

Institution: Bath Spa University		
Unit of Assessment: 34 - Communication, Cultural and Media Studies, Library and Information Management		
Title of case study: Narrative and Emerging Technology: Remodelling Literary Forms through Digital Media		
Period when the underpinning research was undertaken: 2014 - 2019		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Sharon Clark	Lecturer in Creative Writing	1/10/2011 - 15/1/2021
Prof Kate Pullinger	Professor of Creative Writing and Digital Media	17/9/2012 - present
Period when the claimed impact occurred: 2014 - 2019		
Is this case study continued from a case study submitted in 2014? N		
<p>1. Summary of the impact</p> <p>Novelists and playwrights rely on centuries-old storytelling practices while at the same time needing to find new ways to remain relevant to audiences. Traditional forms of storytelling are sometimes framed as under threat from new technology, as the endless editorials proclaiming the 'end of books' or 'demise of theatre' demonstrate. With the rise in digital media and immersive technologies, the tools available to a writer to create stories are radically evolving. With audiences and readers becoming increasingly technologically curious and adept, new ways to engage with narrative are opening up, enabling audiences to be more present and active in the experience. In response to this, writers are investigating how they might redevelop their creative practice to provide a more personal and immediate experience for an audience. The challenge is to discover what new processes writers need to forge to explore the opportunities technology offers to storytelling, and how to engage with existing audiences whilst also building new audiences for these emerging hybrid creative forms.</p> <p>Stemming from the Narrative & Emerging Technology Lab (NET) in the Centre for Cultural and Creative Industries (CCCI), Clark and Pullinger's research into how emerging digital media technologies can remodel traditional literary forms has informed new models of narrative production for multiple sections of the UK creative industries. Impact spans across sector, practitioner and audience development, leading to: the creation of new polymorphic narrative forms based on the fusion of analogue and digital spaces; the development and sharing of new creative practice toolkits; the development of new creative alliances and practices in cross-disciplinary collaborations with other artists and technologists; and the broadening of theatre audiences and prose readers for these emerging and cross-disciplinary approaches.</p>		
<p>2. Underpinning research</p> <p>Emerging from the unit's strategic aim to nurture creatively motivated, technology-based research, Pullinger and Clark's practice-as-research grew out of their focused collaboration with Bath Spa University's Centre for Cultural and Creative Industries (CCCI) and its Narrative & Emerging Technology Lab (NET). NET is a research group that engages with the shifts afforded by new forms of narrative delivery and audience interaction, from digital fiction and live performance through to virtual and augmented reality. The research of Pullinger and Clark explores new models of narrative production in response to both the challenges and opportunities enabled by emerging technologies. Pullinger and Clark both have long associations with innovating via technology: Pullinger produced her first computer-mediated fiction in 2002 and Clark her first immersive theatre experience in 2012. Through their developing practices, both Pullinger and Clark have harnessed emerging digital technologies to</p>		

produce new innovative hybrid forms, bringing new audiences and new ways for creators to interact with their audiences, while establishing them both as pioneers in their respective fields.

Clark's contribution to the NET research gave rise to two original theatre productions – *The Stick House* (2015, R1) and *Ice Road* (2017, R2) – both of which were made through the immersive theatre company, Raucous, founded by Clark. Raucous is a network of over 25 artists, designers, composers and digital technologists. The two productions investigated how immersive theatre narratives could harness emerging digital media technologies to deliver a more immediate and emotive experience for a live audience. Both pieces fused live performance, projection mapping, original musical composition, smell, robotics and spatial sound. Crucial to both of these works was the design and development of 'familiar' – individually designed handheld object-based media that respond to critical narrative and emotional beats within the storytelling. The 'familiar' is one of Clark's unique contributions to original knowledge, providing a conceptual and literal tool that enables audiences to physically interact with live performance (R3). The productions were also conceived for two distinct buildings where theatre had never been staged – a series of railway tunnels under Bristol Temple Meads train station and disused Edwardian swimming baths – with the aim of producing theatre outside of perceived traditional theatre space in order to engage with a diverse community audience base. The success of these productions demonstrated a new willingness of audiences to directly engage with new technology in support of storytelling.

Meanwhile, Pullinger's NET research explored how the short story format can be remodeled through digital media technology. *Breathe* (2018, R4) is a ghost story designed for and delivered through a smartphone that responds to the individual reader's presence by identifying the world around them. Using application programming interfaces (APIs), the story leverages mobile data about the reader, including place, weather and time, in order to create an original reading experience, demonstrating to the reader the potential for data-driven storytelling. *Breathe* was commissioned as part of the Arts and Humanities Research Council-funded Ambient Literature project (2016-2018), with partners from the University of the West of England, Bath Spa University and the University of Birmingham, with Pullinger as the sole writer-practitioner among the team of co-investigators. The wider Ambient Literature project focused on the study of emergent forms of literature that make use of new technologies in order to create evocative experiences for readers. *Breathe* is at the forefront of pushing forward research and innovation into literature and storytelling for the mobile phone (R5); its success demonstrated that readers are currently underserved by the potential for new technologies to transform reading beyond print and e-book formats (R6).

3. References to the research

R1 Clark, S (2015) [The stick house](#). The Loco Klub, Bristol, 7 September - 17 October 2015.

R2 Clark, S (2017) [Ice road](#). Jacobs Wells Baths, Bristol, UK, 2 October - 19 November 2017.

R3 Clark, S (2017) [Remodelling theatre narrative through digital technology \(2015-2017\)](#).

[research portfolio]

R4 Pullinger, K (2018) [Breathe](#). Ambient Literature.

R5 Pullinger, K (2019) ['Breathe: a digital ghost story.'](#) *The International Journal of Creative Media Research*, 1

R6: Dovey, J and Pullinger, K (2020) ["Breathe": an artist interview with Kate Pullinger.](#) In: Abba, T, Dovey, J and Pullinger, K, eds. *Ambient literature: towards a new poetics of situated writing and reading practices*. Palgrave Macmillan, Cham, pp. 263-274

Funding:

- Clark (Creative Director), *Ice Road & The Stick House* (2014-2018), Arts Council England, GBP385,000 (independent funding)
- Clark (Lead Artist), *Ice Road & The Stick House* (2014-2018), Pervasive Media Studio, GBP11,000 (matched in-kind funding)

- Clark (Creative Director), *The Stick House* (2014-2015), Peggy Ramsay Foundation, GBP2,500 (independent funding)
- Pullinger (Co-I), *Ambient Literature* (2016-2018), AHRC, GBP823,000
- Clark (Creative Director), *Digital Theatre Fellowship*, (2017-2018), Magic Leap (in collaboration with the Royal Shakespeare Company), GBP15,000 (independent funding)
- Clark (Fellow), *South West Creative Technology Network* (2018-2019), Research England, GBP15,000

4. Details of the impact

Clark and Pullinger's work in narrative and emerging technology is motivated by the need to respond to an impetus for new artistic practices for the UK creative industries, and to reach out to new audiences alongside maintaining established ones. Their work expands understanding within the publishing and theatre sectors, in particular, about what shape a number of traditional media and creative forms – theatre productions, prose fiction, animation and film – might now take when augmented by emerging digital technologies.

Shaping New Practices for the Publishing & Theatre Sectors

Pullinger's *Breathe* was instrumental in the creation of a new genre for the publishing sector. It was shortlisted for the 2018 New Media Writing Prize and was used as a case study by the British Library's Emerging Formats working group, as libraries around the UK and beyond continue to work on understanding how best to collect born-digital, dynamic texts. As a digital literary text, *Breathe* is already widely studied and emulated as a key text as the publishing sector explores the potential for the personalisation of creative works.

The Ambient Literature project was conducted in active dialogue with advisors from the publishing industry. It aimed to focus industry attention on the idea of ambient literature with a view to supporting exchange between mainstream and emergent digital practices. The project website and the work with the advisory board constructed a broad conversation around writing and publishing practice. Impacts included running sold-out workshops at Hay Literary Festival and partnering on sharing the research at the British Library. *Breathe* attracted substantial press interest, particularly in terms of its significance in boosting digital storytelling at a time when e-book sales were falling (E9). Impact on the cultural sphere included a short feature in *The Stylist* magazine followed by entry in the *Evening Standard's* 'buzz words' of summer 2018 list (E9), and an appearance in the Cambridge Online Dictionaries new words blog for March 2019 (Cambridge Dictionary 2019), as follows:

ambient literature *noun* [U]

UK / ˌæm.bi.ənt. 'lɪ.t̩.rə.tʃə/ US / ˌæm.bi.ənt. 'lɪ.ə.ə.tʃə/

books that are read on an electronic device such as a tablet and which use information about the current date and time, the reader's location, weather conditions etc. to personalise the experience for the reader

Clark's work on immersive technologies and theatre audiences during her South West Creative Technology Network (SWCTN) Immersion Fellowship (2017-2018) led to her being awarded a Digital Fellowship with the Royal Shakespeare Company and Magic Leap (2019-2020), an internationally focused opportunity to work in partnership with one of the world's most renowned theatre companies and a cutting-edge U.S. augmented reality technology platform. This resulted in her writing and directing a new piece, *Where Once We*, that fused immersive theatre, live performance and wearable AR technology – one of the first productions of its kind. The Royal Shakespeare Company's Digital Development Manager commented of Clark's work: "[Clark] blends the collective and individual theatrical experience resulting in a superb use and integration of technology which supports a narrative and allows the audience to hold the story" (E3). In 2019, Clark began a consultancy with Theatre Passe Muraille in Toronto on the creation of a new R&D space for explorations around theatre and digital technology, and was invited onto an advisory panel at Banff Centre for Creativity and the Arts on the formation of a new digital technology and arts hub for Alberta.

Clark's work has been acknowledged by cultural institutions and national funding bodies as an important step change in how the theatre sector perceives its relationship with emerging technology. Director of Arts Council England, South West, stated, "This willingness to challenge most of the norms around how performance is made, and how stories are shared, is proving transformative. I see increasing evidence of emerging companies across the south west whose practice appears to draw on the pioneering spirit of Raucous" (E4). Bristol Old Vic's Artistic Director has commented: "Raucous applies irresistible energy to genuinely ground-breaking ideas. It's a thrill to be one of their advisors because you feel as if you're in an environment where an unexpected breakthrough might happen at any moment. Being near it is exciting and being able to support it hugely rewarding" (E3).

Building New Toolkits for Writers

The relationship between technology, academia and literature was pivotal to the definition of 'ambient literature' as a new field for the creative sector. *Breathe* was created in collaboration with Editions at Play and is itself a collaboration between London-based publisher Visual Editions and Google Creative Labs Sydney. Positioning the novelist as the instigator of an iterative creative design process where, working in tandem with technology, design and publishing partners, Pullinger redefined the narrative, content, form and platform, all working together to create a new way to tell a story: "*Breathe* is different to many books in another way; it doesn't have a straightforward linear narrative, meaning writing it required some out-of-the-box thinking from Pullinger" (Stylist magazine, 2017, E9). Pullinger has long been an advocate of increasing digital knowledge for writers; for the past decade her online resource, The Writing Platform, has awarded bursaries that enable writers to work with technologists. Her collaboration with the Arts Council England-funded writing hub Paper Nations led to Beyond the Book – a GBP20,000 initiative which awarded three bursaries in its inaugural year to writers for narrative and emerging technology projects.

Clark collaborated with 25 practitioners, such as designers, projection mappers, composers, roboticists, psychologists, actors and digital technologists, who each needed to investigate new modes of interdisciplinary communication and design blueprints for forging pathways to collaborate on storytelling. [REDACTED] had never worked in theatre before, while the opera set designer had not designed for interactions in a space between film and performance. New communication routes were forged so that collaborators could navigate each other's technological cultures. 14 of the 25 collaborators had never seen a script before. [REDACTED]

Following the production of *The Stick House* and the forging of these new cross-sector processes and collaborations, Google's Innovation Hub asked Clark to design a series of exploration days for its team around creativity and tech. In these, 21 members of staff at Google worked on narrative and technology as part of their creative development: "She (Clark) thinks differently about storytelling ... about how people can be gifted a role to fulfil, how they can be a part of it. I have seen a lot of digital experiences but this just felt more... human. Made me think about how we engineer our relationships with our own 'audiences'" (Workshop participant, E10). In 2018 Clark became a mentor for the British film agency Creative England, where she works with Manchester-based artists and technologists on how traditional creative industries can utilise innovative digital possibilities for their audiences. "[Clark's] clear-eyed approach to how live experience and technology can co-create narrative made me re-examine how I think about live performance and introduced me to the possibilities of building new and different creative relationships with people" (E10).

Forging New Relationships with Audiences and Readers

Clark's *The Stick House* reached a live audience of 3,245 in Bristol (98% of capacity) and an additional 22,345 engaged online. It comprised a collaborative network of 34 collaborators of writers, artists, technologists, scientists, filmmakers and designers. It garnered 4- and 5-star reviews in local and national press: "... the mingling of performance with technology is brilliantly

unobtrusive and effective” (*The Guardian*, E2). It was voted the best theatre production in Bristol for 2015 by 24/7 magazine (E2). *Ice Road*, meanwhile, had a live audience of 3,728 (95% of capacity) with over 21,000 online and brought together 33 collaborators. The press response was equally strong: “They envelop the audience in the world of the siege with inventive lighting and audio, and utilise the cavernous dimensions of the old baths to create – as the climax of the piece – a horrifying yet strangely beautiful representation of an aerial bombardment” (24/7 Magazine, E2).

By going beyond conventional ways of exhibiting theatre, Clark’s use of emerging digital technologies successfully opened up theatre to new audiences. Clark’s use of handheld object-based media – familiars that respond to the emotional resonances of the narrative – reshaped how audiences experienced the story (E5). Audience research for *The Stick House* also showed that 32% had not been to the theatre in the previous five years, and 82% stated they had not seen a production like this before (E1). *The Stick House* production attracted audiences with little or no experience of immersive theatre using digital technology: “Just breath-taking. The show was by far the most exciting piece of theatre I have seen in Bristol for years” (E5). “I wasn’t sure I would like it, technology sounds so intimidating, but it was like nothing else I had seen in theatre. It was breathtakingly original” (E5).

Meanwhile, readers’ relationship with literature was greatly expanded by Pullinger’s *Breathe*, with 28,606 readers and an average number of sessions per user of 1.59, meaning over half of the readers engaged with the work more than once. The reach of this work spanned 10 countries, with downloads being recorded in the United States, Canada, Poland and China (E6). 100% of the interviewees engaged during the evaluation said that they would be interested in experiencing more ambient literature, a strong acknowledgement that *Breathe* was opening up the potential for new ways of experiencing storytelling and literature (E7, E8). “... it makes a more personal connection with the story, in the sense that my location is acknowledged or referenced in the work, so therefore it’s some sort of a personal reinforcement as I’m reading, that, ‘Oh, there is some connection.’ The viewing of my environment was part of the experience so it was a different reading of a narrative than I’m accustomed to” (E8). “The concept of immersive reading has just been taken to a whole new level and I’m here for it. Never before have I actively enjoyed reading on my phone” (E8). Altogether, Clark and Pullinger’s widened audience reach, combined with a redefinition of practitioner’s practices, and wider collaborations with science and technology, has led to a more robust contingent of creative sectors prepared for the needs of today’s digital natives.

5. Sources to corroborate the impact

E1 Raucous - *Ice Road* audience feedback (including analysis of key themes from 37 responses) and *The Stick House* attendance data (provided by Watershed)

E2 Raucous - *The Stick House* and *Ice Road* - 18 press responses and reviews

E3 Statements from Director of Digital Development at the Royal Shakespeare Company, Artistic Director at Bristol Old Vic, and [REDACTED]

E4 Testimonial: South West Director, Arts Council England

E5 Raucous - *The Stick House* - [Documentation film including audience responses](#)

E6 Pullinger - *Breathe* - Google Analytics of audience engagement (28,606 downloads in 10 countries with an average return rate of 1.59)

E7 Pullinger - *Breathe* - Analysis of audience responses from 12 interviews (the data is open access available)

E8 Marcinkowski, M (2018) '[Methodological nearness and the question of computational literature.](#)' *Digital Humanities Quarterly*, 12 (2), p1-14 which includes an analysis of the interviews conducted to explore the experience of Pullinger’s *Breathe*

E9 Pullinger - *Breathe* - 14 press responses and reviews

E10 Feedback from participants in workshops led by Clark (at Google Innovation Hub and as part of her work with Creative England)