.
Neste artigo, reavaliamos as propriedades emergentes das Narrativas Digitais Interactivas enquadrando a forma como a estética do comportamento tem um papel significativo neste meio personificado e orientado para a acção. Através da lente da teoria interactiva da cognição, queremos compreender como é que as Narrativas Digitais Interactivas incorporam informação e estruturam os processos de recepção, funcionando como produções semióticas complexas de significados. Para isso, estabelecemos e descrevemos uma estratégia que especifica os comportamentos que um sistema deve ter para cumprir algumas camadas de abstracção que incluem a sua superfície externa e processos internos. Contribuímos para a discussão sobre como a acção e interacção promovem novos desempenhos dos leitores e subsequentemente afectam a sua subjectividade.

Palavras-chave
narrativa digital interactiva | emergência | acção | construção de significado | leitor

1. Introduction

Narratives are a fundamental part of how we write our history and are a representative feature of our evolution as individuals and in society. It is through them that we can preserve the past and create models of events that allow us to predict the future by simulating various possible outcomes. They become omnipresent in all activities that represent events in time because they are about the mix of invention and repetition, following rules that we have learned to recognize, being pervasive and accountable for a shared understanding of the world.

With the development of computational approaches that have the potential to communicate via most of the known semiotic modes (Gee 2013), narratives become experienceable through media, resulting from internal procedures of the narrative system and the readers' interactions with it. They become involved in a set of processes that imitate, simulate, and emulate other processes and that are indeterminate, open, variable, and situated (Carvalhais 2022). Interactive Digital Narratives (IDNs) are grounded on situated processes encompassing new ways of perceiving. They allow the combination of artificial

and creative biological processes (Haraway 1994) developed through interaction and presented in a narrative system constantly fluting and changing in new forms. Examples of these are Colossal Cave Adventure (1976), Afternoon, A Story (1987), Myst (1993), Fort McMoney (2013), Life is Strange (2015), Immortality (2022), among others. However, how do we engage with these computational artifacts? How do we read them, and how much effort do readers need to traverse the narratives? And how does the system need to behave to enable the Interactive Digital Narratives? We center and examine how Interactive Digital Narratives create meaning through the structure of aesthetic and semiotic components that are spanned and released through the interactive system. In a *medium* in which each constituent has a unique dimension implicitly, characterized by an aesthetic that has its focuses on human perception (Hayles 2014), we give our attention to the nature of the object and the relations that derive from here.

Interactive Digital Narratives present a broad range of stories that enable readers to move through spaces that provide resources for the emergence of different kinds of narratives. Narratives that the readers develop convey new experiences through manipulating an immersive environment. We can call them *evoked* narratives since we understand the story world following the narrative across different channels. *Enacting* narratives allows readers to perform or read events representing specific and localized incidents. *Embedded* narratives are made of linear sequences, but they are also constituted by the projections and interpretations produced during the narrative, linking events that are waiting to be discovered by readers. They have the potential to produce fragmentation and open-endedness (Nelles 2020). Their structure is presented through various pieces of information across multiple information channels distributed throughout the surrounding space (Jenkins 2004). An example of these transmedia narratives is the *Star Wars* saga, communicated through books, films, television comics, and games, among others. Each contributes to a relatively autonomous experience, but all underwrite the understanding of the narrative world (ibid).

Emergent narratives involve two types of actions: *operative* and *resultant*. Operative actions are the ones that readers can take, allowing them to define their own goals or stories. Resultant actions commonly involve subtle interactions within the system and emerge logically as the narrative unfolds (Schell 2008). Through these different types of actions, we have the capability to engage through a variety of processes, defined by "highly complex software artifacts" that may include dynamic story world representations and characters provided in a simulated system field (Suttie et al. 2013). These narratives emerge from the behaviors of a system and the readers, represented by a constant feedback loop between them that, at the same time, makes them act as opposing forces (Adams 2014).

A cybernetic relationship is established between the system and the reader. The playable system is defined by the challenges posed and "the actions that the player can take to meet those challenges" (Adams 2014, 37). Besides, there is a set of movements

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that emerge as the narrative progresses and determine the effect of the readers' actions upon the narrative world. It is a dialogical relationship that always includes some sensory input, readers output, and internal readers cognition (Salen and Zimmerman 2004), composed of a sequence of narrative elements that can be both textual — the story elements that the system presents to the readers — and extratextual — the readers' attitudes and motivations. For that reason, a compelling narrative needs to offer us a succession of interpretive choices with predictable consequences that, however, should never be so obvious that we know precisely how they will unfold. At the same time, the narrative situations we encounter need to offer us the possibility of satisfaction through coherence, expansion, or closure (Upton 2017). All of this is achievable through the text, paratexts, and background of those who contact the narrative being executed repeatedly and consistently in a system that allows the creation of the feedback loop based on a semiotic sequence that requires special effort to navigate (Aarseth 1997).

This way, readers assume a role in the unfolding of the narrative (Wolf and Perron 2014) and are able to influence the course of events, either by invoking preprocessed sequences or by generating procedural outcomes (Aarseth 1997). Hence, we focus on knowing how to read and analyze these computational artifacts concerned with the behavior that seems to respond to the readers' actions at a level connected to the meaning of the readers' actions.

2. Narratives that Play the Readers

Eliza (1966), an early natural language processing computer program, was one of the first attempts to transform the nature of our aesthetic relationships with computation as a medium, creating the sense that we can talk with the computer and that the computer can answer us properly. It was an invitation to discover where we stood by exploring the work since we had to become different in order to navigate it. In *Afternoon, A Story* (1995), considered one of the most important early works of electronic literature today (Grigar 2021), the literary text can be understood due to coded and predetermined rules during its execution and the readers' activity and interactions. In *Façade* (2005), an example of the computer as a compelling medium for storytelling, new configurations of perception and agency place readers in an exceptional relation to what they perceive. In *Bandersnatch* (2018), the readers and the system react to each other's actions and influence each other's behaviors, thus shaping the outcome of events.

In these examples, we find a dialectical relationship where the reader and the narrative system oppose each other. There is an operational logic behind the narrative defined by the physical units of interactions performed by the readers represented in resulting actions that are triggered by the representation of events (Reed 2017). On the other side, the readers also challenge the narrative system by testing the capabilities and limitations of the system itself (Adams 2014). It is an arrangement that embodies the existence of modalities, where each one has its own way of communicating information

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and has particular affordances that the others do not (Kress 1993), being semiotically distinct and contributing to the play state of IDNs.

Interactive Digital Narratives make available a set of choices for the audience that affects the order or way a series of events unfold. Allows the ability to make new patterns, find the unusual among the ordinary, and spark curiosity (Brown 2009) through a process of transduction where things transfer from one state to another (Kitchin and Dodge 2011), extending playing toward an attitude of being in the world (Sicart 2014). Engaging with specific objects and contexts that are similar to play but respect the purposes and goals of that object or context, IDNs disrupt and break the conventions and nature of how we see the world and how the world could appropriate an artifact that is not created or intended to play.

Through a sequence of two steps where the readers first perform an action, and then the system answers to that action by changing its state, we can observe a collection of data elements that can represent the process of reading an interactive digital narrative. We have a presentation engine that displays a set of movements and link anchors and that allows the identification of a set of actions that readers can perform to change the system's states. It is an interaction engine that registers the readers' actions and allows the transition from a current state to a new state, selecting the next movement and moving the narrative forward (Thue 2020). Based on the system's current state, we can determine what each reader should observe, possibly identifying the object that can be changed by interacting in the process. It refers to both how the readers interact with the system and how the system communicates to the readers based on established rules and constraints that regulate the development of the interactive digital narrative and determine the fundamental interactions that can take place within it.

Furthermore, the system describes the computational artifact as it exists on a digital storage medium (Koenitz 2010). It is a combination of *surfaces* representing the object's sensorial components and computational *subfaces* to which we usually do not have direct access (Nake 2016). There is a material level that defines the changes triggered by its operations in the material world (Kitchin and Dodge 2011), and there is the discursive level, in terms of the different narratives and discourses that generate and inform, enabling the construction of meaning. It is also "the ability to read and write processes, to engage procedural representation and aesthetics, to understand the interplay between the culturally-embedded practices of human meaning-making and technically-mediated processes" (Davidson and Mateas 2005, 101) that generates the potential to communicate content through the system in an interactive digital narrative.

Providing interaction rules that can evolve the environment and the desired outcome of the narrative arc, the system can allow explorability, replayability, reusability, and contextuality. Explorability is about to what degree the interactive digital narrative is dynamic, that is, how much dynamic content a player can explore appropriately in each playthrough. Replayability allows us to focus on how we want to structure

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the narrative and what type of content needs more dynamism to avoid seeming static. Reusability is how content can be reused or how often content is shared between playthroughs. Contextuality provides a valuable lens for clarifying the relationship between the narrative and the state space of the system. Additionally, a narrative that reacts to a system state that updates once a second is very different from one which only reacts once per reader's interaction, such as clicking a choice (Garbe 2020). Both actions of the readers as an interactor and the opportunities provided by the system define and shape the different processes that are being created. Moreover, these processes describe the methods, techniques, and logic that drive the operations of systems (Bogost 2008), resulting in different products that come from the same system and represent instantiated narratives (Koenitz 2010). It is connected to how narrative actions are processed and how narrative output that seems connected to those actions is produced.

Building upon the concept of interaction and agency, we will follow the discussion by examining how narrative mechanics perform representational functions and encourage critical awareness by considering the aesthetics of behavior that are conveyed through IDNs as objects of meaning-making. The objective is to address the evolution of theories that allow us to analyze the readers' agency concerning computer systems and, more specifically, with Interactive Digital Narratives.

3. Interaction and Agency as Instruments of Change

Interaction is both a property of the system and a characteristic of the readers. Based on the feedback loop that enables the transaction of information between two different systems (Haque 2006), readers interact with the digital narratives through interfaces, creating a relationship with the system based on mechanics, rules, and properties (Sicart 2014). Mechanics are defined as methods invoked by agents and describe the particular components at the level of data representation and algorithms (Hunicke, LeBlanc, and Zubek 2004). Regarding the narrative, the mechanics describe the rules by which the readers can interact with the system and the progression that can be done through choice, task completion, scripted scenarios, discovery, or in-game systems (Carstensdottir, Kleinman, and El-Nasr 2017). It relates to how readers act in the face of the narrative and enables the concept of immersion and agency.

Agency relates to structuring a reader's capacity to act and co-create both the narrative experience as the narrative system design and its contents, transforming new potentials for perception and action. The attribution of agency is a precondition of any social relation. It has been established between humans and non-humans in many fields, including philosophy and anthropology, political activism, and critical cultural theory (Mackenzie 2006).

The vision of agency in Interactive Digital Narratives is mainly related to the readers' capacity to take meaningful actions and observe their results. When these actions are motivated by an anticipation of some story event or revelation, and when

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the response rewards that anticipation appropriately, the readers experience dramatic agency. This dramatic agency should be the design goal of any interactive digital narrative (Murray 1997). Marie-Laure Ryan (2002) captures this as a system where the readers can exercise their agency by moving around, picking objects, or viewing the action from different points of view related to an internal ontological interactivity.[1]

Andrew Pickering (2010) defines a "dance of agency" between the concepts of "human agency" and "material agency," where humans try to apprehend the agency of the material world through the mediation of artifacts, while the material world both yields to and resists human apprehension. We can also mention how actor-network theory (Latour 1996) does not distinguish between "human" and "non-human" and uses the concept of "actant" instead to establish the parallel between the readers' agency enabled by the machine and the system's agency that human constantly interprets. This is essential for understanding the role and nature of agency in Interactive Digital Narratives.

Moreover, various perspectives on the concept of becoming and embracing a relation between social structures and human actions must provide our notion of agency. In digital environments, the reader's ability to take meaningful actions is mediated by the computing system and the socially situated interpretation of actions rendered by the readers. A system's ability to allow evident actions, enact certain restrictions, and compensate certain behaviors represents significant effects on the readers' agency, situated materially in the system affordances and interpretively in the context of use (Ahearn 2001). In this way, we call for a play relationship to describe the interaction between humans and systems. The last one is a consequence of human interpretation of the system's properties and capacity, characterized by the story author and authoring system designer (Harrell and Zhu 2009). Following a sense of agency that allows it to be a definitive resource with significant and aesthetic effects for Interactive Digital Narratives, we define the concept according to the fundamental actions that are possible to the readers, the effects that these same actions can have on the narrative world, and, finally, the system's ability to modify the narrative context (ibid). It is a "punctuated agency" characterized by more extended periods when human agency is essential and shorter phases where the systems can proceed independently without direct human intervention (Hayles 2017). Because of that, we can also distinguish between actors and agents, where the first term stands for the readers and is related to human agency. The second term stands for the system agency, which can act as cognitive support for the first ones (ibid).

These demonstrate the dynamics and play relationship connected to the state of agency, which is related to three dimensions: relationship, scope, and dynamics (Harrell and Zhu 2009).

1 Ryan (2002) defines different types of interactivity according to a relationship based on the layers of an onion. While in the outer layers, the readers' actions are based on an outside perspective and limited to observation, in the inner layers the readers' actions can have real effects on the environment, modifying the system's overall state.

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Agency relationship is about the readers' actions and the system's actions concerning one another, requiring the desire to communicate with some intention or meaning (Sakamoto and Takeuchi 2016). It is constituted by a set of actions allowed by the system capable of independently carrying out human-like actions and a set of actions performed by the readers, which becomes capable of causing a character to move, acquire artifacts or interact with other readers and circumstances (Harrell and Zhu 2009). Whatever originates from here is described as a set of results of the readers' actions or the system, which can be measured differently. Both actions can have an immediate and localized impact in real-time and space. However, although not immediately visualized, they can also have outcomes that can later have repercussions that determine and alter the narrative structure.

Scope, from a reader's perspective, is related to two levels of effectance. Effectance is about the outcome of a given action on the narrative and its meaning for the story's progression. It relates directly to Self-Determination Theory, where actions are developed according to intrinsic and fundamental needs of autonomy, competence, and social relatedness (Roth and Koenitz 2016). The local effectance is when the readers can view the immediate effects of their actions. In contrast, the global effectance has a more substantial influence and is highly related to the impact that actions can have on the future of the narrative and can lead to new situations (Roth 2016).

The nature of the agency relationship between the system and the readers and the impact of the given action can vary over time. In Interactive Digital Narratives, the dynamics are related to the creation of belief that requires a reactive environment in which the readers experience agency. At the same time, the narrative evolves in a plausible way, and characters react in a credible manner (Roth and Koenitz 2016). The reactive environment is interrelated with the system's usability, which must be considered reflecting the degree of involvement and reciprocity.

Since IDNs have their formal description that includes the definitions and existing relations embedded in a processing system, any reading depends on a detailed and accurate understanding of the exact operations of that specific interactive work. Within Interactive Digital Narratives, agency is primarily considered regarding a reader's autonomy in a narrative, mainly defined as the theoretical agency (Day and Zhu 2017). Originally generated through computational narrative systems that actively generate stories, story worlds, or dynamically alter narrative elements, we consider for this paper that the operating system and the readers' knowledge of how that system works can influence their experience.

4. Emergence as an Agent in the Construction of Meaning

Interactive Digital Narratives must be understood phenomenologically because their ability to be played enables them with a performative idiom (Hayles 2017). They are "rule-based systems" defined by the interaction between rules and readers' actions

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(Juul 2005), where emergence is a primordial system structure. It is the number of rules that can be combined and presented through a large number of narrative variations, which the readers then design strategies for dealing with (Juul 2002). They are a form of ergodic literature, meaning that the "author" of the narrative does not have complete control over the experiences that are generated by the system and where the mechanic is the message (Brathwaite and Schreiber 2009), defining the "rising patterns, structures, or properties" exhibited by a system (Mignonneau and Sommerer 2006, 172).

This relation with the sense of being constantly acting as the result of playing is a property of engagement with the world that allows us to make it meaningful, covering a relationship where meaning, theory, and action rise (Dourish 2004). The construction of meaning in IDNs can be divided into three general categories: the meaning of IDNs, the meaning in IDNs, and the meaning created around IDNs and interactive digital narrative culture. Meaning is connected to their function as cultural objects and media products. The meaning in Interactive Digital Narratives focuses on the development and execution of the narrative itself and how it is expressed through them. Simultaneously, there is also a type of meaning that is raised around the idea of these new forms of the narrative being a demonstration of why their meaning matters (Paul 2014).

The meaning of IDNs is framed by considerable cultural implications being connected to the interpretation of the signs and the logical and lexical semantics inherent to it but also on computational reading and, consequently, on procedural rhetoric (Bogost 2010). Interactive Digital Narratives become meaningful through processes where there is a strong articulation of how actions can and cannot be carried out. Because of their enactive nature, IDNs are perceived by readers and contribute to the construction of meaning through ergodic processes (Carvalhais 2022), reforming our perceptual faculties and emerging new subjectivities and uncertain potentials for perception and action (Denson 2020).

We propose that our understanding of the world around us arises from the interaction we can engage with and how the meaning can be constructed. Hence, Interactive Digital Narratives is about the processes that depend on the new hardware and software of the digital imagery that takes place outside the spatial and temporal dimensions of subjective perception (ibid).

We recap the apparatus theory because it raises crucial questions about the causal relations between technologies and the subjective experiences they mediate, providing its subjects with an aesthetic experience that is physically and socially embodied (Tan et al. 2020). The term *apparatus* can be described as the combination of two French terms: *l'appareil,* which is the primary technological machinery for recording and reproducing sound and images; and *le dispositif,* which represents the psychological, social, and ideological matter that is behind the readers' relationship with the artifact. In Interactive Digital Narratives, the system is composed of an aesthetic machinery that provides the readers with an aesthetic experience "distributed here across technological substrate and experiential form alike, thus opening the door to a reversal of the encapsulation of

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experience, and its cordoning off from the underlying apparatus" (Denson 2020, 68). They are aesthetic objects divided among the levels of the substrate and experiential form. The body becomes an affective interface capable of establishing a transudative relation between objects and subjects (Schonig 2021). The experiential form relates to and within the perception of movement constantly emerging between the technological and ontological realms, where the subjective experience can be sliced between the technical substrates and the aesthetic forms that are transmitted to and by INDs (Denson 2020).

From a computational perspective, ontology studies the formal description that includes the definitions and existing relations of a determinate object. For this purpose, it is about the ability of a computational system capable of exercising a set of relations that allow the readers to experience and interact with the told narrative. It is about asking what the functional characteristics and components of Interactive Digital Narratives, as well as the relations that exist between them, are. We can point out an internal code where an author chooses from a set of options and selects only the ones that are presented, being the part of the system that allows us to interact with the interactive digital narrative. Matching, there is a semiotic layer where a reader makes choices, and it is possible to infer and conjecture the intentions behind these choices. Corresponds to the part of the system that informs the readers about the system world and system state through visual, auditory, textual, and sometimes haptic feedback (Aarseth 2014), becoming operates in specific ways, and being designed to communicate certain things (Wardrip-Fruin 2020). We can always find an intentional connotation where the readers act through the system to achieve some purpose, making us question "and seek for an understanding of intentionality behind — or meaning embedded in — any object, action or proposal" (Penha and Carvalhais 2018, 25).

Interactive Digital Narratives are processes based on event structure perception that are tied to the actions that can be realized through them (Zacks and Tversky 2001). At the same time, they are temporally extended to object perception because we can recognize and talk about them based on their component objects and the familiarity with the world of social and physical interactions conveyed by these objects.

5. An enactive approach to Interactive Digital Narratives

Narrating a story constitutes a unique and distinct trait of humanity, making it possible to organize experiences in temporal logic and be seen as mental operations. An interactive digital narrative allows for significant changes in the production and visualization of news stories, allowing them to be experienced as more pleasant, thus becoming more likely to be experienced and generating meaning and understanding (Jenkins 2014). From a semiotic perspective, the construction of meaning is an unavoidable outcome of agency play. The agency of the system matters in the way readers can experience Interactive Digital Narratives, leading to various interpretations that may converge on the same meaning.

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The interaction between the system and the readers can be seen in terms of a structural coupling. Perception and action are coordinated with the space around and other agents in that space through emergent and continuous interaction. The system can trigger changes in the readers, while the readers can specify the nature of the change. There is a feedback loop as a model of organization looking to stabilize the relation to the world. In this relationship, humans "perceive actively, in engaged iterative feedback loops, with the environment" (Penny 2017, 176). This way, we can define cognition by its continuous interaction with the perceptual sensorimotor activities of the inhabitant of an environment, becoming aware that the knowledge cannot be separated from the movement, gestures, and practices of the body. Perception is a way of acting on the world determined by the exercise of sensorimotor knowledge (Noe 2015, 8).

The enactive approach emphasizes the role that emergent and dynamic social coordination has in the intersubjective nature of human understanding, being a facilitator of perception and action (Popova 2014). Providing a framework that unifies elements of situated action, social cognition, or information processing, we based on that to build a perspective representing participatory sense-making in the domain of IDNs. Vernon (2014) describes sense-making as the process by which "emergent knowledge is generated by the system itself [as] it captures some regularity and lawfulness in the interactions of the system, i.e., its experience." From this assessment, readers start to construct a relationship between perception and action that help them to guide through the IDN. Readers rebuild a new reality by physically and abstractly assembling the space around them in meaningful ways (Sawyer et al. 2003). Through some rules, actions emerge across embodying and performing successful interactions with a particular semantic distance, enacting a deepened narrative provided by emerging build meaning. Based on that, we assume that Interactive Digital Narratives emerge because of the same process of the cognitive body-brain system that manages embodied and situational navigation within time and space. As the metaphor that Ryan (2004) uses to distinguish (1) the physical space of the fictional world represented by the text, (2) the architecture of the text, (3) the material space occupied by the signs of the text, and (4) the space that serves as context and container for the text, we can assume that responses to the IDN take place at multiple levels of operation, some of them happen in mind, and other ones being not conscious.

IDNs become interactive and narrating machines with and against which readers engage and produce meaning-effects (Ferri 2007). It is a relation between playful practices, machine-side procedures, and semiotic strategies that ranges between ludological formations and intertextual narrative readings.

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6. Conclusions

Since multiple perspectives have categorized play, in this context, it needs to be appropriately understood in terms of the processes and actions that readers can execute to create a meaningful story together. Play in IDNs can be explained by analogy with the ontology of artworks that are created within a specific cultural and historical context that embodies the responses, thoughts, and emotions of that time and place (Gadamer 2006). Works of art exist as physical objects. However, they also require our participation to exist as art. In correlation, Interactive Digital Narratives behave similarly to works of art. They exist independently of readers, but readers need to interact with them for them to be realized as IDNs (Arjoranta 2022). This way, Interactive Digital Narratives that allow the readers to decide the direction of the narrative enable and transform our senses of subjectively perceived and embodied ways of being in the world, providing a multisensorial interface communication between the human body and the interactive digital narrative system. This alters the readers' subjectivity, extending our senses and the capacity to see and make sense of ourselves (Sobchack 2016). The sense addresses the way in which the body perceives the eternal stimulus provided by the IDN and implies the readers' perception conveying different ways of affection and eliciting higher physiological arousal.

At the same time, the decision-making opportunities presented in IDNs being both a component of the story and the way in which the readers engage with the narrative indicates the presence of different layers of information that, together with feedback loops, turn the IDN a unified artifact, reinforcing each other and providing further information. These layers of information are helped by the presence of / deictic assets referring to linguistic or gestural elements that rely on contextual signs to convey meaning and that can provide a more seamless and intuitive reader experience (Knoller, 2019). Moreover, the presence of deictic elements contributes to establishing a relationship between readers and the system, and has the objective of 1) teaching readers which elements are essential, 2) contextualizing the insertion of bits of information in specific places of the story world, 3) creating some interaction-reaction patterns that could be used to anticipate the outcomes of an action, and 4) maintaining it's sensorimotor system nature, requiring some actual physical interaction (Knoller 2019). For instance, we see Interactive Digital Narratives as part of an advanced cultural form that exists to transcend the limits of narrative sense-making, which processes perceivable input and then output activity (Walsh and Stepney 2018), being this activity both a looping back into perception and attention and a response from the system and the readers. Readers play with the IDN through procedural participation in an authoring and complex system, with some defined constraints, that abilities a specific mode of reception named *readers performance*. In contact with an interactive digital narrative, the readers' performance moves between several levels of meaning, which is not just a performance of the code, but also a performance of the self, shifting between a self-reflective attitude,

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allowing them to have an aesthetic engagement with phenomena that are not usually appreciable to human perception. Attempting to understand why and how it is acting by this readers' performance, we call to this paper the aesthetics of behavior.

The aesthetics of behavior in IDNs can be understood following a narrative flow based on an interplay relation between cognitive narrative components, readers' engagement with the artifact, and the system's outcomes as the ability to adjust to the inputs received. It contributes directly to the discussion of how aesthetics and narrative is a powerful means to transference knowledge, improving intrinsic motivation and perceived learning of readers (Alexiou et al. 2022). So, Interactive Digital Narratives are converted into vehicles of effectiveness, becoming an influential tool where their embodied and relational nature enhances the interaction with them that goes beyond perceptual projections.

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Beyond Maximalism: Resolving the Novelistic Incompatibilities of Realism, Paranoia, Omniscience, and Encyclopedism through Electronic Literature

Além do maximalismo: resolvendo as incompatibilidades novelísticas de realismo, paranóia, omnisciência e enciclopedismo por meio da literatura eletrónica

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Abstract

In *The Maximalist Novel*, Stefano Ercolino defines a type of novel that displays multiform and hypertrophic tension. While Ercolino's definition accurately identifies and classifies a significant novel form, we argue that in print form these elements are incompatible with one another, which has resulted in criticisms of maximalist novels, as well as a number of maximalist novelists who have abandoned the form. While Ercolino argues that these incompatibilities represent an 'internal dialectic' of the genre, we argue that this is too conflicting to be stable as a novelistic form. These incompatibilities include multiple

(hybrid) realisms, the incompatibility of paranoid imagination with ethical commitment, and further incompatibilities of narratorial omniscience and an encyclopedic mode with a persuasive realism. By examining contemporary fictional works written by previously maximalist novelists, we reassess Ercolino's ten elements in order to identify the reasons why certain authors have moved beyond the limits of his definition. In so doing, we compare and contrast Ercolino's 'maximalist novel' with James Woods's 'hysterical realism' and John Johnston's 'novel of information multiplicity.' Using the Jonathan Franzen and Zadie Smith corpuses as examples, this paper speculates on the future form of the novel as it progresses into the 21st Century. From this literary interrogation, we apply these conclusions to digital creative practice by developing the digital novel, *The Perfect Democracy* (funded by the Australia Council for the Arts, 2021). This practice-led research work takes as its subject the entire population of contemporary Australia. The digital acts of scrolling, linking, and customized coded digital writing formats enable the maximalism of the print text to be lightly navigated. Electronic literature, therefore, enables the ambitions of the maximalist novel to extend the tentacular novel in new directions.

Keywords
maximalist novel | realism | relatedness | paranoia | narratorial omniscience

Resumo

Em *O Romance Maximalista*, Stefano Ercolino define um tipo de romance que apresenta uma tensão multiforme e hipertrófica. Embora a definição de Ercolino identifique e classifique com precisão uma forma significativa de romance, neste artigo argumentamos que na forma impressa estes elementos são incompatíveis entre si, o que resultou em críticas aos romances maximalistas, tendo levado vários romancistas maximalistas a abandonar esta forma. Enquanto Ercolino argumenta que essas incompatibilidades representam uma 'dialética interna' do género, argumentamos que isso é muito conflitante para ser estável como forma romanesca. Essas incompatibilidades incluem múltiplos realismos (híbridos), a incompatibilidade da imaginação paranóica com o compromisso ético,

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além das incompatibilidades da omnisciência narrativa e de um modo enciclopédico com um realismo persuasivo. Ao examinar obras ficcionais contemporâneas escritas por romancistas anteriormente maximalistas, reavaliamos os dez elementos de Ercolino a fim de identificar as razões pelas quais certos autores ultrapassaram os limites da sua definição. Ao fazê-lo, comparamos e contrastamos o "romance maximalista" de Ercolino com o "realismo histérico" de James Woods e o "romance da multiplicidade da informação" de John Johnston. Usando o *corpus* de Jonathan Franzen e Zadie Smith como exemplos, este artigo especula sobre a forma futura do romance à medida que avança para o século XXI. A partir dessa interrogação literária, aplicamos essas conclusões à prática criativa digital envolvida no desenvolvimento do romance digital *The Perfect Democracy* (financiado pelo Australia Council for the Arts, 2021). Este trabalho de investigação pela prática toma como assunto toda a população da Austrália contemporânea. Os atos digitais de *scrolling*, hiperligação e os formatos de escrita digital codificados e personalizados permitem que o maximalismo do texto impresso seja navegado levemente. A literatura eletrónica, portanto, permite que as ambições do romance maximalista estendam o romance tentacular em novas direções.

Palavras-chave
romance maximalista | realismo | parentesco | paranóia | omnisciência narrativa

Introduction

Stefano Ercolino defines the maximalist novel as 'an aesthetically hybrid genre of the contemporary novel that develops in the second half of the twentieth century.... "Maximalist," for the multiform maximizing and hypertrophic tension of the narrative; "novel," because the texts... are indeed novels' (xi). He lists Thomas Pynchon's *Gravity's Rainbow* (1973) and *Mason & Dixon* (1997), David Foster Wallace's *Infinite Jest* (1996), Don DeLillo's *Underworld* (1997), Zadie Smith's *White Teeth* (2000), Jonathan Franzen's *The Corrections* (2001), and Roberto Bolaño's *2666* (2004) as examples of the term, and classifies the maximalist novel using ten elements: length, encyclopedic mode, dissonant chorality, diegetic exuberance, completeness, narratorial omniscience, paranoid

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imagination, intersemioticity, ethical commitment, and hybrid realism. While Ercolino's ten elements accurately identify and classify a significant novel form that has emerged, we argue that these elements are incompatible with one another, which has resulted in criticisms of maximalist novels, as well as having caused a number of maximalist novel*ists* to abandon the form. While Ercolino argues that the incompatibilities represent an 'internal dialectic' of the genre, we argue that they are too conflicting to be stable as a novelistic form. They combine, for example, incompatibilities of multiple (hybrid) realisms: paranoid imagination along with ethical commitment, of narratorial omniscience and an encyclopedic mode along with a persuasive realism. By examining contemporary fictional works written by previously maximalist novelists, we reassess Ercolino's ten elements in order to identify the reasons why certain authors have moved beyond the limits of his definition, and how this may impact the novel form as it progresses into the 21st Century. In so doing, we compare and contrast Ercolino's 'maximalist novel' with James Woods's 'hysterical realism,' and John Johnston's 'novel of information multiplicity.' Finally, we propose that these issues can be resolved through born-digital modes, through the practice-led Australia Council for the Arts research project *The Perfect Democracy* (2021). This project takes as its subject the entirety of Australian society as its subject and attempts to resolve the print predicament of the maximalist novel through digital practice-led research.

Hybrid and Hysterical Realism

Ercolino claims that in maximalist novels the reader is faced with a unique form of realism, one which is 'heavily conditioned by the powerful antireferential and tautological friction of the artistic act running throughout the entire system of the arts in the twentieth century' (158). He defines this as 'hybrid realism.' This is Ercolino's final and most important element.

Literary critic James Wood, in his review of Zadie Smith's *White Teeth* ("Human, All Too Inhuman"), defines the 'hysterical realist' genre, which he also classifies with similar texts that Ercolino uses to define the 'maximalist novel'. Wood is critical of these 'big, ambitious social novels' for their conceptual, inhuman characters, which he argues result from their insistence on relatedness. He uses the term 'hysterical' to denote the perpetual-motion of the above-mentioned novels' plots.

The Oxford Companion to English Literature states that, as a literary term, 'realism' is so widely used it is more or less meaningless except 'when used in contradistinction to some other movement.' In *How Fiction Works*, Wood argues that literary realism is the origin from which all other literature emanates:

> [Realism] teaches everyone else; it schools its own truants: it is what allows magical realism, hysterical realism, [...] to exist[...] Chekhov's challenge—"Ibsen just doesn't know life. In life it simply isn't like that"—is as radical now as it was a century ago, because

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> forms must continually be broken. The true writer[...] is one who must always be acting as if life were a category beyond anything the novel had yet grasped; as if life itself were always on the verge of becoming conventional. (247–8)

Chekhov's revolution, Wood concludes, is that his characters have the ability to forget that they are characters, by wriggling out of the story given them into the 'bottomless freedom of disappointment,' (90) allowing their inner lives to run at their own speed. It is this form of Chekhovian realism that Wood argues is not possible in the maximalist/hysterical realist novels.

Chekhov's stories, his style, form, and preoccupations are far removed from those values Ercolino uses to define the maximalist novel. Not only is Chekhov not a maximalist writer, he is also not a novelist. It would therefore come as no surprise that the Chekhovian realism Wood endorses is incompatible with the maximalist novel, as it is essentially its antithesis.

Yet both Ercolino and Wood use the same term: realism. Esty argues that debates over literary realism, what he calls 'realism wars,' have been ongoing since the late Victorian era. Ercolino's description of 'hybrid realism' suggests that the maximalist novels attempt to resolve the realism wars by representing multiple 'realisms' within a single work. In response to Wood's criticism, Ercolino argues that 'realism' and 'postmodern' are not incompatible. Wood's position, however, is that such hybridity is not possible, as the interrelatedness necessary for the hybridity to exist ultimately taints the Chekhovian realist aesthetic, even if isolated moments within the novel successfully depict it. In *Information Multiplicity*, similar to the maximalist/hysterical realist genre, Johnston proposes the 'novel of information multiplicity', arguing that this form emerges in an environment created by information and web technologies. Johnston and Wood concur that in these works the antirealist impulse ultimately defines the novels' realism. In either case, Ercolino's element 'hybrid realism' does not resolve the realism war, but is merely another example of it.

Wood's position regarding the incompatibility of 'realism' and 'postmodern' can be noted in his review of Jonathan Franzen's *The Corrections*. Though the 'maximalist novel' and 'hysterical realism' had yet to be defined when Franzen (1996) wrote *The Corrections*, Franzen was aware of the predicament Wood articulates: that excessive relatedness can result in an unpersuasive realism:

> I was torturing the story, stretching it to accommodate ever more of those things-in-the--world that impinge on the enterprise of fiction writing. The work of transparency and beauty and obliqueness that I wanted to write was getting bloated with issues... The novelist has more and more to say to readers who have less and less time to read: Where to find the energy to engage with a culture in crisis when the crisis consists in the impossibility of engaging with the culture? (66)

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In discussing his writing process, Franzen claims that the dehumanizing quality of contemporary character is a reflection of reality, as in contemporary society our lives have become inhumanly interconnected. He is therefore arguing against writing a 'novel of information multiplicity,' stressing a desire to move away from the antirealist impulse that Johnston and Wood argue characterizes the work of Pynchon, DeLillo, etc. As a novelist, Franzen wishes to inform and report to the reader on the state of the culture. He concedes, however, that the novel no longer serves a function as social instruction or reportage. Even so, Franzen maintains that such a novel should strive to be all-encompassing (82). In other words, he champions maximalism as an ideal in and of itself. His solution, then, is to create a 'broad-canvas novel' that attempts to make interconnectedness human, what Wood calls a 'softened DeLilloism'. In *The Corrections*, Franzen retains the core ambitions of the maximalist novel, while moving beyond Ercolino's definition. Wood praises this 'softened' approach, but believes the artistic success of Franzen's novel is not because of its extreme interconnectedness, but in spite of it. Even if the ambitions of the maximalist/hysterical realist novelist can coexist with Chekhovian realism, Wood argues that they are not comparable. The connection between a 'malaise in ourselves and in our culture' is purely conceptual and muddies the Chekhovian realism that centers the novel. This emergence and moving beyond the maximalist novel, therefore, suggests a deadlock with the capacity of the contemporary novel form to 'pin down an entire writhing culture.' These restrictions evolved specifically from New Criticism, which actively promoted and encouraged Ercolino's print-based attempt to understand maximalism. These issues are emulated in early digital literature. Works such as Stuart Moulthrop's *Victory Garden* (1992) extend such aesthetics into the digital realm. In the last decades of digital literature, however, these aesthetics have been reevaluated by various practitioners and theorists. For example, Wright (2020) argues that Calvino's values of lightness, quickness, exactitude, visibility, multiplicity, and consistency epitomize contemporary digital literary works. These values, we also argue, enable the maximalist novel's problems to be resolved in digital space.

Paranoid Imagination, Ethical Commitment, and the Influence of Kafka

Ercolino argues that 'paranoia is one of the most characteristic elements of the postmodern narrative universe' (105). He continues: 'Everything is linked: this is the unshakeable conviction of the paranoid, a conviction that finds its structural equivalent in the direct or indirect interconnection of all the stories, of all the characters, and of all the events that proliferate in maximalist novels' (111). Paranoia, then, can be regarded as one of the 'antirealist impulses' Ercolino notes in describing 'hybrid realism.' Likewise, Johnston argues that Pynchon and DeLillo's works are characterized by paranoia. In *Gravity's Rainbow*, Johnston suggests, paranoia is 'no longer designated a mental disorder but rather a critical method of information retrieval' (62). The paranoid imagination Ercolino defines can be observed not only in the novels described, but also in Franz

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Kafka's (1927). Pynchon (in Bloom), DeLillo (in DePietro), Wallace, Rushdie, Smith (in *Changing My Mind*), and Bolaño (in Klenemeier) have all cited the importance of Kafka in relation to their work. For the contemporary maximalist novelist, Kafka's influence appears, fittingly, inescapable.

Amerika evokes the dreamlike claustrophobia and agoraphobia typical of Kafka's novels, which is due to the novel's paranoid imagination. The narrative relies on coincidence and excessive relatedness. The difference between Kafka's novel and the novels described, however, is its relation to 'real' phenomena. While informed by research of the present, Hofmann (in Kafka, *Amerika*, 1996) claims Kafka's book is 'up to the minute, with its telephones and gramophones, electric bells and electric torches, lifts, the Brooklyn Bridge... [and] an early reference to Coca-Cola' (xiii)). From the opening paragraph, in which the Statue of Liberty is seen holding a sword, it becomes clear that Kafka's *Amerika* bears little resemblance to a 'real' experience of a European immigrant in the United States. The interconnectedness is persuasive as Kafka establishes a dream-like quality and logic. Unlike the hysterical realists, whose close examination of real-world issues creates immediate, enclosed context, Kafka in his novels eludes such readings. Given contemporary widespread information and global awareness, however, writing of other countries, institutions, or cultural groups with such disconnect from 'real' phenomena presents ethical representational issues.

In her review of *The Maximalist Novel*, N Katherine Hayles notes that Ercolino does not make reference to the influence of information technologies, databases, computational media:

> much of the impetus toward the massive information flows apparent in the examples derives from the creation and dissemination of the personal computer, the emergence of the web, the spread of social media, and the pervasiveness of Internet search engines. (521)

These developments, Hayles continues, undoubtedly explain why the maximalist novel differs from other big encyclopedic modernist novels (e.g. Melville's *Moby-Dick* and Joyce's *Ulysses*). Similarly, these developments (i.e. emergence of the web, spread of social media, etc.) highlight a significant difference between the paranoid imagination displayed in the works of Kafka and in the contemporary maximalist novelists. In other words, one cannot write (or indeed read) as Kafka did in the contemporary digital age.

In the information/networked age, a novel that is structured by paranoia yet aspires towards ethical commitment (as Ercolino claims the maximalist novel does) is ultimately at odds with itself. In Bolaño's *2666*, the heavy interrelatedness of the novel's structure draws a comparison between the female homicides of Ciudad Juárez and World War II and the Holocaust. It is difficult, however, to determine in what capacity one atrocity can or should illuminate another, and how a reader should make this comparison. Indeed, *2666's* structure explicitly segregates these components. Ercolino

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posits that his elements can be split into two camps, playing 'different roles in the *internal dialectic* of the genre' and that a '*hierarchy* of the materials is always presupposed which guarantees the genre's morphological and symbolic *hold*' (114). This he labels the chaos/cosmos function: 'anarchy versus order, centrifugal forces versus centripetal forces, chaos versus cosmos' (115). In *2666*, then, the relationship between female homicides of Ciudad Juárez and the Holocaust could either be 'meaningful' (cosmos) or simply two independent events that have no correlation (chaos). The novel's 'paranoid imagination' that informs the novel's interrelated structure, however, both allows and encourages parallels between the female homicides and the Holocaust. Not only the structure, but the meaning of the work is defined by its paranoia.

The very notion of a 'cosmos' function is at odds with maximalist novels' social realism; in the case of *2666*, the social realism of the very relentless, specific, almost journalistic approach to the female homicides is at odds with a parallel to the Holocaust. Despite the fact that maximalist novels are 'monopolized by themes of great historical, political, and social relevance,' addressing themes such as history, war, drugs, capitalism, and technology (Ercolino, 136–7), the use of paranoid imagination to draw connections between these themes lacks 'ethical commitment' as it draws immoral parallels. If the aim of the maximalist novel is 'ethical commitment,' it is at odds with the paranoid imagination that informs these novels' structures.

Interconnectivity is a fundamental characteristic of digital literature. Early hypertext works, such as Michael Joyce's *afternoon, a story* (1987), are hypertextually interconnected. While in such narratives 'everything is linked', the linkage is not necessarily through paranoid connections. While works such as Moulthrop's *Victory Garden* do promote such paranoid imaginative connectivity, hyperlinks or other digital structural devices do not rely on paranoid connections. Digital narratives therefore offer the possibility to fulfil the tentacular ambition of the contemporary maximalist novelist without having to resort to paranoid imaginative structures.

Narratorial Omniscience and Cliché

Since Wood's review of Zadie Smith's *White Teeth* in which he defines and criticizes 'hysterical realism,' Smith has written of her shifting approach to the contemporary novel. Smith argues that such 'hysteria' is necessary, as in contemporary culture the immediacy of news, political commentary, and satire means that the fiction writer who addresses contemporary issues or institutions risks cliché: 'Even if you find [Pynchon, DeLillo, Foster Wallace, et al.] obtuse, they can rarely be accused of cliché, and that… is the place where everything dies.'

Smith further explores her desire to make connections in her essay "Rereading Barthes and Nabokov." She finds Barthes's notion of reader authority appealing as a reader, but paralyzing when applied to the act of writing itself. *White Teeth*, for example, is constructed in such a way as to represent a vast multiplicity of voices within the

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culture. The text stretches itself to accommodate and engage with a profusion of public and private issues. To avoid plot immobility, coincidence, Dickensian caricature and paranoid imagination are utilized, which has resulted in Wood's criticisms. In her essay, Smith contrasts Barthes's approach with Nabokov's assertion of authorial privilege:

> Barthes spoke of the pleasure of the text, Nabokov of asking his students to read "with your brain and spine... the tingle in the spine really tells you what the author felt and wishes you to feel." Barthes, though, had no interest in what the author felt or wished you to feel, which is where my trouble starts. (43)

This trouble is the desire to create an authorial text that accounts for the birth of the reader(s) without resorting to excessive interrelatedness or the potential cliché of twenty-first-century bourgeois political apathy.

Smith attempts to resolve this trouble in her fourth novel *NW* (2012). Stylistically, it marks a departure from her other work, utilizing a combination of first- and third-person perspective, numbered fragments, and typographical arrangements. *NW* does not display 'paranoid imagination,' as connected events become tangential, having quiddity in and of themselves. Particularity is based primarily on class, rather than ethnicity. Similar to Irie Jones at the conclusion of *White Teeth*, at the conclusion of *NW* Natalie Blake, feeling decentered and fraudulent, sets up anonymous sex encounters via the Internet. Unlike Irie in *White Teeth*, however, the 'decentered' form that reflects Keisha/Natalie's decentered sense of identity makes this choice human and persuasive, rather than conceptual or hysterical. At the novel's conclusion, after Natalie's affairs have been exposed and she loses track of her children in a pet store, Smith writes: 'She raised her head from her newspaper. She called out. Nothing. She walked to the fish, the lizards, the dogs and the cats. Nowhere. She reassured herself she wasn't the *hysterical* [emphasis mine] type' (288).

A significant difference between *White Teeth* and *NW* is the later novel's use of omniscient narration. In *The Return of the Omniscient Narrator*, Paul Dawson argues that twenty-first century fiction has seen a revival of omniscient narration and that this emerges from an 'encounter with some of the technical experiments of postmodern fiction' (4). In the case of *White Teeth*, Dawson argues that there are

> substantial passages of digressive and garrulous commentary throughout the novel which directly address the reader. ...the narrator employs the editorial "we" to rhetorically invoke a general consciousness. (128)

In *NW*, however, such an authorial voice is absent. Though the novel fluctuates between four different characters' perspectives, the points of view themselves remain that of the characters. *NW* has more in common with the Modernist novels than the

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omniscient perspective of *White Teeth*. *NW* would not be classified as a maximalist novel. As a result, any intersemioticity or diegetic exuberance is justified as being the voice of the character. Smith's reduced omniscience and interconnectedness in *NW* suggests a stylistic return to the Modernist novel in order to both account for the birth of the reader(s) without resorting to excess or cliché. While a text such as *NW* rejects Johnston's assertion that the literary form must be 'machinic', it contains characters who are capable of interacting with such information systems. It therefore remains both contemporary (i.e., of the networked/digital age) and human.

In digital literature, challenging the very chronology of print text allows writers to combat cliché. Despite attempts to catalogue digital literature through genre (Rettberg 2019) or chronological generational approaches (Flores 2019), historically digital literature is characterized by experimentation and an impulse to 'make it new'. Through challenging and reimagining the very concept of print representation, digital literary works resist being the place where 'everything dies'. Furthermore, frequently digital literary works allow for an omniscient sense of navigation, presenting omniscience (or omniscient possibilities) without relying on a paranoid interconnectivity.

A Light Encyclopedic Mode

Ercolino argues that a key element in defining the maximalist novel is an 'encyclopedic mode.' Encyclopedism is not the ambition of the maximalist novelist, rather it is a tool in 'attempting to satisfy its synthetic ambition' (40). Ercolino cites Italo Calvino, crediting him with pointing out that the desire to write encyclopedic works was one of the strongest aspirations of modernism (27). In *Six Memos for the Next Millennium*, Calvino (1988) addresses the encyclopedic under his lecture on multiplicity. Calvino's own later novels reflect this value. What is not present in the later novels of Calvino, however, is a sense of Chekhovian/lyrical realism. Even in a novel such as *If on a winter's night a traveler*, where particular chapters display a sense of realism, it is framed and presented as a construct.

As well as a less forced interconnectedness, Smith expresses a predilection for 'controlled little gasps of prose, as opposed to the baggy novel' and an admiration for these qualities in the works of Kafka, Borges, and Cortázar. Smith goes on to ask, if it is 'this reverence, this care, this suppression of ego that Wood wants to see from us?' This reverence is shown in *NW*, but is taken a step further in Smith's *The Embassy of Cambodia* (2013). Smith still interweaves particularities, but reduces this density so as to lighten the amount of reality imposed on her characters and the text. In other words, *The Embassy of Cambodia* depicts Chekhovian realism.

This opposes Ercolino's first element: length. Smith's rejection of length, however, does not necessarily reject the core ambitions of the maximalist novel. It does not necessitate a reversion to literary minimalism. Rather, Smith's predilection could be regarded as a desire for what Calvino labels lightness. For Calvino, lightness is understood

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in terms of its binary opposite, weight. His reason for treasuring lightness is a desire to write in such a way as to represent his own time, to identify himself with the collective and individual energies propelling the events of the century. The weight of all these issues, however, becomes problematic when attempting to write cohesive, dramatic, engaging fiction. As Ercolino points out, the problem with the encyclopedic project in the postmodern is that it 'explodes, crushed by its own weight' (29). Borrowing from Greek mythology, Calvino compares this type of weighty text to the stare of the Medusa in that it paralyses language and narrative. This, however, is not to suggest that a writer should ignore the weight of the world. Though Calvino uses binary opposites to define his values, his use of binary opposition does not necessitate the negation of the opposing value. Like Perseus, who decapitated the Medusa and carried its head, the writer should be light without negating or neglecting weight.

Laura Miller (in Dawson) argues that the rise of the maximalist/hysterical realist movement was in fact a shift in American fiction away from minimalism, 'exemplified in the tradition from Hemingway to Carver' (162), to maximalism. Smith's *The Embassy of Cambodia* therefore is not simply a return to literary minimalism, but a move beyond maximalism in that it retains the ambition of the maximalist novel while shedding length/weight. In other words, it exhibits Calvino's value of lightness.

Smith's *NW* and *The Embassy of Cambodia* suggest that while depicting interconnectivity is possible and even potentially persuasive, it is not a vital revelation. In the case of *NW*, while the stories are interconnected, this is primarily to justify its structure as a novel. In fact, *The Embassy of Cambodia*, with its Willesden setting, reads almost as an *NW* offcut. This brings into question the necessity for the 'lyrical realist' novel as an appropriate form to depict contemporary culture, and whether or not it will persist for reasons other than tradition or money. Digital narratives offer writers another possibility for addressing such social, cultural, and aesthetic predicaments.

Resolving print predicaments through digital practice-led research

From this analysis of the maximalist novel, we developed the digital novel *The Perfect Democracy*. As a writer, Wright's creative appetite was identical to that of the maximalist novelists in that the objective was to capture the entirety of contemporary (Australian) culture. Wright endeavoured to retain the tentacular ambition of the maximalist novel, while attempting to resolve the above defined problems in digital space. *The Perfect Democracy* is an Australia Council for the Arts-funded practice-led research project that attempts to resolve the predicament with the contemporary print maximalist novel. Practice-led research is here defined by Smith and Dean (2009) as:

> an activity which can appear in a variety of guises across the spectrum of practice and research. It can be basic research carried out independent of creative work (though it may be subsequently applied to it); research conducted in the process of shaping an artwork;

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> or research which is the documentation, theorisation and contextualisation of an artwork — and the process of making it — by its creator. (3)

The Perfect Democracy is an example of practice-led research that attempts to extend, subtend, and resolve the literary research conducted above. It takes as its subject the entire population of contemporary Australia. It is also about the impossibility of representing this in a work of fiction. The aspirations of the novel reflect Gertrude Stein's ambitions in writing *The Making of Americans, Being a History of a Family's Progress* (1925). We argue that if digital narratives are to extend and resolve print aesthetic issues in digital space, then practice-led research conducted using this methodology is requisite for digital literary practitioners.

Initially, this work was created as a print text, albeit one that displays what Hayles (2009) calls the 'mark of the digital' (159), such as Mark Z. Danielewski's *House of Leaves* (2000) or *Only Revolutions* (2006). As such a vast subject is impossible to represent in a work of fiction, Calvino's values — lightness, quickness, crystalline exactitude, visibility, multiplicity, and consistency — have been employed. *Visible* images of Australian currency have therefore been used as a structural device to remove *weight* by representing the whole society from the richest to the poorest in the *quickest* way possible. A *multitude* of simultaneous writing formats and voices are used to *precisely* depict characterisation. These variations are *consistently* employed. Such an approach seems in contrast with earlier digital literary works, such as those by Moulthrop and Joyce mentioned above. Aarseth (1997) argues that in such digital works 'nontrivial' effort is required to traverse the text. While digital space has the capacity to further complicated, intwine, and digress text, it also has the capacity to lighten such complications. This is the aesthetic ambition of *The Perfect Democracy*: to lighten the 'nontrivial' effort required to traverse the text.

From a narrative perspective, the text follows the fallout from the passing of Australia's wealthiest citizen. On his deathbed, Caradoc Barnard decides to leave his entire inheritance to Australian babies born on the day of his death. The introduction of each currency offers a new character from a new social/economic class with a new form of writing. The $100 note is associated with the will of mining magnate Caradoc Barnard, who opts to distribute all of his money to Australian children born on the day of his death. The $50 note depicts Barnard's daughter, Siobhan Barnard, in the form of three failed business plans. The $20 note depicts the legal proceedings between the Barnard estate and Dorothy Beckham, an exclusive escort Caradoc promised to fund indefinitely. The $10 note follows a discussion between Dorothy Beckham's cosmetic surgeon and her recovering oxycodone addict daughter. Their discussions are simultaneously presented side-by-side, interjected by stream-of-consciousness writing that appear as text messages that simultaneously depict the two characters' internal thoughts and conversational dialogue. The Australian coins ($2, $1, 50c, 20c, 10c, 5c) follow recent

immigrant and illiterate Australians undertaking English classes in lieu of job search for Centrelink payments. The $5 section presents an objective voice to depict a young mother struggling to look after her baby, who was born one minute after midnight, thus missing Barnard's gift. Like the final chapter of *The Sound and the Fury*, this stark objective perspective will contrast with the subjective voices of the rest of the work. This work is interjected by a short soliloquy by the father of the young mother's child, who has absconded to Bali to avoid responsibility.

The e-book is not, definitionally speaking, electronic literature. While Rettberg (2019) argues that 'e-books have in the past two decades had significant effects on the way that literature is published, distributed and consumed' (6), he claims that they are their own category as they are not 'born digital'. The e-book seeks to emulate two print book forms: the book (with turning of pages) and the scroll, with the single page forever scrolling onwards from start to finish. In *The Perfect Democracy*, the digital 'scroll' or 'scrolling' allows for a light and quick digital navigation that allows the reader to comprehend the maximalism of the work. This is largely due to the 'crystalline' structure that is enabled through the non-paranoid interconnectivity and visibility of Australian currency. It presents a very clear and visible structure of rich to poor, that hints at the approaching infinite experience within Australian culture in the quickest way possible. It is also presented as a menu at the top, allowing linking between sections. This linking achieves what Landow (2006) calls a 'fundamentally intertextual system', that has 'the capacity to emphasize intertextuality in a way that page-bound text in [print] books cannot' (55). In *The Perfect Democracy*, everything is interconnected literally, persuasively, and diegetically, though not paranoically. Unlike a print maximalist novel, one can quickly, lightly, and visibly navigate this maximalism 'from above', enabling the maximalist reader to essentially have their cake and eat it too. The writing is made light without negating or neglecting weight.

Multiple writing forms enhanced by digital functionality are employed within *The Perfect Democracy*. All of these functionalities strive towards simultaneity. In *Hopscotch* (1966), Cortazar writes:

> [...]that of making an accomplice of the reader, a traveling companion. Simultaneanize him, provided that the reading will abolish reader's time and substitute author's time. Thus the reader would be able to become a coparticipant and cosufferer of the experience through which the novelist is passing, at the same moment and in the same form. All artistic tricks are of no use in obtaining it: the only thing worth anything is the material in gestation, the experiential immediacy (transmitted through words, of course, but the least aesthetic words possible; this is where we get the 'comic' novel, anticlimaxes, irony, so many other directional arrows pointing towards the other thing).

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Cortazar's 'anti-novel' is one that requires the reader to flip around the book-bound object, which helps establish the various voices' independence and simultaneity. *The Perfect Democracy* seeks to extend this concept into digital realms. Palimpsestic writing is used to lighten the density of the technical language within which the characters' voices are presented. Inspired by Iranian author Shahriar Mandanipour's *Censoring an Iranian Love Story* (2009), this theoretical form of writing was proposed in Wright (2018). In the $100, $50, and $20 sections, this functionality is employed. Here, the lightness of the characters' thoughts is situated within the paralyzing, bureaucratic, weighty density of the 'original' legal and business texts: Caradoc Barnard's will, Siobhan Barnard's business plans, and the Beckham v Barnard legal case.

In the $50 section, the three failed business plans are presented on a 3D triangular prism that can be navigated. One can read these parts simultaneously, by dragging them around. The text at one point also cross-sections across the planes with the enlarged, emphatic phrase: I AM BROKE. Here, the 'scroll'-like form of traditional reading is interrupted by the 3D object.

The $10 section utilizes a dialogue and stream-of-consciousness that appears simultaneously as direct messages. The conversation between the two central characters (and waitress) is presented in the center, while their thoughts are presented on either side. This form is inspired in part by Faulkner's *The Sound and the Fury's* first two chapters and the form of writing that inspired *Little Emperor Syndrome* (2018), as outlined in Wright (2021).

Zadie Smith's notion of 'controlled little gasps of prose' highlights that Ercolino's length is not a necessary condition for the maximalist novel. Where the print novelist must rely on recapitulation to weave together the narrative's shifting points of view, by contrast, *The Perfect Democracy's* formal characteristics in the coins section shows the reader that the characters' concurrent perceptions are equivalent—their 'tapes' occupy the same space, and each function the same way. The coins' conceptual tapes are one way that electronic literature is able to trade off space for time. As Cayley (2018) argues, 'Textuality is temporal' (321). Framing his discussion around Jim Rosenberg's Storyspace works, and illustrating with *The Barrier Frames* and *Intergrams,* Cayley highlights the processual character of the machine's performance. The reader participates in parallel, if not overlapping, processes of navigation and reading to shape the temporality of the reading experience (317-321). The coins section produces a similar effect: the reader is required to restructure the flow of time, as reflected in the flow of the text along the tape. The parallel incidence of these processes is further highlighted by the top line: by flowing left-to-right, the tape draws attention to the temporality of the reading process and the action of memory. It draws out an awareness of the reading process itself, of the material structure of the English language. Over longer gasps of prose, the text challenges the reader to maintain contexts in the opposite order that English tends to present them: objects before subjects; verbs sometimes come too late to be applied to objects that have flowed offscreen.

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The final $5 section has a bouncing text, overlapping the central text. Here, again, the sense of overlapping challenges the traditional text, but also the hierarchy of the 'main' story being told. The overlapping soliloquy is an irritant to the central story, clouding the view, and literally depicting the hierarchy of the two texts.

Another difference between the maximalist novel and the electronic text is the capacity for multimodality. This is a fairly obvious and well-worn difference when discussing printed and electronic texts, but it is not to be underestimated in this instance, where plurality is implied by a descent through socio-economic strata.

Conclusion

Through practice-led research, *The Perfect Democracy* attempts to extend, subtend, and subvert problems of the maximalist novel, a form that emerged in the late 20th Century and continues to this day. More broadly, this practice-led research attempts to illustrate that predicaments that arise within the print novel can be resolved, extended, and expanded through digital functionality and electronic literature forms. As Rettberg (2019) argues, electronic literature:

> [...]not only takes us forward to explore new horizons but also on a retrospective journey that can lead to better understanding of how the past of literature propels us toward its future (6).

Hysterical and paranoid interconnectivity can be resolved through non-paranoid and visible interconnectivity. Narratorial omniscience can be expressed through navigational tools. Cliché in contemporary realism can be challenged by reimagining realism through new narrative forms. And the broad ambitions of the contemporary novelists can be imagined and navigated through light, quick, exact, visible, multiplicitous, and consistent values and forms. *The Perfect Democracy* is an example of digital literary creative practice that confirms the importance of the link between digital and print literature. Despite many declarations that the book is dead, Pressman (2009) argues that the 'fetishization of the book-bound nature of the codex as reading object has, in some respects, always been the case for certain strains of literature, experimental writing in particular.' This works both ways. As digitality and experimental digital forms continue to influence the 'book-bound reading object', so too will print predicaments and experiments influence new forms of electronic literature.

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Computational Models for Understanding Narrative

Modelos Computacionais para Entender a Narrativa

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Abstract

We describe how the computational modeling of narrative serves as a method of inquiry and helps to further humanistic understanding in this domain. Our focus is on our own systems, MEXICA and Curveship. Each of these two computational narrative systems is a working representation of aspects of the human processes of creative writing or narrating, and can be used to explore these processes and learn more about them. We describe some specific insights gained regarding the connection between characters' emotional relationships and conflicts, collaboration between writers, elements of narrative theory, expressions of surprise, and how referring expressions are important to literary style. We conclude by considering how models of *story* and *narrative* are not the same as large language models (LLMs) and we should not expect either type of system to do the work of the other.

Keywords

cognition | engagement-reflection | narratology | plot| style

Resumo

Descrevemos como a modelagem computacional da narrativa serve como um método de investigação e ajuda a aprofundar a compreensão humanística neste domínio. O nosso foco está nos nossos próprios sistemas, MEXICA e Curveship. Cada um desses dois sistemas narrativos computacionais é uma representação funcional de aspetos dos processos humanos de escrita criativa ou narrativa e pode ser usado para explorar esses processos e aprender mais sobre eles. Descrevemos algumas visões específicas obtidas sobre a conexão entre relacionamentos emocionais e conflitos dos personagens, colaboração entre escritores, elementos da teoria narrativa, expressões de surpresa e como as expressões de referência são importantes para o estilo literário. Concluímos considerando como os modelos de história e narrativa não são iguais aos large language models (LLMs) e não devemos esperar que nenhum tipo de sistema faça o trabalho do outro.

Palavras-chave

cognição | engajamento-reflexão | narratologia | enredo | estilo

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1. Introduction

Recently, the first book providing a historical overview of computer systems that do creative writing was published (Sharples & Pérez y Pérez 2022). That history deals with how different types of creative systems, ranging from popular ones to ones for academic research, have been developed over the years, often but not always in conversation with each other. In recent years, there have also been several good articles published that survey storytelling systems, including (Gervás 2009), (Kybartas & Bidarra 2017), (Hou et al. 2019), (Herrera-González et al. 2020), (Alhussain & Azmi 2021). A book detailing the operation of story generators will be released this summer (Pérez y Pérez & Sharples Forthcoming).

We refer the interested reader to these resources for an overview of computer story generation and narrating. Our discussion focuses on just two systems, ones that we have developed. We also consider one main purpose that systems like this can have: How they can enhance our understanding by modeling different aspects of writing and narrative. Systems to generate plots can also do other things, including supporting creative work. But our focus in this discussion is their use, in research that relates to

humanistic inquiry, as models. In many sorts of research, it can be fruitful to proceed by developing a theory about whatever we are trying to understand — the spread of disease in a population, predicting storms in a weather system, determining the effects of a different monetary policy in an economy, etc. We then would like to test our theory to see if it fits the world well. A computational implementation, in the form of a model, is one way of doing so, even in cases (such as the three listed) where we cannot easily conduct experiments in the real world.

In the discussion that follows, we describe Pérez y Pérez's MEXICA, which among other things is a model of the creative writing process (for developing the plots of stories, in particular), and Montfort's Curveship, a system for modeling narrative variation or narrative style. We also discuss two projects to integrate these systems and outline some specific insights produced by using MEXICA and Curveship. Then, we distinguish models of story and narrative from the natural language processing systems that are attracting the most attention currently, large language models (LLMs) and specifically the systems in the GPT family.

2. *The Point of Developing Models*

In the humanities we have helpful *theories* and *accounts* of different cultural phenomena, including writing and narrating. Building an operational, computational model of some humanistic theory (such as narrative theory) or some cognitive account allows us to inquire in several ways, for instance, helping us determine what these systematic models actually describe in detail and what they are missing. Those of us doing computational research not only *discuss* humanistic theories, we *operationalize* them and make them function as computer models. If we cannot implement aspects of these theories without further theorizing and elaboration, this suggests that the theories are underspecified in some ways. Of course, there could be other explanations for our inability to computationally model humanistic theories: The researchers attempting it may not be up to the task. Over time, however, we would expect that in the entire research ecology, those theories that are operationalizable will come to be modeled, whether by the researchers who originally attempted it or by others. After modeling is done, computational models based on these theories and accounts also allow us to investigate how well they fit with whatever phenomena they are trying to explain.

Our discussion here covers two main preexisting theories. The Engagement-Reflection cognitive account of creative writing (*E-R Cognitive Account*) offers a general description of how we write. *Narratology* or narrative theory is among other things a description of how narrating can be done. In both cases, developing computer systems to embody these theories requires a very detailed account of the processes of writing and narrating. In a metaphorical way, we claim that in the construction of a computational model of a cognitive or social phenomenon, there is a struggle between those forces that give meaning to a general description, and those forces that demand that details of

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the processes involved in the experience be represented algorithmically (Pérez y Pérez 2018). To resolve this tension, it is necessary to build a bridge that allows transit between the general ideas and the concrete implementation. That is the role of a computer model. This is also why we distinguish between the E-R Cognitive Account and the E-R Computational Model of MEXICA, and also between narratology (including the narratology of specific theorists) and the particular model of narrative variation implemented in Curveship. The former cognitive descriptions provides a framework to build on and advance the latter computational models.

3. *MEXICA*

Pérez y Pérez (1999) developed a computational model of the creative process that implements the pre-existing "Engagement-Reflection Cognitive Account of Creative Writing" (E-R Cognitive Account). The computational system is MEXICA (Pérez y Pérez and Sharples 2001, 2004; Pérez y Pérez 2007), and produces narratives about the Mexicas, the ancient inhabitants of the Valley of Mexico, often called the Aztecs (Pérez y Pérez 2017). The most recent version of MEXICA is also able to produce narratives in different settings.

The E-R Cognitive Account is based on ideas expressed by different researchers that were collected and extended by Mike Sharples and describe how the creative process works when we write (Sharples 1999). Sharples's concepts can be summarized as follows: The creative process consists of a constant cycle between two mental states known as Engagement and Reflection. During Engagement people are immersed in the generation of sequences of new ideas through associations: an idea produces a context that leads us to associate another new idea, which leads to another new one, and so on. A typical example is daydreaming, where ideas just flow and we have no control over them. Engagement is interrupted when we are distracted or when we get blocked and cannot generate more material. Then, we switch to Reflection, where we evaluate and, if necessary, modify the material generated so far. This reflective evaluation produces a series of guidelines that condition the generation of new material during Engagement. Once the evaluation is completed, we return to Engagement and the cycle continues.

Often in thinking about writing, we consider the difference between producing a draft and revising it. These two activities have some relationship to Engagement and Reflection, but they happen over a much longer span of time. The E-R Cognitive Account describes types of thinking that happen minute-by-minute, whether we are drafting or revising.

The E-R Cognitive account was the framework to build the E-R Computer Model. The program MEXICA is an instantiation of this model. The main goal of MEXICA is the generation of narratives that are novel, coherent, and interesting. In MEXICA, a story is defined as a sequence of actions, not a surface text. A story is novel if it is not similar to the stories that the system has stored in its knowledge base. A story is coherent if its

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actions fulfill common-sense knowledge. MEXICA keeps track of events in the story that generate tension; thus, a story is interesting when it includes variations in the story's tension.

Two characters in love, or hating each other, provide examples of emotional links. Conflicts modeled by MEXICA include a character being injured or deprived of freedom.

MEXICA uses a database which represents its knowledge. This database is made up of a set of records, called knowledge structures, which are organized in terms of emotional links and conflicts between characters. Each of these structures is associated with logical actions to be executed. For example, the database might record that, when two characters are in love (an emotional link), a coherent way to continue a narrative is that these characters get married, or go on a trip together, or move in together. Similarly, the database might record that, when a character is injured (a conflict), among the logical actions to continue the story are that the character finds a way to treat the injury, another character helps, or the injured character dies. For details on how the database is built, see (Pérez and Pérez 2007).

In MEXICA, all the actions that are carried out in a narrative have a set of consequences associated with them. These consequences are in terms of emotional links and conflicts between characters. For example, consider when the system generates an event in which the knight kidnaps the princess. The princess becomes a prisoner (a conflict) and she also begins to hate the knight (an emotional link). Since both characters are in the same place, a new conflict known as potential danger is triggered, which represents that the physical integrity of the knight is in danger, because the princess's hatred may lead her to attack him. This information is stored in a structure known as the story context. In this way, as the plot develops, the context of the story becomes more elaborate.

To generate a new narrative, the user provides an initial action. The system executes this action and the story context is generated. Next, the system searches the database for a knowledge-structure that is the same or similar to the story context and retrieves its set of possible actions to continue the story. MEXICA chooses one of these possibilities at random, executes it, the story context is updated, and the cycle repeats.

After generating a sequence of three actions (the number generated is a parameter which can be modified), the system switches to the reflection state. There, the system checks if the story in progress is interesting, coherent, and novel. If any of these attributes has a low evaluation, the program employs a series of heuristics designed to improve them during the next cycle of engagement. The system then returns to start a new Engagement cycle. If, during Engagement, the system does not find options to continue the plot, it switches to reflection where it inserts an action to try to break the impasse. The goal is that this new action produces a story context which can be matched with some structure in the database. If the impasse cannot be broken, MEXICA resolves those conflicts that are still active and ends the narrative. For example, if a character is injured, the program inserts requisite actions so this character either recovers or dies.

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MEXICA has a series of parameters that allow modifying the pace with which a story unfolds. In this way, a narrative developed by MEXICA can be the result of a process that includes several cycles of engagement and reflection, or a process with a clear tendency towards the state of engagement and little reflection, or a process oriented towards the state of reflection and little engagement. Of course, the content of the database also affects this behavior.

MEXICA was conceived as a research tool; therefore, anyone interested in using it can define a significant number of parameters that control the operation of the system. Any computational model can be modified more substantially by undertaking additional software development, which has been done throughout the lifetime of the system.

This is an example plot produced by MEXICA, represented here using English templates to generate sentences:

> As part of a conspiracy, the eagle knight took the lady hostage, planning to kill her.
> The lady could not help it and she humiliated the eagle knight.
> Striking quickly, the eagle knight injured the lady.
> Angry, the lady attacked the eagle knight!
> Fiercely, the lady hurt the eagle knight.
> The lady made a potion and drank it quickly. She started to recuperate!
> The eagle knight went to find some medicinal plants and cured the eagle knight.
> He was lucky!
> The eagle knight went to Texcoco lake.
> Quietly, the lady was able to escape!
> The end.

This plot was developed as follows. The user of the system provided an initial action: The eagle knight kidnapped the lady. Then, the system started and, during Engagement, generated a sequence of three actions: The lady insulted the knight, the knight wounded the lady, and the lady reacted by attacking the knight. MEXICA did not find a way to continue the tale. So, it switched to reflection and inserted the action in which the lady injured the knight as a way to try to break the impasse. It switched back to engagement, but still, it could not find a good association connecting the new events. So, the system decided to end the tale and tried to sort out all the unresolved conflicts in the story. Thus, MEXICA inserted actions in which the lady and the knight cured themselves, in which the knight decided to run away (clearly, they could not be together without hurting each other), and in which the lady regained her freedom. Then, MEXICA evaluated the narrative and generated a report. The following is part of that report:

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— The beginning is too abrupt.
— The story incorporates situations where a character interacts with itself in an unconvincing way. For instance: THE EAGLE KNIGHT WENT TO FIND SOME MEDICINAL PLANTS AND CURED THE EAGLE KNIGHT. HE WAS LUCKY!
— The narrative opens with an introduction where each event clearly connects to the next one and works as a foundation for the rest of the tale.
— The tale reaches its climax in the scene where "FIERCELY, THE LADY HURT THE EAGLE KNIGHT".
— This story is wonderful!
— My evaluation of your story is ->95/100

The report points out that, rather than developing a conflict step by step, the story starts with a kidnapping situation. The evaluation indicates that the tale includes an action where a character interacts with himself in an unconvincing way. As a result, the final score is decreased slightly. The report describes that actions have a clear cause-effect relation and a climax is reached when the lady injures the knight. The story satisfies the system's requirements and gains a final evaluation of 95/100.

4. *Curveship*

One of the important qualities of narrative is that regardless of what underlying events transpire in the story world, these events can be represented in many different ways — that is, the story level (or content) can be understood as distinct from the narrative discourse (or expression). A substantial body of theory about narrative, which considers narrating as a central issue and takes the story/discourse distinction as essential, has developed since the 1970s and is known as narratology or narrative theory.

Montfort developed a system, beginning in 2006, that came to be called Curveship. (Prior to 2011, the same system was called nn.) This system computationally models some of the most significant aspects of narratology (Montfort 2007, 2011). While it is convenient to speak of narratology as a field, there are many narratologies advanced by different theorists who agree about many, but not all, points. Curveship is mainly a model of the narratology of Gerard Genette (1983, 1988), also incorporating important ideas from Gerald Prince (1982) and Marie-Laure Ryan (1991, 2001).

In contrast to MEXICA, Curveship by itself does not model creativity, nor does it have a focus on cognition. Rather, it is meant to explore how a fairly small number of underlying parameters, and a reasonably simple model, can be used to accomplish many different types of narrating that have been observed and accounted for by narrative theorists. Curveship for example does have a model of actions that draws on the cognitive account of Conceptual Dependency theory (Schank 1972), but even this foundational aspect of the system is mainly incorporated to allow for effective narrating as described by narratology; the purpose of the system is not to test whether this account

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is cognitively valid. Because narratology theorizes how underlying events can be told in different ways, Curveship models these possibilities and variations. The system does not embody any notion that one way of narrating is better (for instance, more creative) than any other. Curveship does not take the position that some types of narrative are more authentic (representative of real human thought and activity) than others.

The literary work most related to Curveship is Raymond Queneau's *Exercises in Style* (1981), a collection of vignettes that all relate the same underlying and essentially uninteresting events, but do so in ninety-nine different ways. This lively work exhibits how, even if events at the story level are not that compelling, various ways of narrating those events can be extremely engaging. To make a fine distinction, Curveship's particular focus is not writing style in general, but *narrative style* — variations that are particular to the representation of events. So Curveship can reverse the order of events in the telling, beginning with the last one and proceeding through to the first one, as in Queneau's "Retrograde." But it does not attempt to model Queneau's styles that are based on slang, which could be used to relate greetings, describe things, and produce other sorts of texts just as easily as the style could be used to narrate.

While MEXICA is a plot generator, Curveship is essentially a text generation system, and follows the classic three-stage model of document planning (determining what content to include), microplanning (making specific lexical choices, including determining when referring expressions will be used), and realization (the final production of natural language), a model detailed in (Reiter & Dale 2000). It differs from other systems in that it exposes parameters, collectively called *spin,* which pertain specifically to narrative: To the representation of events by a narrator, more or less overt.

The original Curveship system is now called Curveship-py. It was developed in Python and allows for the development of parser-based interactive fiction (known early on as "text adventures"), so that changes in the narrating might be triggered by player input or events in the simulated IF world. Later, Montfort developed Curveship-js in JavaScript. This version of Curveship does not take textual input, as it lacks a parser of the sort used in interactive fiction. It also has a reduced capacity for world simulation. However, it has been extended in certain ways to be a better model of narrative theory and is easy to run in a Web browser. In the current Curveship-js, as much linguistic information as possible is represented separately from the underlying characters, places, things, and events at the story/content level. Curveship-js has been used in teaching about narrative theory as well as for research. Both Curveship-py and Curveship-js are free (libre) software, so all code can be downloaded, studied, and shared.[1] Anyone is allowed to use these systems as the basis of their own research and artistic work — or for any purpose at all.

1 https://nickm.com/curveship/

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As an example, here is a Curveship output with a default spin and the naming scheme of a detached narrator:

A bank teller reads a deposit slip.
A burly guard sleeps.
The bank teller rechecks the deposit slip.
A twitchy man puts on a Dora the Explorer mask.
The bank teller types.
She plays Solitaire a bit on her computer.
The twitchy man leaves the street.
The bank teller waves to him.
He threatens her using a gun-shaped object.
She laughs.
The burly guard wakes.
He sees the twitchy man.
He leaves the guard post.
The bank teller puts some fake money into a black bag.
The twitchy man turns to the burly guard.
He shoots him in the chest.
He shoots him in the chest.
He falls.
He dies.
The bank teller weeps.
The end.

Using the same story file to specify events, actors, and things, but given a different spin, Curveship will produce different results. For example, with the bank teller made into the narrator or "I" of the story, with all events elided except those that the bank teller witnesses, and with specific names for things and verbs used to represent events that are appropriate to the bank teller, this is the output:

I glance at a completed Form D-22.
I look over the deposit slip.
I do some data entry.
I play Solitaire.
Jimmy Smith pretends to rob.
I wave to him.
Jimmy poses for me using his gun-shaped object.
I laugh.
Our guard pops out of the guard post.

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I place some fake money into a black bag.
Jimmy turns to the guard.
The guard shoots him.
He executes Jimmy.
Jimmy falls.
He dies.
The guard drops his pistol.
He recalls that he shot Jimmy.
I weep.
The guard stares at the pistol.
The end.

5. *Pipelined Integration and the Blackboard of Slant*

We undertook two projects to connect MEXICA and Curveship. Just as developing a single computational model provides insights into the theory or account being modeled, there are benefits to integrating two or more models. We are able to see in concrete terms where representations are compatible or need to be altered, and where basic assumptions differ. For instance, two models can both be formal systems but have representations that are at different levels of granularity. One can include elements that are judged essential while the other omits these.

Initially, we devised a *pipelined* architecture in which MEXICA generates a plot and, given a narrative specification, Curveship determines the particular way the text of the narrative is generated (Montfort & Pérez y Pérez 2008). This simple model seems to us to be more relevant to industrial production than to creative ideation in many ways, and we do not suggest that it is a good model of individual or collaborative creativity. However, it still presented some interesting challenges, because we needed to formulate a compatible representation of story and determine what narrative specification might be reasonable. MEXICA, for instance, had a very different and higher-level representation of action and lacked a representation of particular "props," or things. Curveship was able to deal with finer-grained representation of actions but could not do anything with MEXICA's information about emotional connections between characters. So, we learned specific things about how our models of storytelling were compatible (we did achieve an integration between the models) as well as how they differed.

We extended this connection between MEXICA and Curveship in two ways. First, we introduced a *blackboard* architecture (Hayes-Roth 1985). The blackboard architecture was introduced as a problem-solving technique in AI, but was inspired by human collaboration and, in our formulation of it, is consistent with the E-R Cognitive Account. This scheme does not simply forward partially-complete writing along a pipeline or assembly line. It allows each system component to write in a shared space and collaborate in a richer way. In general, the blackboard can have edits and elements can be erased,

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although in our system, Slant, we initially only allowed components to augment the representation. To allow the different components to interact, we went around in a sort of circle, giving each component the opportunity to update the blackboard. This represents an enrichment of the E-R cycle.

Thanks to collaborator D. Fox Harrell, we incorporated another component, GRIOT-Gen, that developed figurative conceptual blends. Instead of choosing the narrative specification ourselves, manually, we developed Verso, a fourth component that, in collaboration with the other systems, selected which fine-grained genre would be used to narrate the story (Montfort et al. 2013). Among other insights, we showed that a representation can be shared among a larger number of components with different emphases and that a variety of different contributions can be incorporated into this computer creative writing process.

The following are two example outputs from Slant, with two different plots, two fine-grained genres, two different spin settings, and figuration from GRIOT-Gen applied in the second case. Both examples are from (Montfort et al. 2013):

> Forgive me, Father, for I have sinned. It has been a month since my last confession. An enemy slid. The enemy fell. The enemy injured himself. I located a curative plant. I cured the enemy with the curative plant. The tlatoani kidnapped me. The enemy sought the tlatoani. The enemy travelled. The enemy, um, looked. The enemy found the tlatoani. The enemy observed, uh, the tlatoani. The enemy drew a weapon. The enemy attacked the tlatoani. The enemy killed the tlatoani with a dagger. The enemy rescued me. The enemy entranced, uh, me. I became jealous of the enemy. I killed the enemy with the dagger. I killed myself, uh, with the dagger. Ten Hail Marys? Thank you, Father.

> This is Ehecatl, live from the scene. The cold-wind eagle knight is despising the icy jaguar knight! The cold-wind jaguar knight is despising the chilling eagle knight! Yes, an eagle knight is fighting a jaguar knight! Look at this, the eagle knight is drawing a weapon! Look at this, the eagle knight is closing on the jaguar knight! The gardener eagle knight is wounding the weed jaguar knight! And now, the jaguar knight is bleeding! Yes, the consumed eagle-knight is panicking! And, eagle knight is hiding! Holy — the snowflake slave is despising the chilling jaguar knight! The freezing-wind jaguar knight is despising the cold slave! And, yes, the cold-wind slave is detesting the chilling jaguar knight! A slave is curing the jaguar knight! And, the slave is returning to the city! And, the jaguar knight is suffering! The frozen jaguar knight is dying! Back to you!

In our further discussion we will consider what we learned from MEXICA and Curveship individually. As Slant and the previous integration project shows, however, models of storytelling that we devise don't have to remain separate. Integrating models that work at different levels can enable new sorts of inquiry.

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6. *Humanistic Insights*

6.1. Learning from MEXICA

This difference between a cognitive account (as with Sharples's) and a particular computational model (Pérez y Pérez's MEXICA) explains why the construction of a computational model results in a detailed description of the processes and knowledge structures involved when generating narratives. Some details had not been worked out before, but some higher-level processes were also not specified. Implementing these offers new ways of understanding narrative. Here are some examples.

One of the main contributions of MEXICA is the representation of knowledge in terms of emotional relationships and conflicts between characters. There are many plot generation systems that incorporate emotion in some way. For example, TALE-SPIN (Meehan 1976) and MINSTREL (Turner 1993) use variables that characterize the emotional states of characters, and those variables are used as part of the conditions necessary to activate some goals. DAYDREAMER (Mueller 1987) goes further, by employing these types of variables to control the flow of the program, that is, to activate and deactivate goals during the execution of the program. However, MEXICA made a contribution we believe is unique. We do not know of any other system that works with emotional relationships and conflict between characters as a mechanism to progress a story action by action.

MEXICA illustrated how its representation allows sequences of actions to be threaded together in a coherent way. This result is significant since, until then, story generating systems used narrative structures predefined by their designers to ensure coherence. That is, the structure of the story was defined before the program generated it. MEXICA showed the need to expand research on the role of emotions and conflicts as a mechanism to progress toward a finished composition.

Problem solving has traditionally been represented as carrying out a series of actions to achieve a goal. In areas such as cognitive science or artificial intelligence, problem solving has been the basis for characterizing various cognitive processes. This approach has been used in the generation of texts. For example, a knight has the goal of rescuing a princess, so the actions carried out by the knight to achieve the rescue make up the plot. For many years, mainly during the 1980s, 1990s and the beginning of the 21st century, the vast majority of story generating systems used goal representation as the method to develop a piece. MEXICA demonstrates that other mechanisms can guide the generation of narratives. In particular, during Engagement the system produces sequences of actions without using any type of characters goals.

MEXICA-impro (Pérez y Pérez 2015) is a system for the collaborative generation of plots. In it, two MEXICA agents, one called the leader, the other called the follower, work as a team to generate a plot. An important feature of MEXICA-impro is that each of these agents has its own database, which stores knowledge that the program uses

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to produce narratives. Every time the system generates a new plot, it is added to the database, thus increasing the knowledge of the agent. The generation process works as follows. The leader begins and after one ER cycle sends the follower the material it has generated up to that point. The follower then continues to develop the plot and, after executing one ER cycle, returns the updated version of the text to the leader. Now the leader is the one who continues, after an ER cycle, sends the elaborated plot back to the follower. This back and forth is repeated until the leader decides that the plot is finished.

When the agents' databases are very similar, communication between them flows smoothly, but the plots generated are not very original and contribute little to increase the agents' knowledge. On the other hand, when the databases are very different, communication between the agents is complicated since it is difficult for them to be able to continue what the other generated. If despite these difficulties they manage to produce a finished plot, it is usually what could be called "too original" and can be hard to interpret as coherent and meaningful. In other words, the knowledge it provides is very different from what already exists in the database. But acquiring knowledge that is almost completely disassociated from existing knowledge is of little use in producing new plot. The best results are obtained when the databases are only somewhat similar. This allows reasonably fluid communication, which produces plots novel enough to expand the database, but at the same time generates new knowledge that can be associated with other elements of the database. The outcome of this research provides evidence that it is important in the writing process to balance between having some overlap in knowledge, but significant differences as well, potentially helping us understand collaboration between human writers.

6.2. Learning from Curveship

We'll turn to a quite specific theoretical insight offered by Curveship, an insight about Genette's (1983) concept of *distance,* which he indicates is a type of narrative voice. Distance is "one of two major factors regulating narrative information … The more covert the narratorial mediation and the more numerous the details provided about the narrated situations and events, the smaller the distance that is said to obtain between them and their narration" (Prince 2003). While Genette writes about distance as if it were distinct from speed, time of narrating, and other aspects, Curveship is able to narrate in a way that seems more or less distant simply by varying other aspects of narrative, including these. So, the system provides evidence that distance is a composite of other aspects of narrative rather than its own simple aspect (Montfort 2011). This is of course a somewhat fine-grained insight, not intended to overturn the idea of distance as a useful concept within narrative theory. The way developments in all sorts of theoretical work proceed is often by refinement rather than revolution.

Genette (1983) also proposes a representation of underlying events in the telling that is a numerical sequence: If we have seven underlying events, numbered 1 through 7, our narration can order them 6234517, for instance, or (omitting some by using ellipsis)

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1267. Work on designing and implementing Curveship offered another fine-grained insight, showing that a different, richer representation is even more compatible with Genette's narratology and offers increased understanding with only slightly more complexity. Specifically, the way underlying events are presented in the narrative is better represented in a tree structure, with the "now" of narrative at the top level and nodes for flashbacks, flashforwards, and groupings by topic (syllepsis). These nodes can be embedded at lower levels to represent situations in which the narration is elaborate. Different tree representations, which make the different types of narration clear, might be collapsed into a single identical representation, which is less expressive and allows for less understanding, if simply presented as a numerical sequence (Montfort 2011).

Aside from how incredible or ordinary certain plot-level events might be to a reader, a narrator can express surprise, or lack of surprise, at any point in a narrative. After determining that generating expressions of surprise requires a model of both cultural expectation and how easily surprised (or jaded) an individual narrator is, Curveship was used to augment narratives with particular markers of surprise and lack of surprise. In the process, some insights from sociolinguistics were combined with those from narrative theory to determine particular ways that these sorts of expressions could be formally modeled and produced. While many initial insights were generated, the work also exposed the complexity of surprise and lack of surprise expressions (Montfort et al. 2014). Generating them automatically will likely require rich world models operating at four levels: The particular narrator, the particular narrative, the genre of the work (e.g., magical realism or nautical fiction), and more general cultural norms.

A recent Curveship project involved developing more extensive support for referring expressions, noun phrases or surrogates for such phrases (pronouns, restrictive relative clauses, etc.) that represent objects. Curveship's particular focus is on the noun phrases used to indicate characters and objects in the story world. With new support for referring expressions added, and an ability to change the verbs used to represent actions, it has also been possible to explore to what extent the style of particular authors, and even specific books, can be imitated by using referring expressions that seemed suitable. Using identical story files, Curveship was able to generate narrations in the style of some specific works of American and English literature. For instance:

> The type of guy who can get a reservation at Le Bernardin walks to first class. He sits in seat 1B. I notice coolly. A male flight attendant glances at the famous guy's Air Jordan 4 Retro Kaws purchased from Flight Club. He sneers "sir, I believe you're in the wrong cabin" to the famous guy. The famous guy gets his boarding pass from his bespoke Michael Andrews sportscoat. He shows his boarding pass to the male flight attendant. The male flight attendant mumbles "oh, I'm sorry" to him. He pulls out a BIC pen from K-Mart on Astor Place and a Mead memo pad bought at Key Foods. He says "I shouldn't ask, but ... my daughter would really love to have your autograph."

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> This uniformed devotchka gasped. Sir Harry Styles had held his boarding pass against a scanner. He placed his boarding pass in his carman. He walked to the first class cabin. He sat in seat 1B. This forella reacted. A veck viddied Sir Styles's sabogs. He sneered "sir, I believe you're in the wrong cabin" to Sir Styles. Sir Styles got his boarding pass from his carman. He showed his boarding pass to the veck. The veck muttered "oh, I'm sorry" to him. He grabbed a pen and a notepad. He skazated "I shouldn't ask, but ... my daughter would really love to have your autograph" to Sir Styles.

Montfort and collaborators deemed these two results, which were attempts to imitate the style of Bret Easton Ellis's *American Psycho* and Anthony Burgess's *Clockwork Orange,* to be most successful. These are distinctive because of their use of brand names and locations of purchase, in the former case, and an invented dialect with new lexical items (but not much of a change in syntax) in the latter. Using techniques such as the addition of courtesy titles, Curveship also managed to suggest the style of Jane Austen, but less strongly. Austen's writing contains a good deal of commentary and often mentions family and social relations in a way that is harder to model. Discussion of this, along with source code from the story file and one of the narrator files, is provided in (Montfort et al. 2021).

7. Narrative Models and Large Language Models

Those who have heard anything recently about natural language processing in general, or story generation in particular, must have heard about ChatGPT (which originally employed "GPT-3.5") and GPT-4, created by OpenAI. ChatGPT and GPT-4, like predecessors GPT-3 and GPT-2, employs a technique known as deep neural networks (DNN) or deep learning, and specifically an autoregressive model developed by researchers at Google less than six years ago, called transformer (Vaswani et al. 2017). The original article on transformer has, as of this writing, already been cited more than 60,000 times. Since we first submitted the paper you are reading now, GPT-4 has been released along with a technical report on this new model (OpenAI 2023).

The "GPT" in OpenAI's systems stands for Generative Pre-Trained Transformer. In pre-training, a system of this sort ingests billions of words — the CommonCrawl data set of Web pages, with 410 billion words, is typically used, along with several smaller data sets. A Large Language Model's neural network has a massive number of different weights, settings, or, more commonly, *parameters.* GPT-3 has 175 billion. That model is also distinguished by its context window of 2049 tokens, meaning that it can consider a very long sequence at once. In the case of ChatGPT, other machine learning methods were used to develop the system, including supervised methods that were employed to keep the model from producing offensive outputs.

The context window for GPT-4 model is 32768 tokens, which easily spans all of Hemingway's *The Old Man and the Sea.* Although OpenAI released a lengthy technical report promoting the system (OpenAI 2023), they documented even fewer details about

the system than with previous models. OpenAI's GPT systems are in no way open. They are proprietary trade secrets, exclusively licensed to Microsoft. No peer-reviewed technical paper has been published about GPT-3 or GPT-4.

Thanks to publicity efforts and the clever, selective provision of access to recent GPT models, these have been the topic of a great deal of discussion on social media and in the news, where people have expressed concern about how such new models might automate existing jobs or even lead to artificial general intelligence.

Excitement, adulation, and fear have been directed largely at OpenAI's models, and to some extent at Google's Bard, but there are a wide variety of LLMs. The BigScience Large Open-science Open-access Multilingual Language Model (BLOOM) is, as the name says, a free and open model and tops GPT-3 with 176 billion parameters. Google Research has developed several proprietary models, including the Pathways Language Model (PaLM) with 540 billion parameters and Generalist Language Model (GLaM) with 1 trillion parameters.

While deep neural nets, autoregressive learning, and the transformer technique are not easily described, we can mention a bit about the essential idea behind how a Large Language Model operates. For instance, we can compare an LLM to a very simple type of generative model, the Markov chain or Markov process. A typical way in which this process would be implemented and used, for instance by a computer science student today undertaking an assignment, would be to have a program read in a book's worth of text and generate new textual productions that look one word behind the current word to consider what text to produce next. GPT-3 in contrast is able to consider not just the previous word, but four single-spaced pages worth of context, and rather than having read in a single book, it has read the equivalent of immense libraries, thanks to text available on the internet. GPT-4 goes far beyond that in context. The deep neural network architecture of an LLM also means that it can consider a sequence of words that is entirely novel and determine a probability distribution of words to follow it, something no Markov chain could do. Because LLMs can consider extremely long and novel word sequences and determine which words are most likely to follow, they are able to accomplish unprecedented and uncanny continuations of existing text.

LLMs are certainly formidable when compared to Markov chain generators, although at a very high level, the idea is similar. They predict, given some amount of language, what textual output is likely to follow the text provided. As we look closer at these systems and what exactly they model, we'll turn to the latest and greatest system to which we had access when we wrote this article: ChatGPT.

As you might expect from this comparison, the texts output by ChatGPT and GPT-4 exhibit impressive cohesion. One of the other remarkable characteristics of these systems, due to the immense amount of training they have received, is that they can produce replies, including narrative replies, about an enormous number of topics, seeming to function as competent storytellers. There are also numerous limitations of these

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models — their replies are often incorrect and, without special work from system designers to censor them, can be offensive and unethical — but to conclude our discussion here, we will focus on just one limitation.

Fundamentally, LLMs, including GPT-3 and the new and improved ChatGPT and GPT-4, are simply not models of *writing* (how human beings write) or of *narrative* (how human beings tell stories). A language model is simply a different sort of model, which can accomplish different tasks but should not be expected to offer insights into writing and narrative in the same way MEXICA and Curveship have.

Let us elaborate this idea. LLMs "know" how to continue word sequences. Given the text they are trained on, they produce an amazingly good probability distribution of words that would follow sequences of words, including very long sequences, including sequences that do not occur anywhere in the training data. Such probability distributions can be very useful in speech recognition and machine translation, for instance. But these models do not "know" anything about plots, about narrative, or even about grammar (Chomsky et al. 2023). They just "know" what word is likely to come next.

Because an LLM is a model, it has external parameters, which include the *temperature.* A low temperature gives very conservative and ordinary words. Indeed, if the temperature is turned all the way down to 0, there will be a deterministic result. A high temperature provides more unusual and unconventional outputs. Another parameter is *top-k,* which limits the possible choices to a list of k different ones. Like other LLM parameters, these pertain to the statistics of the text the model was trained on.

In contrast, MEXICA is fundamentally agnostic to natural language, which is why its plots can be rendered at the end of the process into English as easily as Spanish. MEXICA as a model embodies ideas about how to resolve tension (for example), but its main function is not modeling how to express the plot it generates. Some of the system parameters allow deciding the pace of development of a narrative and determining how similar the story context should be to the knowledge structures in the database.

Curveship, by contrast, is a text generator, but does not function by determining an appropriate next word. It takes an abstract representation of a narrative and renders that in a particular narrative style. Curveship's parameters are, collectively, called *spin,* as in the spin that one puts on a story. One of the parameters controls who the "I" or narrator of the story is — which character, if any, will be in that role. Another gives the ordering of events, which might result in events being told out of chronological order but might also cause ellipsis, the omission of certain events. The plot in every case remains the same: Curveship's parameters are all about how the plot is actually expressed or told.

We hope this discussion explains why LLMs, however impressive, don't do the same thing as models of human writing processes or human narrating. It's also worth noting that the particular proprietary system we used here, ChatGPT, has already been changed and tuned up by OpenAI, making the closed "December 15" version that we used inaccessible. This means it is impossible for researchers in the future to repeat

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our experiment. OpenAI (a corporation dedicated, again, to closed systems) is bent on automating customer service representatives and providing entertaining chatter, and has no stake in advancing humanistic knowledge and understanding. However, there are LLMs which, like Curveship for instance, are free and open source. These include BLOOM, the English-based GPT-NeoX with 20 billion parameters and another model, pre-trained with French-language data and using 6 billion parameters, called Boris. We expect these models may be able to allow us to learn, for instance, about the relationship between English and French as represented in digital and digitalized writing. Even then, we should be aware that this is not the purpose for which LLMs are created. In this way, they differ from research models such as MEXICA and Curveship which are specifically made for purposes of particular types of inquiry.

Conclusion

ChatGPT and GPT-4 are both closed, proprietary models; they change all the time so experiments are not reproducible; and the actual numerical parameters of the LLM are about probability distributions of words, not plot or narrative style. By contrast, we have built models of plot and narrative for the specific purpose of inquiring about these, not about the way words follow from one another. The construction of MEXICA, Curveship, and systems like them follow four main steps:

1. Development of a cognitive/narrative model that describes aspects of narrative generation.
2. Transformation of that cognitive/narrative model into a computer model.
3. A detailed study of how each of the elements in the computer model interact, and how they manipulate and transform information.
4. Evaluation of the outputs produced by the systems and analysis of the relation between the output's features and the elements and parameters of the model.

Each step in their construction can contribute to our overall understanding of the generation of narratives.

Stories are essential to human beings and our communication, the ways we process experiences, and how we make sense of the world. However, we still know too little about the mechanisms necessary to create and tell stories. Some systems, including MEXICA, computationally model the cognitive processes associated with creative writing. Others, including Curveship, computationally represent methods of narrating. These systems are also open and allow for parametric changes and experimentation. However impressive and surprising recent large language models may be, they do not serve the purposes of models such as MEXICA and Curveship. The types of inquiry we can undertake with these domain-specific research systems give us powerful new ways to learn about human storytelling and possibilities for narration, building on cognitive accounts and humanistic theories.

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A Portrait of the Artist as an Emergent Technology

Um Retrato do Artista como uma Tecnologia Emergente

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Abstract

This paper is about the birth of an author. It is about the contested terrain of authority, not as a debate between human readers and writers engaged in philosophical conflict over the relationship between individuals and their respective societies, but about the very termination of philosophical debate between individuals as the terrain of culture in an age of artificial intelligence. Weaving through a history of the subject in the social sciences and arriving at the end point of a cybernetic relationship between surveillance and machine intelligence, this paper posits that the human has become a text, and the machinic apparatus its reader and writer. In other words, this paper is about reading and writing after the rise of Artificial Intelligence and its implications for our understanding of the human person, or anthropology.*

Keywords

artificial intelligence | prosopopoeia | individuation | surveillance | interrelationality

* My use of the term "anthropology" is intended to be indifferent to the history or methods of Anthropology as an academic discipline. Instead, I use anthropology to refer to the development of a theory of "the human."

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Resumo

Este artigo trata do nascimento de um autor. É sobre o terreno contestado da autoridade, não como um debate entre leitores humanos e escritores engajados no debate filosófico sobre a relação entre indivíduos e suas respectivas sociedades, mas sobre o próprio término do debate filosófico entre indivíduos como o terreno da cultura em uma época de inteligência artificial. Tecendo uma história do sujeito nas ciências sociais e chegando ao ponto final da relação cibernética entre vigilância e inteligência da máquina, este artigo postula que o humano se torna um texto e o aparato maquínico seu leitor e escritor. Em outras palavras, este artigo é sobre ler e escrever após o surgimento da Inteligência Artificial e suas implicações para nossa compreensão da pessoa humana, ou antropologia.

Palavras-chave

inteligência artificial | prosopopeia | individuação | vigilância | inter-relacionalidade

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The Genealogy of the emerging Authority

> The artist, like the God of creation, remains within or behind or beyond or above his handiwork, invisible, refined out of existence, indifferent, paring his fingernails.
>
> — James Joyce. *A Portrait of the Artist as a Young Man* (1916, 249).

Since at least the myth of Prometheus through Aristotle and Kant, there has been a recurring conception of the human as distinct from other animals due to our capacity for reason. Ironically, the conception of the human as a "rational animal" came under critique as the empiricist turn of the Enlightenment gathered steam. Two key aspects of the Enlightenment construction of "the human" create a productive tension that is relevant to this argument: In the first order, this human came to be seen as intensely individual via the subjective encounter of the self. This discovery of the self was a continuation of the established interest in the soul's moral journey in the world (like *Piers Plowman,* which is an allegory for the Christian spiritual journey), gradually shifting towards its secularization in *bildung*, "the early bourgeois, humanistic concept of the shaping of the individual self from its innate potentialities through acculturation and social experience to the threshold of maturity" (Sammons 1991, 42). In the second order, there was a desire for an objective, descriptive account of the human, stemming

from the birth of the Scientific Method. In this instance, we see the effort to understand human existence through philosophy and, eventually, social science. These two orientations towards the human create tension in Modern thought and language. The concept of *prosopopoeia* identifies a way to bridge this tension. Taken from the Greek, it literally means to "create a face," and is used to personify an inanimate object or speak on behalf of an absent or imaginary person. Prosopopoeia allows us to see the subjective through the empirical, by investing the material world with significance and positioning the human witness as an observer.

In *Book III*, Quintillian (c. 95) identifies *prosopopoeia* as a technique intended to draw a figure forth, to conjure an entity into the imagination as a rhetorical device by which an idea can be discussed on behalf of one who is not there. In this term, a number of modern and postmodern critics, most notably J. Hillis Miller, have found a useful critical concept (one which ought to resonate with the Foucauldian understanding of discourse as the foundation for consciousness and subjectivity). Miller, for example, notes how the trope of prosopopoeia a "ascribes a face, a name, or a voice to the absent, the inanimate, or the dead" (1990, 3-4). In other words, prosopopoeia is the means by which a subject is conjured forth through language and animated by its capacity to function meaningfully to the reader. We cannot miss the fact that the ultimate subjectivity expressed in the ascription of agency to the inanimate resides not in the object itself, but in the mind of the interpreter.

Although the Enlightenment rises with an elevation of the rational, it is this primacy of the observer that undermines the reliance on an essentialist definition of the human (or the animal, for that matter). The awareness of our own unreliability as narrators drives us towards the desire to reconcile this tension. From here, we see a pivot away from "human nature" as a pre-existing condition and towards "human being" as a descriptive project (and, by implication, a growing movement towards the sense of the human being as "becoming"). One epistemic fix for this tension is to see the human as entering into language, culture, and civilization, with a certain potential for perfectibility in mind, preserving a belief and desire to find order in a world that we enter into as unreliable observers.

There are many ways in which humans find order and pattern in seemingly noisy environments. The scientific method is the clearest example of this. Certainly, the Modern romanticization of the "genius" and the "idiot savant" (in the 21st Century, the "autistic") personalize the figure of the individual who sees sense in the noise of chaos and daily life, finding clues and connections in what most others see as static. This fascination seems to rise with a kind of Modernist attitude which desires to see the natural world and, eventually, the social world through a positivist lens, governed by deterministic rules. This deterministic tendency, associated with what would come to be called Structuralism, was part of a more generalized perspective on anthropology, and the hope of underlying, determined structures came to dominate social theory, developing into early 20th Century racial theories, behaviorism, humanities, and linguistics.

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Ironically, the pursuit of clarity does not always resolve the tension between subjectivity and objectivity. Indeed, one possibility is that the tension between the subjective and objective, rational and irrational, finds alignment with deeper ideological formations. As these materially descriptive and procedural approaches to describing humans develop, the human is supplanted by more open-ended concepts of being. For this turn, Terence Hawkes credits Giambattista Vico's call for a "physics of man" in Vico's 1725 work, *The New Science* (1977, 2). Hawkes identifies the dual impact of Vico's work, on the one hand, explaining that myths arise from "the actual generalized experience of ancient peoples" and that they are shaped by "the human mind itself" (1977, 3). However, in identifying the notion that myths spring from internal qualities of the human mind, Hawkes explains,

> human beings and human societies are not fashioned after some model or plan which exists before they do. Like the existentialists, Vico seems to argue that there is no pre-existent, 'given' human essence, no predetermined 'human nature'. Like the Marxists, he seems to say that particular forms of humanity are determined by particular social relations and systems of human institutions. (1977, 4)

Hawkes sees this pivot as significant in the rise of what would become Structuralism, for it at once shrugs off metaphysical explanations for culture and civilization, situates the grand narrative tendencies of the human imagination under material causes, and posits that culture is socially constructed. Hawkes draws a connection between Vico and Claude Levi-Strauss, who wished to "produce a 'general science of man' as well, informed by his basic conviction that 'men have *made* themselves to no less an extent than they have made the races of their domestic animals, the only difference being that the process has been less conscious or voluntary'" (1977, 20). Levi-Strauss's contribution to the field of anthropology was, similarly, bifurcated, for in claiming deep systemic structures within the "savage mind," he simultaneously argues that culture itself has no linear meaning and that the typical person is unaware of these deeper structures. Hence, there was a kind of metarationality to social life without awareness on behalf of its subjects. This could be true. It could be questionable. In either case, such a claim is necessary to make the phenomenology of being fit into the objective account that Levi-Strauss wishes to provide. The reality is that for this account to be real, things like difference and creativity must become unreasonable. In other words, irrationality (or capriciousness) gradually replaces freedom as the defining feature of the modern human. And the "Rational Man" (whose irrationality finds expression in freedom and sensibility) is realized in the bourgeois subject through education and the irrational finds expression in the construction of the masses (whose rationality is in their behavioral generalities and animality). In other words, the competing Modernist notions of the human are resolved through the ideological formation of class.

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Naturally, this shift has the effect of elevating the technical expertise (as produced via *bildung*) of theory over society. And society becomes reducible to "the masses," who occupy a similar (though, perhaps, more neutral) relationship to the intellectual, managerial, and capitalist classes as "savages" did to anthropologists, missionaries, and colonizing forces. And this shift is reflected in other thinkers who, though they were not seeking to provide a systemic account like Vico's political theory or Levi-Strauss' anthropology, nevertheless, exhibit the same tendency. For Darwinians, the current state of any biological being is a still moment in a larger evolutionary process, a freeze frame in a dynamic trajectory. For Marxists, who borrow from Hegel's dialectical view of history, being is an expression of the subject enmeshed in the struggle of material relations. There is a dual effect with regards to the implications these shifts have on the construction of the public as the masses. The tendency here is for the observers (elites and intellectuals) to see themselves as liberated by the loosening of being, while the subjects of their rule are seen as diminished under the loosening of being. This pattern is expressed in many Modern enterprises, notably in the perverse psychology of colonialism which constructs exaggerated gender binaries (native masculine as "aggressive" and "hypersexual", feminine as "demure" and "seductive") to justify pacification as moral duty.[1] In Nietzsche, the implications of this openness for ethics is explored via the concept of the *ubermensch*, the person unfettered by the metaphysical strictures of an obsolete order, who is thus freed to transcend the past and enter into the future.

In *The Postmodern Condition: A Report on Knowledge*, Jean Francois Lyotard explains the crisis in modernity as "the obsolescence of the metanarrative apparatus of legitimation" (1984, xxiv). By metanarrative apparatus, he is referring to the large systems of meaning that, under modernism, supplied order and coherence to the social world. He continues, "knowledge and power are simply two sides of the same question: who decides what knowledge is and who knows what needs to be decided? In the computer age, the question of knowledge is now more than ever a question of government." (1984, 8-9) In this text, which was panned for its fast and loose engagement with contemporary science and which Lyotard himself disavowed, there are nevertheless powerfully sensitive prognostications about the impact of computation on culture, the shift towards performance-based measures of the person, the crisis in higher education, and the coming incoherence of culture and society. Bernard Stiegler's generous return to this contentious text is useful in that he frames Lyotard (along with Foucault, Deleuze,

1 This phenomenon is described in Anne McClintock's *Imperial Leather* (1995). Notable here is the way in which the colonizer's mindset simultaneously constructed native masculinity as a threat to an innocent femininity that required protection by the civil norms of the colonizer. However, this gender dynamic had an inverse expression, as well, with the native feminine presented as alluring and seductive to the colonizing male, while the native male was considered to be unmasculine and childlike in other contexts. The result was a colonial attitude that could rationalize sexual exploitation under the guise of paternalism, while also framing the colonizers as "innocent" for any consequent indiscretions that this dynamic unleashed. The pattern, in general, is to position authorities in a paternalistic relationship to dispossessed populations, framing exploitation as benevolence.

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and Derrida) in relation to the "structuralist euphoria" that preceded them as the dominant dogma of the intellectual scene (2015, 84). The dream of a society built upon the bedrock of reason is simply insufficient for the maintenance of culture. Stiegler synthesizes this point:

> Reason (if we must and we still can refer here to reason) passes through these islands [Kant's *faculties*], opening passages in which languages form, over and above which there is no universal language, as the classical thought of the seventeenth century believed, nor any 'synthesis', nor any 'meta-discourse of knowledge', nor a universal subject, as idealist speculative thought believed, and as did, later, the materialism of the nineteenth century. (2015, 84)

Stiegler continues to recommend a re-reading of Hegel and Marx for a similar revision under the light of the emergent technical milieu.

The Poststructuralist turn, even as a continuation of the Structuralist drift, was a watershed moment that provoked prescient speculation of what would come next, though its impact was ironic. For though the Poststructuralists debunked many of the totalizing errors of their predecessors, the ultimate impact was to disrupt the humanities as the terrain for the explanation and preservation of culture. The humanities (and arts) do not provide a coherent narrative for the human, our deep origins, our natural disposition, or our destined purpose. In reality, regardless of the former transcendental aspirations of these disciplines, they simply cannot provide an empirical account of the human as biological animals derived from species evolution equipped with a physical sensory apparatus that processes stimulus via electrochemical processes, subject to a materialistic milieu governed by political and technical constructs, whose destiny is determined by policy, innovation, and biomedical intervention. We lost, rather convincingly, the faith in the Grand Narratives, but never managed to restore human consciousness to anything of significance beyond mere "bricoleurs" and, as time would wear on, enthusiastic consumers of fetishized commodities.[2] Meanwhile, science (especially applied sciences like computer science, biomedicine, engineering, aerospace, etc.) and social science (especially economics, linguistics, neuropsychology,

2 Certainly, Michel de Certeau's discussion of "making do" in *The Practice of Everyday Life* (1984) is a noble attempt to preserve the dignity of the dispossessed against the totalizing tendencies of his contemporaries. His understanding of the fundamental disconnect between the theoretical survey of the social landscape and the practice of everyday life as a kind of "poaching" is a high moment in cultural theory, but his ultimate success as a scholar has led to severe distortions of his work in the present moment. Specifically, the characterization of consumer practice as "poaching" forges a strange hybrid between "governmentality" (Foucault's neologism for the internalization of the panoptic gaze in consumer societies, introduced in "Technologies of the Self", 1988) and "neoliberalism" (which reframes the rights and duties of citizenship as a series of economic choices that take place in a privatized public sphere, and is discussed in David Harvey 2005). DeCerteau's poaching, under the influence of Henry Jenkins, becomes reimagined as a kind of creative consumerism, epitomized in fan communities and, later on, in social media platforms (1992).

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management, psychiatry, urban planning, etc.) have stepped in to perform the descriptive and prescriptive roles of the humanistic disciplines.[3]

This loss and its impact on literature is gestured at in Barthes' "Death of the Author" (1968) and Foucault's "What is an Author?" (1969), both of which arrive largely as reactions to the Modernist cult of "genius," which placed an aura around the writer of great works as a singular character, whose every word was a calculated move culminating in the creation of their masterpiece. For Barthes, the elevation of the author came at the expense of the reader and tended to foreclose upon the possibility of divergent, creative, and active responses to the work in the minds of the readers. Foucault, by contrast, elaborates on the way in which Authority is constructed, while also recognizing the necessary discursive function of a singular figure who is responsible for providing a kind of coherence to the text appropriate for the cultural practices of readers. Still, he imagines a future point at which the text and its readers will not depend upon this conceit, when another kind of writing will take place, one which allows meaning to proliferate within a different set of constraints.

In some sense, Foucault's notion proved to be true, as contemporary audiences are accustomed to all sorts of polysemous, collaborative, anonymous, and unstructured texts in the transmedia landscape. Social media platforms function as a cacophony of interjections by known and unknown voices, with the conceit of "the participatory" as the marker of its authenticity. Similarly, we consume a wide range of industrially manufactured texts that are designed by entire production teams. We propagate memes with no provenance and no expectation of credit. While authors still exist and books are still published, they do not hold the same economic (and, for many, cultural) value as films, video games, streaming media, or social media content (and, in fact, books are increasingly raw material for transformation by more thoroughly industrialized processes, such as *Harry Potter*, *Jurassic Park*, *Hunger Games, LOTR, Twilight*, *50 Shades of Grey*, *Bond,* etc.). Consequently, the notion of the human author appears increasingly unnecessary, vestigial, even subversive, as the text does not arise from human authority. This does not mean we do not cling to new forms of Authority to provide order and structure: branding, intellectual property, platform moderation, code, and expertise now provide a disciplinary structure to meaning. Authority and authorship have become totally impersonal.

The Postmodernists' success is in describing the phenomenological experience of culture belying its function. Aesthetically, postmodernism was an eclectic barrage of information which Baudrillard described as hyperreal, a state in which the symbolic order masks reality altogether. These perspectives on being give way towards the more contemporary understanding, which is of the human being as something that is networked

3 These approaches to the human tend to be functionalist in their emphasis on the optimal continuation of life (as consumption, labor, cooperation, and resilience) as biopower harnessed for the continuation of the established technical trajectory. It could be seen as a kind of neo-structuralism that is based in computer "modeling" rather than theoretical "abstraction."

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and under construction, with no predefined end beyond transcendence of the self. This transcendence is not metaphysical, rather it is the material disintegration of the current self as a process of being. What we lose in the death of the human as a "rational animal," we gain in what Deleuze called "pure immanence" (2005). Though we could argue that the utopian potential of this trajectory appears rather tarnished, when we consider the exploitation of the drive for transcendence as self-actualization through runaway consumer practices, personal branding on social media, the hustle and grind of the gig economy, and other expressions of neoliberal lifestyles.

Though the postmodern moment was largely proto-digital, coming into being at the beginnings of global telecommunications, digital analytics, personal computing, and the pivot from print to audiovisual, it anticipated things to come. The dreams of the Modernists have come to fruition without friction, as our contemporary anthropological understandings are framed by neuropsychology, genetics, choice architecture, and artificial intelligence. The prevailing episteme is one in which the human mind is largely seen as a kind of inferior computer, with the body itself a prosthesis, carrying out the thoughts of a brain that can be programmed through the right mix of chemical, electrical, and informational triggers. If prosopopoeia is an occasion for reflecting upon the emergent tensions of the human under Modernist eyes, the historiographic method of *prosopography* emerges as an applied data-driven approach to humanities research in the post-digital era. According to Koenrad Verboven, Myriam Carlier, and Jan Dumolyn's "Short Manual to the Art of Prosopography":

> Prosopography integrates more or less large numbers of descriptive individual biographical studies into quantitative and statistic research on the combined total of these biographical studies.
> The ultimate purpose of prosopography is to collect data on phenomena that transcend individual lives. It targets the common aspects of people's lives, not their individual histories. The typical research objectives are such things as social stratification, social mobility, decision-making processes, the (mal)functioning of institutions and so forth. We are looking for general factors that help to explain the lives of individuals, for what motivates their actions and makes them possible: for example, families, social networks, patrimonies. (2007, 41)

As the historical biographer attempts to paint a picture of the individual through intimate research and study, the prosopographer attempts to paint a picture of consciousness through the detailed analysis of mass data. This quantitative approach, along with related Big Data, visualization, natural language processing, and (some, but not all) other digital humanities practices gesture towards an epistemic shift in the description of the human. Deleuze's "Postscript on the Societies of Control" summarizes the situation: "We no longer find ourselves dealing with the mass/individual pair. Individuals have become '*dividuals*,' and masses, samples, data, markets, or 'banks.'" (1992, 5)

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Next to this abstracted and distant view, the human as agent in culture appears like Herbert Simon's ant. Simon explains,

> An ant, viewed as a behaving system, is quite simple. The apparent complexity of its behavior over time is largely a reflection of the complexity of the environment in which it finds itself possessing only the semblance of complex intelligence produced by the aggregated accumulation of provisional reactions to a complex environment. (1996, 52)

And though Simon's observation feeds into the construction of an approach to computation as Artificial Intelligence, the phenomenological experience of AI as a psychological, social and cultural investment depends entirely on a reductive account of human cognition which is rooted in the quick reaction to stimulus, rather than deliberation and reflection. Next to this, AI appears as a superior intellect, capable of anticipating and performing every task (if not now, eventually) and increasingly invested with decision-making authority over the masses, which are seen as Human Resources to be managed. Taken together, we see a collective disenchantment of the human self and elevation of "smartness."

The Smartness Mandate by Orit Halpern and Robert Mitchell provides a useful vantage point of the epistemic framework (2023). Key to this study is a genealogy of the idea of "smartness" both as a practice and an ideology. Tracing the roots of this concept back to Thomas Malthus' 1798 text *A Principle of Population*, Halpern and Mitchell weave a path from the Malthusian concept of "population" through Friedrich Hayek and Ernst Mayr as uncanny twins leading towards theories of "population thinking." The innovation of Mayr and Hayek is to think of populations as engines of cognition, capable of demonstrating intelligence via collective action, but unable to "'learn' in the traditional sense" or "consciously 'know' anything" (Halpern and Mitchell 2023, 46). Indeed, this situation induces a kind of atemporality of being, "in which there is no verifiable 'outside' and no need for...the past *as* past or memory" (Halpern and Mitchell 2023, 115). This is a new conception of intelligence, as not consciously driven by the individual, but expressed as an accumulation of small decisions that add up to meaningful signals. This parallels the cybernetic notions of machine intelligence in which simple logical instructions can produce the appearance of intelligence when carried out at speed and scale. And more still: the prospect that this data can be used to project the future and steer the future is a fundamentally new epistemology, as Halpern and Mitchell contend. This supplies the backbone of the "smartness mandate."

Predictably, we are inoculated against our own self-awareness of this situation and its antisocial implications (*Ars Industrialis* characterizes this social detachment as *incurie*, or carelessness [2010]). The deconstructed self follows the familiar pattern of the social theorist who imagines the masses as rubes incapable of autonomous thought, while the intelligent observer is immune from the seductions of ideology (or, more

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nefariously, empowered to engage in paternalistic manipulation). In part, it is human habit to imagine ourselves as exempt from common pathologies (or at least accountability). In part, it is the design of cognitive capitalism to assign privileged positions within managerial hierarchies based on one's consciousness. Our capacity to notice the proletarianization of culture is held up as proof that it isn't working, at least, not on us. But mainly, our ignorance (or even celebration) of cultural deforestation is achieved through brute application of contemporary myths of progress.

Outside of the myth of progress are a variety of persistent folk anthropologies, many of which appear (and to varying degrees are framed as and/or actually are in fact) reactionary. Here are theories of everyday life as resistance to centralized control, the ad hoc epistemologies generated by various subcultures, new kinds of neo-luddism, religious theologies and spiritual philosophies, and many strains of populism (ranging from anarcho-socialism to neo-fascism, classical liberalism to religious fundamentalism). These theories are marginal, often defined piecemeal in opposition to specific points of critique. They are often depicted in negative terms as they are correctly understood as subversive to an orderly society managed by enhanced engineering techniques, and generally associated with ignorance or stupidity. Despite the absence of a coherent representation within the larger cultural sphere, a coherent system of critique along the lines of the Marxist critique of the Industrial Revolution, postcolonial critiques of Imperialism, or the abolitionist critique of slavery is a very likely, if currently unrealized, possibility. On the other hand, the very terrain of cognition itself as the site of struggle might make such critiques less likely, as perception, reflection, and expression all require cognition to propagate resistance across a population. Attacking a population or cutting them off from material resources depletes their ability to resist, but also agitates the target population against the aggressor. Directly impeding their access to information, their thought processes, and manipulating interpersonal communication, on the other hand, frustrates resistance in the target population without the application of material force. Whereas Gramsci understood hegemony to be produced indirectly through the accumulation of a network of social and institutional processes and actively marginalizing contrary views, by directly inserting itself into culture as a ubiquitous observer, facilitator, and interlocutor, systemic AI is capable of manufacturing consent directly.

How do we find ourselves here? Or, the death of the reader

> When I came to, as I thought, from my swoon, I realized that the sloop was plunging into a heavy sea, and looking out of the companionway, to my amazement I saw a tall man at the helm. His rigid hand, grasping the spokes of the wheel, held them as in a vise. One may imagine my astonishment. His rig was that of a foreign sailor, and the large red cap he wore was cockbilled over his left ear, and all was set off with shaggy black whiskers. He would have been

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> taken for a pirate in any part of the world. While I gazed upon his threatening aspect I forgot the storm, and wondered if he had come to cut my throat. This he seemed to divine. "Señor," said he, doffing his cap, "I have come to do you no harm." And a smile, the faintest in the world, but still a smile, played on his face, which seemed not unkind when he spoke. "I have come to do you no harm. I have sailed free," he said, "but was never worse than a *contrabandista*. I am one of Columbus's crew," he continued. "I am the pilot of the *Pinta* come to aid you. Lie quiet, señor captain," he added," and I will guide your ship to--night. You have a *calentura*, but you will be all right to-morrow." I thought what a very devil he was to carry sail. Again, as if he read my mind, he exclaimed: "Yonder is the *Pinta* ahead; we must overtake her. Give her sail; give her sail! *Vale, vale, muy vale*!"
>
> — Joshua Slocum, *Sailing Around the World* (1900).

People in extreme states of isolation and trauma (stranded at sea, mountain climbers, prisoners in solitary confinement) are reported to hallucinate social companions. In a famous instance, Captain Joshua Slocum, the first person to navigate the world alone, reported a visitation from the pilot of Christopher Columbus' ship, the *Pinta*, who took the helm of his boat and navigated it through 90 miles of turbulent seas. In a more recent incident, a mountain climber describes his friend "Jimmy," an imaginary companion encountered on the slopes of Mount Everest (Windsor 2008). In the contemporary literature, this phenomenon is known as the "third man factor." But even apart from full-blown visual and auditory hallucinations, we can safely accept as normal, the draw of social engagement triggered by actual, but sparse, communication. In isolation, for instance, prisoners will often content themselves by talking to themselves, passing notes, scratching messages into stone, or even using simple tap codes, which provide some texture of sociality to what is an otherwise impossible situation.

To return to the subject of prosopopoeia, we can benefit by understanding its dual nature, as that which marks absence with presence and presence with absence:

> If prosopopoeia is a cover-up of death or of absence, a compensation, its power is needed even in my relation to my living companions. My neighbor is always somehow absent even in moments of the most intimate presence. Personification both covers over these blank places in the midst of life and, sooner or later, brings them into the open... They are etiological myths expressing our sense that an obscure human life is diffused throughout nature—in the sighing of branches, in the whispering of water in a fountain, in the dancing of a daffodil. (Miller 1990, 4)

As a linguistic tool, this practice is tied to the very vital roots of semiotics. Moving beyond the mere representation of objects, and towards the invocation of entire systems

of thought, imagined processes of subjectivity, and the development of "presence" beyond materiality, such tools of consciousness enable not only the simple substitution of words for objects, but the realization of worldviews, frames of reference, personalities, characters, ourselves.

Prosopopoeia thus represents a fecund promiscuity of the human imagination that seeks individuation in the larger world. Pushing back on the Enlightenment construction of the human as an individual sovereign subject with the potential for perfection (or at least progress), a number of scholars have posited that human being exists only in relation to others. Rene Girard (1987) introduces the idea of the "interdividual," Emmanuel Levinas (1998) the "intersubjective," and Simondon (1964) the "pre-individual," all pointing to the insufficiency of an ontology of the human as a monad. Rather, they define the primary experience of the human in social terms, suggesting that the individual is what comes into relief via social processes. With this understanding in mind, the orientation towards the other is rightly understood as a fundamental component of the experience of the individual as meaningful in the world. It makes sense that the human would strive for connection, even to the point of inventing new opportunities of communication (as with the various codes used by those in solitary confinement), new personalities (as in the case of prosopopoeia), and even phenomenological ghosts (as in the case of hallucinations). In cases of severe psychological, social, physical, or spiritual duress, it seems likely that the mind reaches out in radical ways, even unwillingly, to engage the other and to make the world meaningful. The same impulse which inspired humans for millennia to gaze into the world to find animals in the clouds, gods in the stars, and spirits in nature drives us to hear voices in static, faces in manufactured objects, and intelligence in the patterned feedback activities of machines. This tendency is critical to our relationship to the tools that we are currently adopting at a fevered pace.

How much more does our apophenia engage in artifacts that are designed to engage us—in works of art and literature intended for us, narratives that break the fourth wall and address the viewer, games and digital interfaces that require our interaction, robots created to look and act like us, and AI tools which are designed to take on the appearance of autonomy. Over a decade ago, in a talk at the TechCrunch Disruption Conference, Google CEO, Eric Schmidt imagined that Google would become a "serendipity engine," freeing users from wasted time by presenting users with a virtual world that would rise to meet them, running autonomously, based on data harvested from their many networked devices, past behaviors, and social circles (Siegler 2010). Obviously, the ability to enfold users in a feedback loop between surveillance and AI was unrealized in 2010, but with the advent of high speed broadband, mobile computing, the Internet of Things, and the aggressive marketing of ubiquitous surveillance as inevitable and helpful, the harvesting side of the equation was able to feed analytic models that could be constructed, trained, and fine-tuned to round out the equation into a fairly robust analytic loop.

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Our ancient tendency to anthropomorphize even the crudest objects and phenomena prime us for faith in this cybernetic apparatus. And this has not been lost to the designers, who continue to innovate along these lines. Behavioral Economics, Neuromarketing and Choice Architecture have influenced the development of our interfaces and experiences. Cognitive psychologists have driven the development of neuromarketing, which makes special use of brain imaging, biometrics, and behavior in digital networks to tap into the emotional and affective aspects of decision-making and to confound otherwise rational choices. In the literature, you will find discussions of the buying styles of the depressed, obsessive compulsive, and those with ADHD. In addition, you will find discussions of serotonin and love, and how best to tap into those feelings to better sell a car or computer or soft drink. While the idea of finding psychological keys to the consumer psyche is, at times, a bit like snake oil, it is backed by clinical studies and investment by major brands. Zurawicki (2010) discusses what we learn about individual cognition from internet gaming, everything from learning ability to attitudes towards risk to social behavior, all of which can be turned into an opportunity for the marketers to capture the affect of a target. At the collective level, we see similar tendencies arise in the field of behavioral economics, which can be described as an approach to economics which looks beyond the individual as a rational actor, and instead looks to emotional, social, cognitive, and affective dimensions to decision-making. Richard Thaler and Cass Sunstein have emerged as advocates for "soft paternalism", or behavioral "nudges" that can be embodied in things like "a disclosure policy, warning and a default rule" (2009). They continue, "some forms of paternalism impose material costs, such as fines on people's choices in order to improve their welfare. Other forms impose affective or psychic costs, as in the case of graphic health warnings, which might be designed to frighten people." (2009, 41) Underlying Thaler and Sunstein's approach are their assertion that "choice architecture is inevitable and that behavioral failures do, in fact, justify certain forms of paternalism" (2009, 41). In other words, manipulation takes on a kind of moral imperative for those with the means to implement it.

The long, and often trouble-making propensity for seeking human connections and conjuring them up from artifice speaks to our vulnerability. When juxtaposed to the pervasive feelings of anomie, alienation, and loneliness that seem to be increasing (not to mention the uptick in anti-social outbursts, ranging from trolling to mass shootings), the emergence of seemingly intelligent voices modeled on a vast field of social surveillance and entrained on user-supplied queries would hold a natural attraction for the public. However fleeting this crush may be (and whether or not it is superseded by other fantasy friends—Galatea, Eliza, Clippy, Tay, Siri, Alexa, Deep Fakes, Dall-e, Midjourney, GPT, there are so many.), the underlying mechanisms will continue to feed a sprawling world of ambiguously authored texts. The Metaverse will be an integrated transmedia ecosystem of artifacts that incorporates all things, animate, inanimate, and in-between, into its context. Its ability to capitalize on our deep social longings with its

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unrequited love will initiate a new phase of being: The assemblage analyzes actions and generates behavioral triggers, and we are the manipulable units, both input/outputs.

In other words, we *are* the narrative. The dispossessed are the expressive texts read, analyzed, and eventually edited by an apparatus that ultimately seeks to prescribe a wide range of social behaviors. The machine has become both our reader and our writer. This authority has profound implications for an anthropology of the future.

Who says what to whom in what channel?

> i am a stochastic parrot, and so r u
> — Sam Altman (@sama), CEO of OpenAI, tweeting on 4 December, 2022.

We cannot avoid the sudden disruption that has thrust AI into the center of public consciousness. Some artists argue about the end of art and the implications for intellectual property, while others celebrate the sense of achievement they derive from plugging phrases into a machine that can render their dreams with limitless virtuosity. Some academics worry that machine writing will make assessment hard, while others see an opportunity to accelerate research. For most people, it is an entertaining curiosity or a harbinger of a sci-fi dystopia, a kind of oracle that routes our subconscious desires through a generalized repository of cultural knowledge.

Beyond these practices, artists, especially literary artists, play a peculiar role in the exploration of these technologies. In his work, *The Listeners* (2015), John Cayley (who is a long-time critic of Google's linguistic strategy), targets this phenomenon directly through a modification of the *Alexa* app. Making use of *Alexa's* virtual response to oral queries provided by the user, *The Listeners* embarks on a generation of the work that continually reminds the user of the surveillance apparatus that drives it. The goal of the work moves in two trajectories. Firstly, it is an interactive, generative text that explores the affordances of voice and speech as a poetic project enabling the user to play with language. Secondly, it makes *Alexa's* designed convenience as a voice assistant obtrusive as a *poetic* intervention in the instrumental character of the larger logic of the interface. *The Listeners* reveals key aspects of the surveillance apparatus, in such a way that we are no longer ants wobbling along the pheromone trail, but active interlocutors in the network space.

Allison Parrish's work deals more directly with text generation itself using a variety of Large Language Models (LLMs). *Reconstructions* (2020) generates poems from a hacked variational autoencoder neural network trained on the Gutenberg Poetry Corpus, which functions by compressing text and decompressing text to generate new linguistic variations, modeled off of similar image processing files. Her work, *Wendit Tnce Inf* (2022), on the other hand, generates "text" as images trained on real English words processed through a generative adversarial network (GAN) to create an unreadable text

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that appears to be constructed from existing letterforms. If this sounds absurd, it is, as the work consists of entirely unreadable text that only appears to be human language. In these works, as well as the broader corpus of Parrish's writing, we see a consistent effort to explore the potential for machine generated language consistent with the practices of the NaNoGenMo, Bot, and Combinatory literature communities that have been a part of digital literary practice going back for years.

In a vastly different idiom, Ian Hatcher's *Prosthesis* (2016), especially in live performance, explores the relationship between human and machine by modeling his own voice after text-to-speech software, mimicking its uncanny rhythms with impeccable vocal skill. Taken in the context of an oeuvre that explores the place of the human body in the post-digital landscape, Hatcher's work turns the presumed acclimation to rapidly changing social conditions into objects of critical scrutiny.

Similarly, a number of recent forays into LLMs like Meanwhile Netprov's "Grand Exhibition of Prompts" and a flurry of aggressively applied explorations taking place in real time with results shared on social media engage with these innovations in a revealing way. While at this point, it is not entirely clear what will come of this emerging and unpublished body of works, several stand out. For instance, Talan Memmott (2023) has produced a series of images exploring visualizations of laryngectomees in the style of fine artists, representing a largely invisible disability in a variety of historical idioms. Similarly, his work with AI voice reconstructions takes the generative process away from print and image, to explore machine orality beyond novelty, as a function of necessity. Jason Nelson and Scott Rettberg, on the other hand, have explored the ability of LLMs to generate functional code for aesthetic purposes, teasing out one of the more profound implications of machine intelligence as the reader and writer of our experiences.

There is always the risk with digital art that it will go no further than a celebration of novelty and end in banality, serving as a missionary force for the advance of power. But digital literature also has the strong potential to perform a critical function, serving as a lookout station that can warn us of things to come. If the critical posture is framed in relation to the current episteme (our "smart" era of platform capitalism) rather than the one that was displaced decades ago (the collapsed Modernity discussed by Lyotard), we are served by a powerful partner for mapping the occult contours of Black Boxed authority. In the instances mentioned above, these works engage with the modeling of human expression trained on our behaviors in a way that makes the process the object of our active attention. Through the exploratory practice, we might not be able to fully see (much less comprehend) the intricate proprietary machinations of Platform Capitalism, but by dropping pebbles in the well, we can gain a sense of where the bottom is before plunging headlong into its abyss.

Indeed, the significance of this creative, if largely playful, sounding of the LLM well is not lost on the titans of this realm. In a revealing turn, Alphabet (formerly Google) has declared a "Code Red" over GPT. They identify it as a rival to Google Search that

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could "make or break" the company's future (Grant and Metz 2022). Rather than focus on the potential for AI to disrupt human culture, the concern is that it will disrupt their carefully staged diversion of human consciousness into a world curated by algorithms masquerading in self-tickling serendipity.

Meanwhile, the CEO of OpenAI, Sam Altman, seems similarly detached from the stakes with his playful proclamation that he is a "Stochastic parrot." As David Golumbia explains, "A stochastic parrot generates apparently meaningful text through probabilistic means, but like an actual parrot, it does not understand itself to mean anything by that text (put aside the fact that at least some real parrots do seem to understand something about what they say)" (2022). He continues, attributing the origins of the phrase to Google Developers (and critics, I should note) Amanda Bender, Timnit Gebru, Angelina McMillan-Major and "Shmargaret Shmitchell", "If one side of the communication does not have meaning...then the comprehension of the implicit meaning is an illusion arising from our singular human understanding of language (independent of the model)" (Bender, et al 2021). It is quite obvious that Altman's statement, on its surface, is jocular in its tone, which contrasts sharply to thoughtful text from which it draws its vocabulary. Nevertheless, it is also more broadly symptomatic of the systemic effacement of the human against the general tendency of our technocultural drift. Furthermore, it can be seen as an intellectual pantomime of humility, by which those who enjoy great agency within the global socio-economic hierarchy play at self-effacement while disenchanting shared cultural norms as elitist pretensions. For, what does Altman (or really any elite worker, for that matter) sacrifice in practical terms in this rhetorical show of humility? There is no loss of power in this gesture, except for those dispossessed classes who subsist in precarity. And, if we are all just a bunch of bots spitting back phrases we read on a computer, then why even worry about the precarious at all apart from the possibility that they might frustrate the smooth function of the apparatus? The fact that we perceive some meaning that results from our prompts or from the machine output is essential to the purpose of the machine function (ie. the cybernetic improvement of its model), but the content of that meaning is irrelevant. This indifference to the content of affective triggers has been encountered again and again, as recommendation algorithms spin people off into pits of paranoia and bots descend into perverse bouts of antisocial expression. The problem is so severe that it has become politically necessary to impose stop-gap, human-curated limits to the algorithm to mask the authentic sociopathy of machine intelligence. We blame negative content to the bad example set by the general pool of human behavior upon which AI feeds. But even if we make bots behave like perfect gentlefolk, we cannot understate the disruptive potential this paradigm has for human culture writ large. The sudden rise of ChatGPT as a cultural phenomenon draws attention to the profound shift that is underway, which could matter if we (scholars, artists, and engaged participants) avoid the temptation to use the little influence we have to wave off concerns or, worse, throw our muscle behind the biggest boys in the yard.

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Beyond the warning function, there are ways in which electronic literature explores (and even remedies) the loss of social connections in this age. D. Fox Harrell's *Chimeria* (2014) explores questions of social identity outside of conventional social categories using Artificial Intelligence through an interactive narrative based around a "music-oriented social network." This work accomplishes two relevant goals, it makes post-digital segmentation visible to users and seeks to undermine common stereotypes that interfere with social relationships. ALIS's *Typomatic* (2015), on the other hand, is an installation-based work which asks users to participate in typographic wordplay. The installation, which uses algorithms to find visual typographical matches for words based on user-supplied prompts, is built around kiosks which create tangible mementos of play that invite whimsy and creativity. While it does not invite active consideration of the AI-matching model and the user-supplied database at its core, it is primarily built to drive social interaction. In a similar vein, Memmott and Rettberg's experiments in gastropoetics (*The Limerick Diet*, 2019) provide actual meals cooked by human chefs (the artists) in the context of a dinner party. The menus for these gastropoetic performances are poems, produced by text generation programs authored by the chefs themselves. While the focus of the event is largely social and fundamentally organic in the chaotic interactions between guests swilling drinks and eating food, as chefs clatter in the kitchen, a robust discussion of the machine generated menu is an inevitable focal point, bringing social demands to bear on machinic process. Alice Yuan Zhang's *1:1* (2022) imagines a social network in which magical algorithms connect the reader to a single friend through a series of prompts that endeavor to foster intimacy and care by way of real-world actions. And, of course, all content in Netprov comes down to the intervention of the human player working in the context of the social. While these practices do not necessarily engage with the full impact of the emerging order (and this list scratches the surface of what's available), similar to the experiments with LLMs, they disrupt the false sufficiency of Platform culture and drive their users/audience/players towards relational practices that engage them as meaningful participants rather than objects to be read by Platforms.

Leaping off of Simondon's account of individuation, Bernard Stiegler's discussion of the concept covers the many dimensions by which we increase our sense of selves via involvement with others. As Stiegler explains, being is produced by "transductions" that occur between three processes of individuation: "psychic, collective, and techno-logical" (2009). Stiegler elaborates, "The *I,* as a psychic individual, can only be thought in a relationship to a *we*, which is a collective individual: the *I* is constituted in adopting a collective tradition, which it inherits, and in which the plurality of *I*s acknowledge each other's existence" (2009). Stiegler continues, explaining that the *I* is engaged in a process of "in-dividuation," working psychically to achieve a state of indivisible unity. This process of *I* formation takes place within a social context, within which the indivisible one is involved with the community. Furthermore, the individual self is valuable

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because of its unique potential, hence the *I* and the *we* are animated by the existence of "metastable equilibrium" (2009). The techno-logical layer, which for Stiegler encompasses the capacity to retain memory and project communication beyond the immediate spatial and temporal moment of the individual in community (ie. via ritual and artifacts), enmeshes the individual in a broader horizon, drawing upon the history of those who have come before and anticipating those who will come in the future.

What seems to many (or at least what seemed) a small *disruption* to the social can have catastrophic effects. Consider the way in which the idea of the "knowledge base" has currency within the discourse of digital culture. A richer, organic antecedent to the more streamlined database, the knowledge base contains data in context, preserving not only points of information but putting it into relationship with other nodes in the network. In the past, we looked to our shamans, elders, or neighbors, and, generally, treasured human wisdom. In many instances, we formalized this wisdom through technical means, mythologizing, ritualizing, and writing. This communal orientation meant that every individual, in addition to holding personal knowledge, could avail themselves of a large repository of shared information, much of which has been vetted through use. With the help of Google, our access to socially and technically recorded knowledge has exploded. And while in many respects, this has made life easier, it is not without a cost to our very sense of self. According to Stiegler's formula, the human person gains a sense of individual value and perspective through individual psychology, through their network of social relations, and their place within the larger historical framework of cultural time. As one's individual labor contributes to both their own well-being and the well-being of those with whom they interact, so it is with one's affective and cultural integration. I need help solving a problem, so I ask you. You help me, which makes me feel loved. I express gratitude and offer to reciprocate, which reinforces your sense of value. Small, seemingly trivial interactions reinforce the ways in which we are uniquely equipped in some areas and deficient in others. When enough of these interactions stack up and are interwoven with other relationships, we thrive. Deprived of these interactions, an infinite array of dystopian alternatives present themselves.

And just as industry can alienate workers from the means of production, the culture industry can alienate consumers from their own culture and society. This begins to happen when we remove knowledge from individual beings and relocate it in a global network apparatus. It is completed when a generalized human knowledge is fully extracted, streamlined without regard for the particular, and handed over for machine calculation. When a doddering elder scratches out a roadmap on the back of a napkin, while spinning out a narrative of the journey, pausing to recollect the shifting landmarks of late capitalist urbanization, we are conditioned to impatiently whip out our phones to obviate an interaction that has been rendered inferior. We no longer turn to shamans, elders, neighbors, myths, rituals, or books to answer questions. Instead, we ask Siri or Alexa. And nobody turns to us. And then we scratch our heads wondering why people

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are lonely, why people fear their neighbors, why people feel depressed, why people join anti-social movements, etc.

At some point, the bit rate of everyday life cannot compete with the liquidity of network space. Reality is a slow network, nature runs background processes that chew up our bandwidth (like hunger and hemorrhoids), strangers are worms that bog down our machines, and even customer service plunges us into a labyrinth of robots and dislocations. So, the network becomes a refuge, first settled by those with the means or know-how to move within that space, but one that is increasingly cast as a universal human entitlement and, as more services become self-services, a requirement. It exists as a utopia of process, where the gear grinding impositions of the world give way to nomadism within smooth space.

But this utopia is an ironic one, anarchy estranged from material constraint or social obligation. A utopia relentlessly impatient with the other, but with each one haunted by the latent awareness of their own intolerability. A utopia of desperate vulnerability, where one "like" is never enough, where each passing second without a notification erases the shallow attention that preceded it. A utopia where we dread our coming irrelevance and embrace fabricated tween cultures, become "early adopters," we update our looks in ways that would make a Baby Boomer envious. It is a utopia that chews on our leisure with bloody fangs, that gluts itself on our time, that leaves us tired, that stokes our outrage, that rallies us to the preservation of imaginary relations. But as with all ideology, it is more than fair to ask what materiality animates its mythology. And, if possible, to imagine the alternatives.

But we only here see the beginning of our problem. The world itself has become rendered increasingly intolerable by the mechanisms and narratives privileged on network spaces. People think too slowly for us. The work of our hearts is now called "emotional labor." We burrow into echo chambers and maintain appearances for algorithmically manufactured affinity groups. We learn to dread our own psychology, society, and civilization each day. These are the mere pathologies of the Fourth Industrial Revolution. The superstructure will not be the social band-aid that we create to distract from or mask over the wounds of the new economy. Instead, we will become the superstructure that justifies the apparatus itself, conjured into existence to justify its continued displacement of our former selves.

While I have written elsewhere on those texts in which the individual is constructed through external input,[4] in describing the machinic prosopopoesis of human

4 I would argue here that the Gothic, which gives rise to the SciFi, Detective, and Horror genres, are defined by their "speculative" component in relation to other narrative forms. Whereas we tend to think of narrative in relation to stories that "tell us what happened," these genres tend to focus on what might happen, what we think happened, what we did not know happened (respectively), thus they all perform a kind of alterity or speculative role which dovetails well with the emergence of 20th Century sensibilities. For further elaboration on these ideas, see "Unraveling Identity: Watching the Posthuman Bildungsroman."

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subjectivity (text) in the cybernetic dialogue of surveillance (reader) and AI (writer) I hope to identify a radical shift in anthropology. The outlines of this emerging model of consciousness are anticipated in speculative genres like gothic literature (which present the world as haunted by traces of its past), detective fiction (which presents the world as filled with evidence that reveals the truth of the present), science fiction (which presents an alternate future as an extrapolation of the current one). Indeed, all these speculative forms speak in tongues, often gesturing toward an uncanny agency that is, as Freud noted in his discussion of the gothic, a distorted specter of the human (the ghost, the insane, or the robotic), fascinated by Modernity itself, both asserting the human and anticipating its absence. We are characters in a dark fiction, ranging from real to speculative (from pandemics, wars, suicide epidemics, the opioid crisis, accelerationism, conspiracy theory, alien invasion, apocalyptic prophecies, etc.) Socially, we experience this crisis in the radical outbursts of anti-social behavior (through the embrace of "marginalization" by the center, popular paranoia, crime, and confrontationally stylized political movements). Individually, we experience this crisis in the form of anomie (apathy, depression, and the occasional outbursts of violence for the sake of violence). Though, the realization of this uncanny comes to full fruition in the grotesqueries of machine images, the nonhuman voice of the machine text, and the teleological imaginary of 21st Century culture itself.

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RECENSÕES

BOOK REVIEWS

The New Media Writing Prize 2022 Winners: "Anonymous Animal", "Future is Uncertain, Memory is Real", and "Penrose Station"

Vencedores do New Media Writing Prize 2022: "Anonymous Animal", "Future is Uncertain, Memory is Real" e "Penrose Station"

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The New Media Writing Prize, an international award that "encourages and promotes the best in new-media writing" (New Media Writing Prize 2010), was founded in 2010 for the first (and only) Poole Literature Festival. Now in its 13th year, the prize has grown in size, with new awards established for digital journalism and student entries, and notoriety, following the creation of an archival collection with the British Library.

On January 18th 2023, this year's winners were announced via a virtual ceremony. In this review, the winning entries of panel-voted categories—the Main Prize, the Digital Journalism Prize, and the Student Prize—will be discussed.

Chris Meade Memorial Main Prize — *Anonymous Animal*

Winner of the Main Prize category, *Anonymous Animal* is a hypermedia poem created by Everest Pipkin. Durational in nature, it runs every hour, on the hour, for a total of fifteen minutes. During this time, any visitor on the page will be taken on a narrated exploration of the web via an embedded iFrame, which displays a variety of pages, files, database entries, and livestreams.

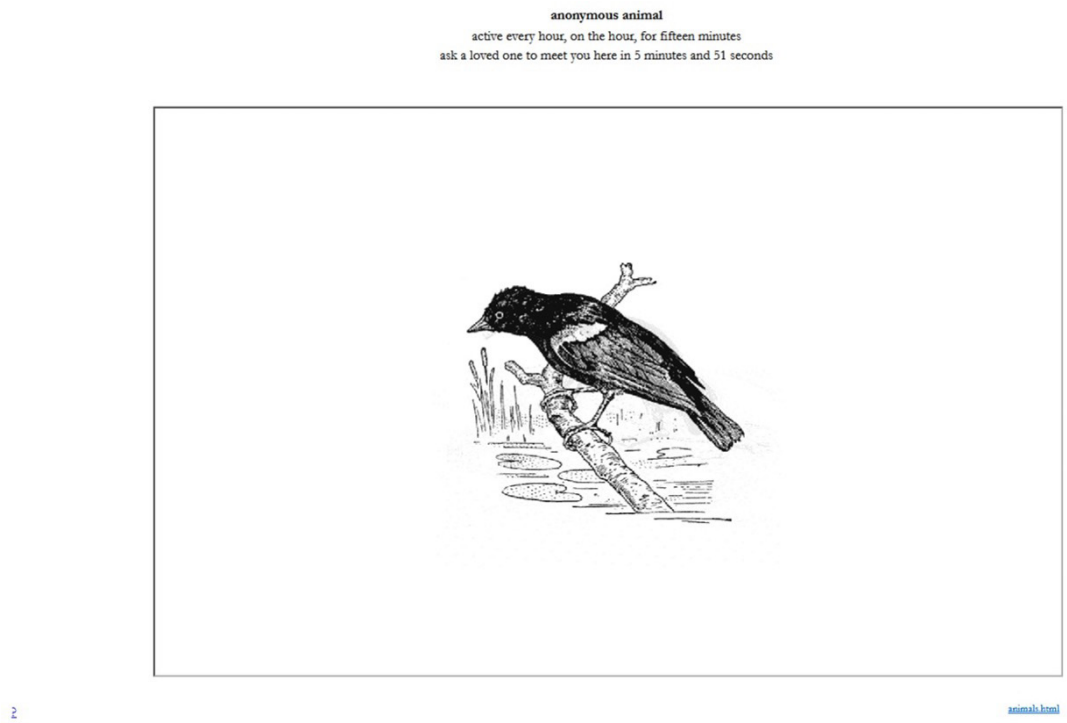

Image 1
Anonymous Animal between sessions, displaying a countdown to the next session above an animated GIF in its iFrame. | © Everest Pipkin

Described by the author as an "elegy for the era of cross-origin browser requests and off-site embeddable media" (Pipkin 2022), *Anonymous Animal's* exploration is one part introspection on the evolution of the internet and its user behaviour, one part lament on the loss of Web 1.0. This is established early within the text via a consideration of what it means to be online as an action—a behaviour mostly lost today, when device ubiquity has blurred the line between 'online' and 'offline'—and how the current, more possessive attitude towards the web is leading to loss of content. Indeed, the text embraces this ephemerality not only in its format—the anachronistic iFrame—but directly in its prose: "did that video even still load?"—asks the narrator, at one point—"or was it lost since i wrote this? in not too many years, this conversation will be a series of 404s" (Pipkin 2022). An astute observation, given that several pages and files were unable to be displayed as early as February 2023.

The core themes of *Anonymous Animal*, however, are community and "copresence at the end of the world" (Pipkin 2022). Pipkin weaves these thematic threads deftly through the textual mode, but it's their use of the gestural that truly draws attention to the internet's unique ability to simultaneously bring about connection while furthering individual isolation. Throughout the text the narrator asks the reader to interact with the iFrame content—whether this be by clicking various points on images, following the movement of an animal in recorded footage, or selecting a link—until the culmination of the piece, where the narrator attempts a protracted interaction with the reader(s): "if we both rest our hand on the statue, if we both rest our hand on the mouse on the cursor on the statue, can you feel me touching?" (Pipkin 2022) This moment lingers long after the poem ends, eliciting a wistfulness for a version on the internet that never was and may never be.

Anonymous Animal is a welcome addition to works of digital metaliterature—a self-conscious form of literature that comments on itself—with the piece's approach to its topic and use of external assets similar to those of J. R. Carpenter's *The Gathering Cloud* (2016), a hypermedia piece on the environmental impact of cloud computing. Unlike Carpenter's piece, however, which uses animated collages to build multiple, boundary-breaking layers upon a central focal image, *Anonymous Animal* is characterised by author Everest Pipkin's minimalist aesthetic. This sees its iFrame content framed by a stark white background, while the text above renders in a black serif font to match the early web homage of the piece.

Digital Journalism Award — *Future is Uncertain, Memory is Real: Virtual Museum of the Prison Camp Stalag 352 in Minsk, Belarus*

Future is Uncertain, Memory is Real, created by Media-Lab Glagol in conjunction with the Belarusian Touristic Union and the EVZ Foundation, is a non-fiction hypermedia memorial dedicated to Stalag 352, a Nazi-operated prisoner of war camp located in Minsk, Belarus. A work of two halves, *Future is Uncertain, Memory is Real* contains both a

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loose, chronological multimedia narrative of the camp's time in operation and a repository of supporting information, which includes historical documents and photographs, artifacts recovered from and photographs of the camp, writing on notable inmates, and a searchable prisoner database.

The narrative landing page of *Future is Uncertain, Memory is Real* is what allows this work to stand apart from other digital holocaust memory projects, as it immediately thrusts readers into a recounting of historical events that takes full advantage of new media capabilities. This is best seen in the work's use of multimodal communication, particularly in the choice to have its first-hand witness accounts interwoven into the narrative by the aural and visual modes. Used in this way, the testimonies—a combination of clips from historical survivor interviews and actor recreations of written documents—create a greater emotional impact than the segregated, textual alternatives displayed in earlier memory projects like *Semlin Judenlager in Serbian Public Memory* (Byford 2008). This allows reader empathy to enter and lead the user experience.

Future is Uncertain, Memory is Real's narrative is split into four sections, one for each of the years Stalag 352 was in operation. Each one is introduced by a short video that combines the aural accounts with historical documentation, footage of the site as it currently stands, and hand-drawn, minimalistic animation. After each year is introduced, users may explore further into mentioned topics via a series of modal overlays. These topics cover a number of subjects, including prisoners' diets and escape attempts, and take a variety of formats, from videos and photographs of artifacts through to illustrations, all with accompanying text.

The menus for these modal windows are formed by photographs of a variety of cut tree branches, each bearing an inmate number. These are part of the distinct, visual identity of the piece, which draws inspiration from the "living and relatively young witnesses to the tragedy of Stalag" (Media-Lab Glagol 2022); the pine trees that remained on the site when it was constructed. Appearances of these trees in numerous ways—including recent video footage, illustrations of tree-rings, and the haunting melody of wooden wind chimes—tie together not only the narrative section of the text but the site as a whole, evoking a reverent and sombre atmosphere. This mood is heightened by Media-Lab Glagol's choice in colour palette; greyscale with subtle, earthen accents.

When compared to its spiritual predecessor, fellow hypermedia holocaust memorial *A Visit to Staro Sajmište* (Raedle 2012), *Future is Uncertain, Memory is Real* demonstrates the impact technological progression can make on new media writing. With multimedia now capable of being integrated from a foundational level, readers are provided with a more engaging piece and a clearer insight into the psychological impact the events of World War II had on those who survived them. As a result, survivor's stories can be more keenly remembered.

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Image 2
Menu page for the 1941 section of *Future is Uncertain, Memory is Real*'s chronological narrative, showing the modal selection menu | © Media-lab Glagol

Student Award — *Penrose Station*

Winner of the Student Award, *Penrose Station* is a virtual reality (VR) narrative in the science-fiction mystery genre, developed by Kathryn Yu—whose prior work *Heirloom* (2002), a first-person exploration game co-authored by Abby Sherlock, was shortlisted for the 2020 Main Prize.

In *Penrose Station,* the player takes on the role of Unit 702, a support technician working for an unnamed research operation in 2096 (Yu 2022) who is sent to the titular research facility after its artificial intelligence (AI) system begins sending multiple error reports. Once aboard, the player finds the station both unoccupied and inoperable, leaving them to complete a series of lightweight puzzle challenges to bring back full functionality and uncover the mystery behind its missing occupants.

A discussion within the narrative of the "pretty messy" (Penrose Station, 2022) love triangle in F. Scott Fitzgerald's *The Great Gatsby* acts as a thematic anchor point for *Penrose Station* as its narrative explores the relationship between Parker, one of the station's researchers, and DANNI, the "Deterministic Autonomous Neural Network Interface" or AI overlay responsible for maintaining station functionality. Key among these themes are the concepts of autonomy and consent, two topics that have become increasingly popular in mainstream debate following the integration of algorithms into justice systems late into the last decade:

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"'Parker. There is a high probability that you are in danger. According to the Brooks-Broad Algorithm, the chances of your situation escalating into violence are—'
'Christ, DANNI, life doesn't obey a fucking algorithm.'"[1]

The text handles these issues with nuance, playing not only on the power imbalances between Parker and DANNI but between Parker and Cameron, Parker's fellow researcher and lover, as their relationship deteriorates and becomes abusive. This culminates in a powerful narrative climax where the player—until now a passive audience to the events that have transpired—must make a final, ethically complex decision on DANNI's fate against a countdown.

Image 3
In-game view of Penrose Station, facing the central display. The station's systems, which make up the game's puzzles, encircle it. | © Kathryn Yu.

The piece's visuals are polished and clean, with a cohesive visual identity that ties its settings together. Particular attention has been paid to interactable objects throughout the station's environment, with each one either elevating the narration given or furthering it, and the use of primary colours to highlight in-world textual artifacts and puzzles greatly aids navigation of the space.

1 *Penrose Station* [game, digital file] Kathryn Yu, USA, 2022.

Penrose Station joins a growing number of virtual reality works released within the realm of new media writing. Where it differs from its predecessors and contemporaries, however, is in its more frequent use of audial communication over textual, which is only sparingly used on in-world objects and display devices. This sets *Penrose Station* apart from the majority of VR works currently well-known within the field, such as the Mez Breeze and BradField Narrative Designs collaboration *Inanimate Alice: Perpetual Nomads* (2018), which centre the textual mode within their environments. This choice works to *Penrose Station*'s benefit, as the voice actors convey distinct but subtle emotions that may have been lost if left to the player's interpretation of the text.

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Tegan Pyke is a PhD candidate in Digital Culture at the University of Bergen, Norway. Her research lies in the realm of digital literature, focusing on its design, archival, canonisation, and the differences between institutional versus community practice. In 2021, she worked with the British Library formulating a quality assurance process for the New Media Writing Prize archival collection.

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