Speculative Interfaces: How Electronic Literature Uses the Interface to Make Us Think about Technology
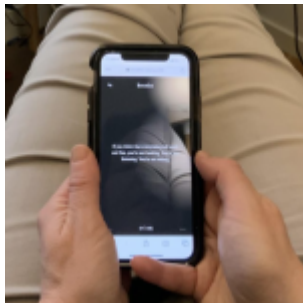
electronicbookreview.com/essay/speculative-interfaces-how-electronic-literature-uses-the-interface-to-make-us-think-about-technology

October 2, 2021

Jill Walker Rettberg
10-03-2021
This essay was peer-reviewed.

In a study that traverses more than half a century – going from e-lit precursor Christopher Strachey's M.U.C. Love Letter Generator (1952) to Michael Joyce's experimental hypertext afternoon: a story (1990) to Kate Pullinger's data-driven touchscreen work Breathe (2018) – Rettberg (University of Bergen, Norway) situates experimentation with digital interfaces in a longer tradition of innovation in literary and scholarly production. She also argues for the central importance of such experimentation in the ongoing development of both electronic literature and the digital humanities, suggesting that speculation in the design of digital interfaces can help preserve and extend the interpretative and intuitive aspects of Western literary and scholarly traditions, while also bringing the limitations and exclusions of such knowledge systems into focus.

This paper follows the threads of speculative interfaces through electronic literature and the digital humanities, arguing not only that the speculative interface is a key attribute of electronic literature, but also that speculative interfaces are an important methodology in the digital humanities. I will discuss the interfaces of three works of electronic literature, each written decades apart: Christopher Strachey's *M.U.C. Love Letter Generator* (1952), Michael Joyce's *afternoon: a story* (1990) and Kate Pullinger's *Breathe* (2018). Each of these creates a new, speculative interface: Strachey programmed a mainframe computer to generate love letters, Joyce pioneered hypertext fiction, and Pullinger created a narrative for smartphones that integrates the reader's location and visual surroundings into the story. Each of these speculative interfaces is a form of world-building, speculating about aspects of the relationship between humans and technologies that are particularly salient at the time: automation and narrow gender roles in the 1950s, interactivity and the availability of more information than a single human can ever meaningfully absorb in the '80s and '90s, and the unsettling ways that our personal data are used by technology companies to manipulate us in the 2010s. After discussing these three examples, I follow the threads of speculative interfaces into digital humanities projects.

To speculate is to imagine possible futures, possible alternatives to the ways we live, think, and read. Speculation is an essential element in both fiction and humanities research. In electronic literature and the digital humanities, the speculative mode is expressed in the interfaces chosen as well as in the content of the story or the archive. The speculative in print fiction and scholarship largely takes place within familiar genres

(novel, short story, poem, dissertation, journal article, library card catalogue), but electronic literature and the digital humanities have had to invent and reinvent their material interfaces again and again. I use the term speculative in an open sense. Terms like "speculative fiction" are already fuzzy referring to genres of science fiction or more broadly to many kinds of fictions that depart from the "consensus reality" (Oziewicz 2017). I use "speculative interfaces" here to indicate experimentation with form and genre and interface, an openness and exploration of interfaces that are not yet standard, or a mimicking of something that does not yet exist and perhaps never can exist: a thinking machine, for instance, or an app that allows ghosts to communicate with us.

I am guided by Johanna Drucker and Bethany Nowviskie's argument that the speculative mode is crucial for the generative and creative interpretations that are so central to the humanities (2007). I am of course also guided by Donna Haraway, who reminds us in *Staying with the Trouble* (2016) of the importance of "following the threads" of science fiction and speculative fabulation. Haraway refuses the limitations of binary thinking and fixed referents of thought, even eschewing the idea of pinning down SF as simply Science Fiction or Speculative Fabulation – SF, in her account, is also String Figures, Speculative Feminism and so forth. Perhaps simply by choosing the singular term "speculative interfaces" I am going against Haraway, and yet I do, with her, want to push against our accustomed patterns of thought. Fixed genres like novels or databases are structures that can stop new ideas from developing – and in this way, both electronic literature and the digital humanities provide threads and tangles that can lead us to new ways of thinking and new possibilities. To remain open to new ways of thinking, to stay with the trouble, we have to dare to create speculative interfaces as well as speculative ideas and stories.

Electronic literature has always experimented with new materialities. I argue that this speculative experimentation with genre and interface is in itself *also* a digital humanities methodology.

Interfaces reflect cultural and technological contexts

Speculative interfaces often reference certain cultural assumptions or contexts, and they tend to explore and test new possibilities in technical systems and platforms. For instance, hypertext fiction of the 1980s and 1990s was mostly written on US college campuses by scholars and students with newly gained computer access and a cultural context of postmodernist fiction. Hypertext fictions allowed the reader to explore a story as a network, but also to get lost and confused, and the sense of confusion was often an important part of the aesthetic experience. Hypertext fiction appeared in a certain cultural context, though, and was not mirrored in other cultures. In Ghana, electronic literature plays with oral literary traditions and is more likely to use social media than standalone applications or websites (Opoku-Agyemang 2017). Fox Harrell's *Griot* (2008) builds upon African diasporic narrative traditions rather than on fiction written in the European or White North American traditions, and Black Twitter with

its "digital dozens" (Hunter et al. 2016) can also be read as electronic literature. In these cases, a strong tradition of oral narratives shaped the genres of electronic literature.

The availability of specific technologies is also an important factor. SMS novels developed in the early 2000s in Japan (Kim 2014), India (T and Menon 2018) and Europe (Etchells 2001; Walker 2005), but not in the US, where text messaging was practically unknown until a decade later. Contemporary electronic literature of the 2010s and 2020s responds to current technologies, for instance using new sensors for interaction, using sounds, location or facial expression as triggers that alter the narrative, or including other data gathered from the reader's phone. The three examples of electronic literature I analyse in the following each create speculative interfaces that respond to and explore their specific cultural and technological contexts.

1950s: Strachey's Generated Love Letters

The first examples of electronic literature were produced by programmers and other people who had access to computers, and they are very much experiments, artefacts that show us how their creators played with the technology, exploring what was possible and what kinds of stories and literary experiences these new technologies could support. The actual text produced is not necessarily the point. For instance, Christopher Strachey's love letter generator from 1952 (Wardrip-Fruin 2005) does not produce writing that would be lauded as aesthetically pleasing or evocative. Most of the love letters are not particularly interesting apart from the fact that they were generated by a computer program. Here is an example, taken from Nick Montfort's reimplementation of Strachey's original code:

> DARLING MOPPET
> MY WISH PINES FOR YOUR ARDOUR. YOU ARE MY UNSATISFIED PASSION. MY PASSIONATE EAGERNESS ARDENTLY LONGS FOR YOUR DARLING APPETITE. YOU ARE MY ANXIOUS ENCHANTMENT: MY FOND LIKING. YOURS ANXIOUSLY
> M.U.C.

It is the speculative interface that is really interesting here: what if we make a program that can generate love letters? Strachey himself was interested in how "a rather simple trick" can produce an illusion that the computer is thinking, and that "these tricks can lead to quite unexpected and interesting results" (Strachey 1954, 27), although he saw more interesting surprises in the draughts game he programmed than in *M.U.C.*

Another way of reading *M.U.C.,* following different threads in the story, is to see it as a critique of its contemporary culture, questioning the bland repetitiveness of heterosexual rituals of romance. *M.U.C.* builds upon Strachey's friend and colleague Alan Turing's random number generator and was programmed soon after Turing was convicted of "gross indecency" for having an affair with another man and was required by the court to take female hormones that were intended to counteract his homosexuality (Hodges 2012, 471). Turing's biographer, Andrew Hodges, dates the creation of *M.U.C.* to the summer of

1952, just a few months after Strachey had developed his draughts program. The two friends spent that summer working together at the Manchester computer laboratory. We know that on May Day of 1952, Turing told a friend, "I'm growing *breasts*!" (476), so it seems very probable that Turing would have discussed the forced hormone treatment with Strachey during their time together just a few weeks later. Strachey was not as open about his sexuality as Turing – for good reason, given Turing's conviction – but it is clearly established that he was also gay (Gaboury 2013). Hodges writes that while many of their colleagues thought *M.U.C.* silly, "it greatly amused Alan and Christopher Strachey – whose love lives, as it happened, were rather similar too" (478). Jacob Gaboury dates the creation of *M.U.C.* to 1953, not 1952, in which case the connection to Turing would be a little less direct, but whatever the exact date of creation, it remains clear that Turing and Strachey were colleagues and friends, and that *M.U.C.* used a random number generator written by Turing (Gaboury 2013, 26).

Looking at the source code in Montfort's reimplementation shows the extreme simplicity of the structure of these love letters. First, variables are defined. The adjectives for the greeting are quite limited:

```
first = ['DARLING', 'DEAR', 'HONEY', 'JEWEL']

second = ['DUCK', 'LOVE', 'MOPPET', 'SWEETHEART']
```

Further sets of variables include adjectives such as ADORABLE and AFFECTIONATE, nouns such as AMBITION, APPETITE and ARDOUR, adverbs including BEAUTIFULLY and BREATHLESSLY, and finally verbs including CHERISHES and CLINGS TO and several others. Strachey himself writes that "the vocabulary was largely based on *Roget's Thesaurus*," which, he adds, "lends a very peculiar flavour to the result" (Strachey 1954, 27).

Once the variables are defined, a few simple lines of code explain how the words should be combined, starting thus:

```
def longer():

return (' MY' + maybe(adjectives) + ' ' + choice(nouns) +
maybe(adverbs) + ' ' + choice(verbs) + ' YOUR' +
maybe(adjectives) + ' ' + choice(nouns) + '.')
```

Clearly, any serious interpretation of Strachey's love letters as literature must consider not just the textual output, but also the fact that each letter is generated (Wardrip-Fruin 2019). [4] And yet the idea of inserting words into a fixed template like this doesn't depend on computers. The same basic structure is seen in the nineteenth-century parlour game "Consequences", which can be traced back to the sixteenth century and which inspired the surrealists' game "Exquisite Corpse" (Gwinner 2014). The games moved into print with fill-out-the-blank books like the anonymously published *Revelations of My Friends* (1912), which was intended to be played in a group of friends (see Figure 1)*,* and the popular American gamebooks known as Mad Libs, which were first conceived

in 1953 and first published in 1958, according to the [Madlibs.com website](#). The experimentation with interface we see in these examples of combinatory poetry is characteristic of much if not most combinatory or generative electronic literature.
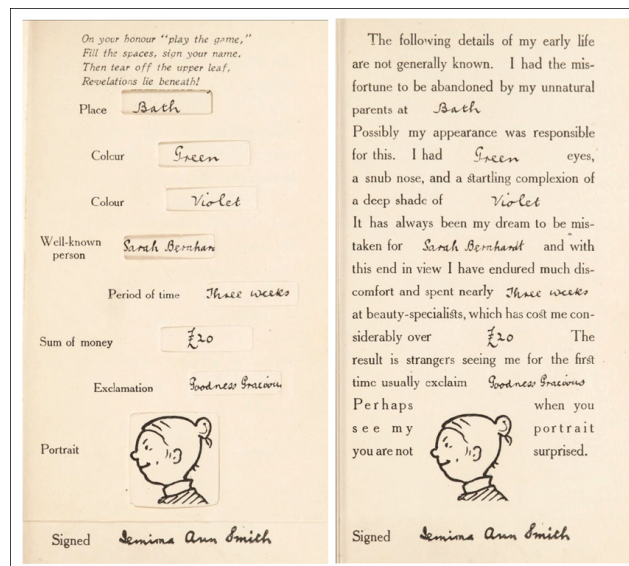

Figure 1: An excerpt from the 1912 gamebook**
Revelations of My Friends. This digitized copy can
be viewed at the Wellcome Library website. The
blanks are filled in by several different people,
suggesting that the book was passed around
among friends.

Focusing on the speculative interface of *M.U.C.* thus also encourages us to consider the history of the interface itself, and to follow its threads beyond the computational. Strachey's program clearly depended on the technology he had available to him, but also upon the cultural traditions of parlor games and experimental gamebooks. The computational interface takes on a very different meaning than the amusing absurdities of the earlier games – in part because the computer itself appears to be the author of the love letters. The role of the human is reduced to executing a program and reading the output. As Strachey himself writes, two common questions about computers in the 1950s were "when will they take over my job?" and "can they think?" (Strachey 1954, 25). It's unlikely that Mad Libs ever made anyone worry that gamebooks would take over our jobs or become sentient. *M.U.C.* marks the start of a speculative exploration of text generation. Today, computers replace human journalists in some cases, and can generate automated newspaper articles on topics that follow set formulas, like real estate sales or soccer matches. By programming *M.U.C.,* Strachey both explores the relationship between conventional romantic partners and, more broadly, between humans and machines.

1980s: Hypertext fiction as experimental R&D

One of the beginnings of hypertext fiction (J. W. Rettberg 2012) can be located in the first Hypertext conferences in the 1980s. These conferences mixed computer scientists with poets and humanities scholars, with presentations on the technical details of hypertext systems as well as discussions of fiction and essays. At these conferences, hypertext

fiction was presented as *experimental*. One of the earliest and most influential works of hypertext fiction, Michael Joyce's *afternoon: a story* (Joyce 1990), was presented for the first time in 1987, at the first ACM Hypertext conference. *afternoon* is actually mentioned almost as an aside in Jay Bolter and Michael Joyce's paper for the conference, "Hypertext and Creative Writing" (Bolter and Joyce 1987), which is primarily an exploration of what fictional narratives using hypertext structures might be like. Bolter and Joyce also presented Storyspace, the hypertext authoring tool they were developing in collaboration with John B. Smith. Later, of course, "the Storyspace school" (Aarseth 1997, 85; Hayles 2007) or "the Storyspace era" (Kirschenbaum 2008; Raley 2002) of hypertext fiction became by far the most influential form of hypertext fiction before the web. But in 1987, *afternoon* was an afternote, literally mentioned in brackets at the end of the paper.

Rereading that 1987 paper by Bolter and Joyce, I am particularly taken by their experimental attitude to hypertext fiction. What might a literature that uses hypertext be like, they ask. They were writing at a time when hypertext itself was a very new concept, as is evident in the first sentence of their paper: "The idea of hypertext, which seemed daring only a few years [ago], is now emerging as a serious and sensible way to use the computer for reading and writing." Bolter and Joyce decided to try to use hypertext to write fiction, a strange idea in 1987:

> Using hypertext as a vehicle for fiction is both more and less daring than using it for technical writing or education. It is more daring because fiction seems frivolous in the pragmatic world of data processing. It is less daring because fiction, at least modern fiction, is by nature open to experiment, and being open or open-ended is precisely the quality that hypertext fosters in writing. (Bolter and Joyce 1987)

This spirit of experimentation was an important part of early hypertext conferences. The excitement of working on something new is evident even from reading the papers and trip reports. In his keynote address at Hypertext '87, Andries van Dam said of Ted Nelson, who first coined the word *hypertext*:

> One of the most important things he [Ted Nelson] taught me was that this is a new medium and you really can't be constrained to thinking about it in the old ways. Don't copy old bad habits; think about new organizations, new ways of doing things, and take advantage of this new medium. (van Dam 1988)

An experimental, speculative quality remains a key characteristic of much electronic literature, as Scott Rettberg notes in his 2018 book, *Electronic Literature*:

> Novelty is undoubtedly central to electronic literature – its authors are trying out new tools and approaches and, in some sense, conducting experiments in the same way as scientists do in a lab, testing how materials work together, what sorts of reactions occur when new mixes of computational method and literary practice are cast into the same cauldron. (S. Rettberg 2018, 6)

The experimentation lies in the combination of technology and aesthetic practices, as Rettberg notes in the continuation of these lines. It is "the interaction of new technologies with aesthetic concerns that have much longer histories" that is at the core, he writes. This is also clear in Bolter and Joyce's 1987 paper. They not only draw upon hypertext systems and interactive fiction but include a thorough discussion of how interactive fiction and hypertext fiction can be situated as part of the tradition of experimental literature in the twentieth century, including Dadaism and modernism. They also mention Stuart Moulthrop's hypertext work "forking paths", a Storyspace version of Borges' short story "Garden of Forking Paths" that remains unpublished to this day for copyright reasons. [6] Hypertexts in this early phase were research and development. They were projects that asked: what can we do with this new genre of writing? This question is itself at the heart of the speculative. The answers are themselves questions, possibilities, not absolutes.

If writing hypertext fiction often felt experimental, so too did reading it. It could also be frustrating. To read a hypertext fiction like *afternoon* requires a willingness to accept confusion and to work hard to construct a story or some sense of satisfaction from the fragments of narration in the individual nodes. This is typical of electronic literature using hypertextual or database-like interfaces. Their "notable absence" of a beginning, middle and end, as Hannah Ackermans puts it, "disrupts as well as enhances the function of the hermeneutic circle" (Ackermans 2019, 118). Interpretation may thus be more demanding, Ackermans argues, but we also become more aware of our *active* interpretation of such works. When I teach *afternoon* to students today, I see that many of them want to give up after a few clicks of their mouse. I felt the same way the first time I read *afternoon*, and shortly afterwards described it like this:

> I clicked my mouse haphazardly on any old word, and quickly grew disoriented. Realising I was lost, I began to carefully choose which words to click, but I usually couldn't understand the connection between the word I had chosen and the node to which it led me. I never worked out what was going on, who was narrating what and which names belonged to whom. After an hour or so of frustration I gave the whole thing up. (Walker 1999)

When I returned to *afternoon* some time later, I found more cohesion, and soon found myself enjoying the work of puzzling together a story, or a set of possible stories. Each lexia, or screenful of text, was connected to one or more other lexia by links, but linked words weren't marked. Clicking the mouse usually led you to another lexia, but it was difficult to know whether the link was just a default link from the lexia as a whole, or a link from the specific word I had linked. After reading back and forwards and starting over many times, I opened the file in a word processor instead of in the Storyspace Reader so that I could view all the text, linearly. You could say that that was cheating. Perhaps it is better to see it as a kind of forensic reading, treating *afternoon* as what Jason Mittell refers to as a "drillable text" (Mittell 2015, 289) that encourages readers to dig deeper. Speculative interfaces, interfaces that experiment with and break our expectations, may lead readers to test them in order to understand them better. This act of "breaking" the interface has even become a recognised analytical methodology, as in Álvaro Seiça's "lit

mods" (Seiça 2020a; Seiça 2020b), or in the insistence of critical code studies that we must look at the underlying code, as well as at the interface and the content (Marino 2020).

Traditional speculative fiction, in the form, for instance, of a science fiction novel or television series, involves world-building, and proposes new possible worlds and societies for readers to imagine and think with and through. *afternoon* and many other early works of electronic literature tell completely realistic stories, with no science fiction or fantasy or other speculative elements. Their speculation is all in the interface, in the way that the story is told. *afternoon* uses narrative techniques familiar from other twentieth-century literature, such as the unreliable narrator and the sometimes confusing shifts between different narrators and different times in the story. The hypertextual interface is what is genuinely new, though, and its intertwining with the story itself is a clear example of a speculative interface.

2010s: Pullinger's *Breathe*

Kate Pullinger's short story *Breathe* is a ghost story designed to be read on a mobile phone. It is read by swiping through 105 cards or screens, each containing a sentence or two, or a brief paragraph. The main narrator in *Breathe* is a young woman, Flo, whose mother died when she was six. Her words are given a tidy black font with a spacious white background. Flo feels her dead mother as a silent presence in the room, and from the start, she includes the reader in her narrative: "My mother won't speak to me. So I'll talk to you instead," Flo tells us on the third page. She quickly entwines our world into hers, using the second person *you* throughout to directly address the reader. The ghosts are waiting both in the fiction world and in the reader's actual world, with technology as a bridge between these worlds: they are waiting "on my phone, in your house", Flo tells the reader (screen 4/105).

The most obviously speculative aspect of *Breath*'s interface is its integration of user data: it asks the reader's permission to use the location history and camera of the reader's phone, and if granted, these are integrated into the story. Once camera access is granted, the background image of the story becomes a photo of whatever is visible from the phone's camera as the reader begins to read. The reader's first swipe removes the photograph, moving straight into the narrative told by the young woman, but altered versions of the image return throughout the story. After six screens, Flo's neat black type on a white background starts to unravel, letter by letter disappearing as though their writer is deleting them one by one. The words "It's evening where you are..." are replaced by a filtered, darkened version of the photo captured at the start of the reading session. Swiping no longer works, and a different narrative voice appears: "Stupid stories. Stupid girl. I'm close by. I'm on Skoltehaugen already. You need me – not her" (screen 6/105; see Figure 2). This other narrator doesn't just use language to entwine the reader and narrator's worlds, she pulls in an image of the reader's actual surroundings and names a place close to the reader's actual location. Depending on how the reader held the camera when the image was captured at the start of the reading session, this image can seem to visually enclose the reader's world in the fiction, as shown in Figure 3. While Flo only

uses the second person address to draw the reader into her story, and occasional subtle mentions of the time at which the story is being read ("It's evening where you are..."), this threatening ghost narrator repeatedly and pointedly uses our personal data.
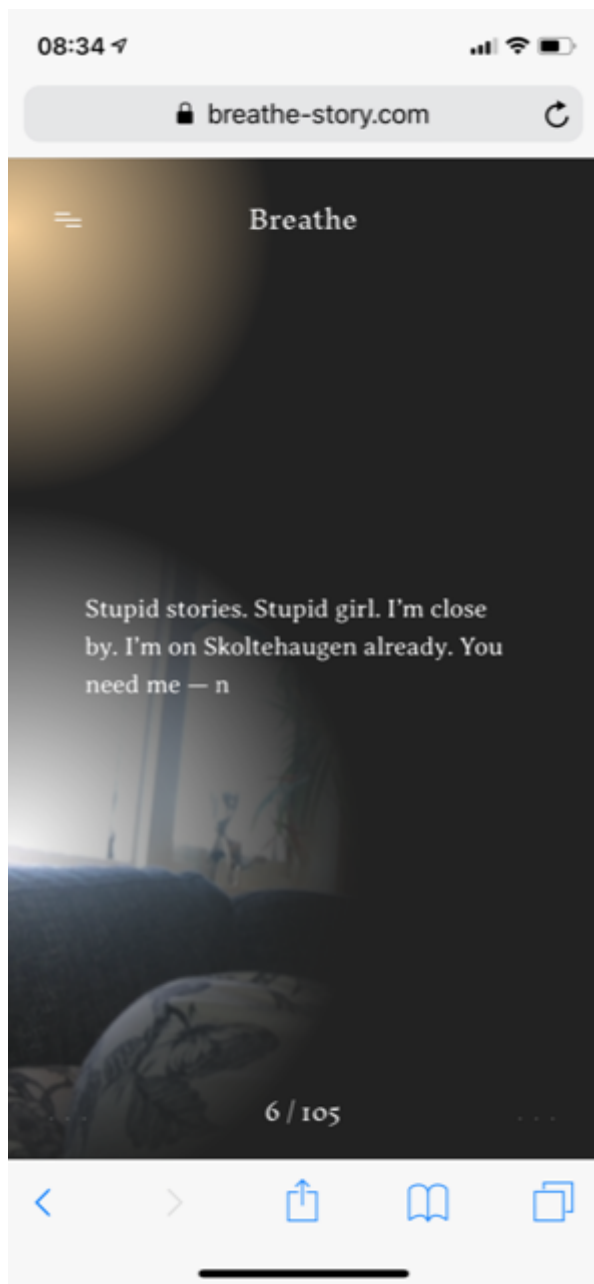

Figure 2: A screenshot from Kate** Pullinger's Breathe, showing a screen where the ghost speaks, mentioning a location close to where I was actually located when reading the story. The background image shows the view from where I was reading, with my phone held up so the sofa and windows are visible.
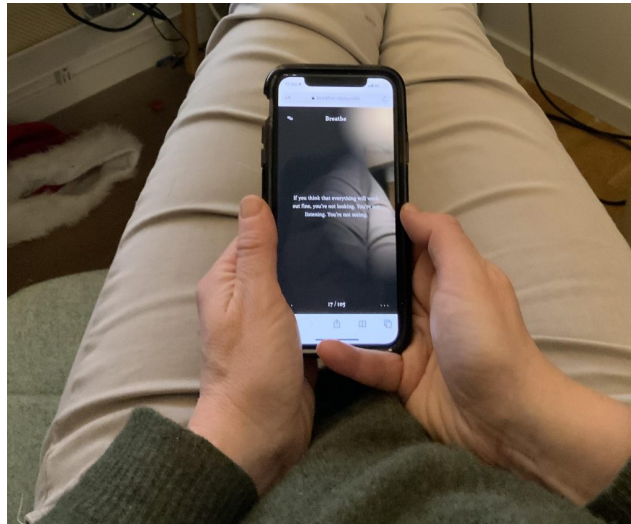
Figure 3: If the phone is held in the reader's lap both at the start of the story and as they read, the captured image is of the reader's own legs, producing a mise en abyme effect that places distorted versions of the reader's body and surroundings in the fictional world of the story.

A reader can swipe through *Breathe* in a few minutes, or spend twenty minutes reading it in a more leisurely manner. The swiping motion is well-established in touch screen interfaces as the default way to read a page-based text, such as an e-book. Interestingly, it is also the established gesture for swiping away a potential Tinder date. In an analysis of Tinder's interface, Gaby David and Caroline Cambre (2016) note that the gesture Tinder uses to dismiss a person extends the established page-turning swipe: "The negating leftward swipe mimics the turning of a page (finished, done)". The swipe has quite a different feel to it than the turn of a page, where you can hold the page before turning it, and easily turn it back again. The page turns in *Breathe* are also far more frequent than the turning of pages in a conventional novel. Turning a page after every sentence, every paragraph establishes a different rhythm to the reading. *Breathe*, unlike Tinder, does allow you to easily swipe back to read previous screens (on Tinder you have to pay extra to undo a dismissive swipe left) , but there is still a relentlessness in the motion, swipe, swipe, swipe, move quickly through the story to reach the end. Sometimes the familiar swipe is broken. When the voice of the threatening ghost narrator breaks into the story the reader cannot swipe but must watch, powerless, until swiping is again permitted and Flo's calm black words on a neat black background appear again.

The image of the reader's surroundings and their location data are woven into the story in ways that heighten the sense of the uncanny. Haunted technology is a common trope in "creepypasta", a popular online genre written by amateurs who share their stories, often claimed to be actually taking place, on online forums like the Subreddit r/nosleep. Visual technologies like webcams are frequently used in creepypasta as conduits to horror (Gunderson et al. 2020). They connect us to the uncanny. An equivalent connection between reader and narrators is central to the speculative nature of the interface of *Breathe*. How does handing over control of our personal data to unknown others affect us? In the case of *Breathe*, our phone's camera doesn't only threaten us with the

presence of ghosts who know where we live, it also draws us into the fiction, even framing the reader as a potential ghost. "I can feel someone in the room, watching me," Flo writes (68/105), then addresses the reader directly: "Is it you? Is it my mother?" Are we haunting Flo or are ghosts haunting us both? The connection between reader and narrators is insistent throughout. The threatening narrator becomes angry with the reader as Flo wonders whether the reader ("you") is present: "Why won't you listen properly?! Why can't you see her?" the irascible narrator interrogates us (76/105). Toward the end, the connection between reader and narrators culminates as Flo asks the reader to touch the nearest wall and to imagine that the narrator is also touching a wall. The words of connection become almost soothing: "We're connected now. We're touching. Me in my place; you in yours" (104/105).

Social media and the smartphone are often experienced precisely as connectors between people. Sometimes the touch of finger to glass is made an even more literal metaphor, as with Apple's "Digital Touch" that allows you to send an image of a heart beating at your actual pulse rate to a friend. The "ambient intimacy" (Reichelt 2007) of knowing that a loved one can be reached by touching a screen is a consequence of this intimate technology we now carry in our pockets. *Breathe* plays with the connectivity and materiality of touch by sometimes allowing the reader's swiping fingers to leave a fingerprint on the screen, a smudge that cannot be swiped away until the ghost permits it.

Despite giving access to the camera and location, the reader does not know how they will be used and does not choose the precise data that is selected and incorporated into the work. In *Cybertext*, Aarseth described the *textonic* user function, where a user (or reader) adds words or other material to a work (Aarseth 1997, 63). Writing in the mid-nineties, he was not considering the possibility of passive contributions like those we see in *Breathe.* The reader certainly contributes to the work: their location, an image from their phone camera, and even the precise position of smudges on the pages from their fingers – but none of this is quite deliberate. All the reader's contributions are accidental, at least at first. Scott Rettberg calls this "contributory participation" (S. Rettberg 2011, 198): the reader is aware of contributing to the work by allowing access to their data, but they have no control over how their contribution is used. This of course connects deeply to our anxiety about how our private data is constantly being collected and used by our technologies. We click "accept" when signing up for a new service but often have no real idea what exactly we are sharing or what it will be used for.

The connection *Breathe* forces between reader and fiction is the key to its horror. We are made part of a story almost against our will – or rather, we give permission (we explicitly grant access) but do not understand the full extent of what we have permitted. In *Digital Uncanny*, Kriss Ravetto-Biagioli argues that the uncanny in a digital context "emerges through our increasing inability to distinguish ourselves from those networks that measure, record, and analyze us; stimulate our emotional and intellectual feedback; and utilize this feedback to establish or perpetuate self-organizing systems designed to engineer and control any outcomes" (Ravetto-Biagioli 2019, 13). As we are reduced by social media algorithms and their kin to little more than streams of data, we feel ourselves becoming indistinguishable from machines. If a machine learning system can infer our

state of mind and predict our future actions, do we have any free will? Ravetto-Biagioli argues that this sense of our own machinic nature deeply unsettles our sense of self and leads to the experience of the digital uncanny. *Breathe* skilfully merges the narrated ghost with the uncanny closeness of the technology on which we read the story. We know that our technology knows all our details, but usually we are able to ignore it.

The speculative interface of *Breathe* is the interface between humans and technologies, which is rapidly escaping our control. Technologies connect humans to each other, but they also connect us to the technologies. Perhaps the ghost narrator isn't the ghost of a human at all, but the technology itself, speaking to us, drawing us into itself.

Speculative Interfaces in the Digital Humanities

The experimentation with interfaces has also been an important aspect of the digital humanities. In their article on "Speculative Computing", Johanna Drucker and Bethany Nowviskie argue that the speculative is a key aspect of the digital humanities, and a way of preserving the critical nuance and generative, interpretative methodology that is central to the humanities. Drucker and Nowviskie write that "speculative computing is premised on the conviction that logical, systematic knowledge representation, adequate though it may be for many fields of inquiry, including many aspects of the humanities, is not sufficient for the interpretation of imaginative artifacts" (2007, 432). Speculative computing, then, emphasises the subjective and intuitive. However, Drucker and Nowviskie note that over time,

> many of the practices in digital humanities are becoming standardized. Technical and practical environments have become more stable. So have procedures for developing meta-data, for content modeling, for document classification and organization, search instruments, and the various protocols of ordering, sorting, and accessing information in digital formats. (432)

This methodological stabilization risks losing that generative imagination that characterizes the humanities at their best.

A more direct critique of mainstream digital humanities methods comes from critical race studies and intersectional digital humanities, as representations of minorities and historically oppressed groups using databases or visualizations can be particularly problematic. In an analysis of digital research on slavery, Jessica Marie Johnson notes the "drive for data" inherent to the digital humanities, where databases listing and categorizing enslaved people and their deaths and the ships they were transported on risk commodifying black deaths and abuse and over-simplifying the "centuries-long black diasporic fight for justice and redress" (Johnson 2018, 59). By digitizing biometrics collected by slave traders in the racist categories of a racist age, digital archives risk "replicating the surveilling actions of slave owners and slave traders," Johnson writes (59-60). A similar issue is raised by Roopika Risam in her analysis of data visualizations of migrants into Europe. Risam notes that these visualizations typically replicate the idea of the migrant as a problem and argues that when designers simply visualize existing

datasets the result tends to lead to this dehumanization of migrants, whereas participatory projects, where migrants are interviewed and their stories visualized, seem better able to humanize migrants (Risam 2019).

These examples show the importance of considering the interfaces we use in the digital humanities rather than simply replicating existing structures. Tara McPherson has noted the risk that the interface and structural framework of digital humanities projects locks them into old patterns of thought: "We need conceptual models for the digital humanities and for digital media studies that can help us attend to software, code, databases, and more in ways that push beyond modularity and that help us understand that these digital objects and systems exert their own agencies even as they also emerge from culture" (McPherson 2018, 82–83).

"Dynamic rather than fixed ideas seem more to our liking," wrote Barbara Christian (1987, 52), and Marisa Parham calls her words a "foundational description of Black theorizing" (2019). This means we need to embrace the speculative and consider what the interfaces we choose mean, and how they relate to the cultural and technological contexts of both the researchers and the material being researched.

Databases have become an important infrastructure for electronic literature, and by organizing and categorizing electronic literature they have made it more visible and allowed libraries to more easily include works of e-lit in their catalogues. Electronic literature lacks the highly standardized system of print literature, with its established formats for titles, author names, publishers, and ISBNs, and so e-lit has often been invisible to institutions like libraries. However, not all e-lit can easily be entered into a database. The more fluid and performative works, which may play out in social media or other online forums, are hard to capture, and should perhaps not be treated as discrete objects (Breeze 2003; Walker 2005: 47). The strict organization into categories of metadata can obscure some kinds of e-lit. So collaborative databases like ELMCIP have grown into complex structures with dozens of information fields for each work, trying to allow for all the possible kinds of e-lit that exist. The database's interface is not only speculative but also generative, as it can be read as a statement of what we expect or accept as e-lit. It can both expand our knowledge of e-lit and our ideas of what e-lit might be (Ackermans 2020) but can also disappoint us with what it does not include (Ikeda 2021). Data is always situated, it is always "constructed, framed and processed for different audiences and purposes" (J. W. Rettberg 2020) – but in the case of a collaborative database like ELMCIP the audience members are also potential creators, explicitly invited to add to the record and share in situating e-lit and defining what we imagine it to be. The communal nature of the speculative interface in the ELMCIP Knowledge Base is a key feature for a database that aims to document a literature that will always be in flux. While library catalogues use strictly controlled vocabularies, digital humanities databases often develop their conventions over time as a research team (J. W. Rettberg et al. 2019) or, as with the ELMCIP Knowledge Base, a community of contributors discuss, suggest, fail, and revise, gradually developing shared conventions and encoding these in the metadata structures of the database (S. Rettberg 2021).

Conclusion

I propose that digital humanities projects learn from the ways in which works of electronic literature invent and explore speculative interfaces that respond to and expand the cultural and technological contexts they are created in. Rather than automatically slotting new digital humanities projects into whatever tools we happen to have available, or simply accepting the data structures that are already embedded in the material, we should, if possible, take time to speculate, to think about how this *could be* organized. We should ask "What if?" What if we structure the data in this way instead? What if the interface does this? What would we like the researcher, the explorer or the by-passer encountering the project to experience? These things take time and money and technological expertise to accomplish, and may be beyond our reach. Yet taking the time to speculate could also mean designing and describing interfaces that we do not currently have the means to actually build.

I want to position the speculative interface as an exploration of that which might be, that which might come to be. Speculative interfaces also emphasize what Alex Saum-Pascual calls the "making and materiality" of digital humanities and electronic literature. As Saum-Pascual writes in her essay for *electronic book review's* Frameworks gathering, this emphasis inverts the "rational order" of traditional humanities methodologies and "asserts the importance of creativity over or, more accurately, *within* and *as*, critical thinking – not as computational thinking" (2020). Speculative interfaces are not simply computation, they can also be a mode of critical thinking and of critical analysis. They allow us to break out of – or at least become aware of – the binaries (technology vs nature, man vs woman, 0 or 1) that tend to bind our thinking and that are built into both dominant Western knowledge structures and computer code. As such, speculative interfaces link to Rosa Braidotti's "creative figurations," which are also key in Saum-Pascual's essay.

This essay, then, is a call for more speculation. It is a call for e-lit and DH projects that create new speculative interfaces, that explore and challenge the expected materialities of platforms and databases and ontologies. It is also a call for us to think critically about the interfaces in the e-lit and DH projects we read and explore. Speculative interfaces do not only interpret the worlds and the data and the ideas and stories they shape; they are also a form of world-building, whether those worlds are fictional, as in electronic literature, or document aspects of our shared reality, as in the digital humanities.

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Cite this Essay:

Rettberg, Jill Walker. "Speculative Interfaces: How Electronic Literature Uses the Interface to Make Us Think about Technology", Electronic Book Review, October 3, 2021, .

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This essay was peer-reviewed.