

Twine and the Challenge to Reading

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This paper is adapted from the final chapter of *Twining*, a book about the Twine text-gaming platform forthcoming from Amherst College Press. The book version adds a final, personal perspective omitted here for reasons of length. *Twining* also offers a history of the software, critical discussions of several influential Twine works, practical chapters exploring creative possibilities of the platform, and reflections and interviews of Twine developers.

1. If you can read this...

In 2017 John Cayley, a field leader in digital literary arts, called for a change of direction. In a landmark article called “Aurature at the End(s) of Electronic Literature,” he proposes a turn from visible text to sound: the aural delivery of words spoken or synthesized, using emerging home entertainment platforms, so-called smart speakers like Amazon’s Echo (Cayley “Aurature”). Paradigm shifts are inevitably rivalrous. When you are trying to open a new path, it’s necessary to show the errors of other ways. Accordingly, Cayley deprecates several electronic writing practices, including some with roots in his own academic program. When he comes to the Twine writing platform, he is more skeptical than dismissive, though he raises important questions:

In the case of expressive hypertext — with choose-your-own-adventure gaming capabilities — we can now point to Twine as a platform still gaining significant popularity. But will it ever end up supporting Twine-writers and designers commercially, or as prominent literary practitioners? (Cayley “Aurature” n.p.)

Cayley allows that Twine is popular and becoming more so. He also perceptively notes Twine’s attachment to game culture. Beyond this he seems unimpressed, though that sentiment is understandable if one knows the history. The reference to “expressive hypertext” calls back to earlier days of Cayley’s academic program, before his arrival at Brown University, when figures like Robert Coover, George P. Landow, and the computer scientist Andries Van Dam made that university’s writing program a center of literary and scholarly hypertext. This movement flourished from the early 1980s to the mid-1990s, but its success was limited at best. Alice Bell’s generally sympathetic account of hypertext fiction concedes that such works were rarely read outside college courses (Bell 166). Seeing in Twine a hypertext revival, Cayley reasonably wonders if work on this platform will suffer the same fate as the repertoires of earlier hypertext systems, such as Brown’s Intermedia and Eastgate Systems’ Storyspace. However, his uncertainty about commercial

viability or popularity is tied to a deeper objection on aesthetic grounds, a problem Cayley sees in other forms of electronic writing as well. He calls this “the challenge to reading:”

Formal bewilderment discourages reading and readers. Reading is a learned practice; it is not innate to the human animal. Asking readers to learn new forms is asking them to extend their learning rather than immediately offering them aesthetic experience. Of course, some formally innovative artifacts will be of a quality or importance that necessitates and rewards extra learning and effort. Literary culture moves on. But how will readers pick and choose amongst forms when every artifact is formally distinct if not entirely outside of any pre-existing formal categories? And how are they to discover any quality or importance for the language of the work if formal bewilderment makes it difficult or impossible for them to read? (Cayley "Aurature" n.p.)

Twine works are not the only object of this critique. Plenty of baffling, often bafflingly beautiful work exists in other systems and contexts. Cayley names no names, but we could cite a few examples: Mez Breeze’s linguistically mutant m[ez]ang.elle (see Raley), Nick Montfort and Stephanie Strickland’s oceanically vast *Sea and Spar Between* (Montfort and Strickland), Jason Nelson’s trippily fractal *Sydney’s Siberia* (J. Nelson), the surrealist game levels of Davey Wreden’s *Beginner’s Guide* (Wreden). These projects push against any number of common expectations about language and text. As Cayley points out, most are either singular experiments or self-contained series. They invent new categories rather than fall in with old ones, partly in response to an explosion of technical possibility, possibly also because tradition, canon, and even genre, are to some extent tainted by patriarchal and imperialist legacies.

Twine works bring new transgressions and fresh challenges to reading. Consider Anna Anthropy’s *Queers in Love at the End of the World*, which deliberately makes conventional reading difficult or impossible (Anthropy 2013). The work presents a sentence or two of hyperlinked text along with an animated ten-second timer, which the reader-player must struggle to process before it expires. With some dexterity, players can usually prolong the process for a handful of jumps, discovering an agonized erotic encounter between the interpellated "you" and your doomed partner. Inevitably, though, we will reach a final sentence: "Everything is wiped away."¹ Anthropy’s work also sabotages its own hypertextuality, tantalizing players with stacks of links they can barely register, let alone explore, before final erasure. This is undeniably a challenge to reading – though its intentional disruptions work toward cultural critique, artfully destabilizing our expectations of gameplay. Though *Queers in Love* is an extreme instance, it nonetheless shows how Twine works can negotiate Cayley’s problem.

¹ *Twining* treats this work in greater detail in one of its theory chapters. See also Claudia Lo’s enlightening discussion of the text in terms of "slow cinema" (Lo).

Conceived as textual games, Twine works are far less formally bewildering than other forms of digital writing, including “expressive hypertexts.” A comparison of *Queers in Love* to one of its paleozoic ancestors may be helpful here. In 1997 Stuart Moulthrop published “Hegirascope,” a Web-based hypertext with a different approach to time-limited reading (Moulthrop 1997). In that work the reader/player has 30 seconds -- things moved more slowly then -- to read a passage and select an onward link before an automatic transition takes over. In an evocation of early Web browsing, “Hegirascope” jumps across many narrative lines, constantly de-centering the reader’s attention. Perhaps because she has grown up in a Web-saturated culture, Anthropy feels no need to mimic this diffusion. She keeps her player focused on variations of a single scenario even as she devilishly contracts the time frame. The result is still narratively disruptive, but it confronts the player with fragments of a single encounter, not bits and pieces of a world. Crucially, this difference can be linked to the influence of game culture. “Hegirascope” emerged in the first days of Web writing, when no one was quite sure what to do with the technology. *Queers in Love* came into a world with clearer expectations. It was built during a game jam whose theme is circulation or sharing – *ludum dare*, to give (the world) a game. For all its tricky difficulty, Anthropy’s work is still intended for a certain kind of play – subversive and self-canceling, perhaps, but play nonetheless.

In embracing games as an aesthetic framework, Twine makers affiliate with a coherent enterprise, even as they bring to that enterprise an agenda of resistance and transformation. Twine games belong to increasingly well-defined alternative communities centered on independent games, narrative games, and interactive fictions. These domains include “pre-existing formal categories” that support critical judgement. For example, when Porpentine’s influential Twine work *With Those We Love Alive* first appeared, it drew a highly perceptive notice from the interactive fiction writer Emily Short (Short). Her highly insightful review was written as part of the annual Interactive Fiction Competition, a tradition of critical reception and recognition with more than 30 years of history. Interactive fiction, which either contains or overlaps with Twine work, is in fact the most critically informed type of electronic writing.

However, would recognition by Short, Montfort, Andrew Plotkin, Aaron Reed, or some other authority from the I.F. world make someone, in Cayley’s terms, a “prominent literary practitioner?” Much depends on the way we take each point of this three-pronged phrase.

Concerning prominence or recognition, Bell argues that hypertext fiction and other digital literary practices must break out of their “niche” status (Bell 92). It might be objected that most kinds of literature, and these days even most forms of popular entertainment, fall into cultural enclosures of various sizes (Moulthrop 2010). But some niches are more accessible to non-members than others. Fiction writers outside *the genres* (crime, thriller, science fiction, fantasy, romance, westerns) tend to do readings at bookstores in cities and suburbs. At the peak of celebrity, we see them on TV chat shows. Genre writers are more

likely to appear at community-focused conventions (cons) that do not attract what is quaintly called a general audience. Likewise, makers of Twine games go to game jams and conferences, either industry-oriented or academic. A writer can certainly be “prominent” in these circles: known and respected by a few hundred people, many of them other Twine writers. There are stirrings of wider recognition. The website for the 2015 launch of *The Late Show with Stephen Colbert* featured a Twine game, and in 2018 the television series *Black Mirror* featured a gamified episode, “Bandersnatch,” which was prototyped using Twine (Klimas). Porpentine has had a game commissioned by the Museum of Contemporary Art in Chicago and her games have been shown in other museums. Anthropy has been interviewed about her work on National Public Radio. If prominence requires being known to millions, through Twitter, television, or some other mega-medium, the prize remains elusive; but is this necessarily a problem?

The answer to that question may depend on how we understand “literary.” In general, academia seems more ready to accept electronic writing now than two decades ago, when it was fashionable in some quarters to rail against all things digital (see, e.g., Birkerts). Two early hypertext fictions, Joyce’s *afternoon* and J.Y. Douglas’ *I Have Said Nothing*, were included in W.W. Norton’s *Postmodern American Fiction* anthology (Geyh et al.). Montfort makes room for interactive fiction within the ancient poetic form of the riddle and has aligned his own digital poetry with the *Ouvroir de Litterature Potentielle* (OULIPO), an important literary avant garde. Marjorie Perloff, a defining figure in modern poetics, has recognized the significance of digital work in the recent history of poetry (Perloff). N. Katherine Hayles, among the first academic critics to recognize electronic literature as a continuing project, assigns it to “the literary,” a reformist expansion of traditional, hegemonic literary culture (Hayles 4-5). In 2018 the Electronic Literature Organization became formally affiliated with the Modern Language Association.

Despite these overtures and adjustments, academic creative writing programs still generally identify with poetry, literary non-fiction, and the unmarked genre of non-genre fiction. Twine work, and game culture generally, may be recognized as parallel or related activity but it is not usually part of the curriculum. Twine work can connect to established forms and practices, but it may just as genuinely go its own way. Much Twine work participates in alternative, anti-elite aesthetics: retro-stylish kitsch and fan-based camp.² Twine carries forward an unruly, experimental impulse last seen in the first decade of the World Wide Web. This agenda has no strong regard for long-standing tradition and may in fact subvert it. Given the tensions between their outsider ethos and traditional culture, “literary” may not be the identity to which at least some Twine writers aspire. A certain mutual distance may be good for both sides. In the famous words of Marx, “I DON’T WANT TO BELONG TO ANY CLUB THAT WILL ACCEPT ME AS A MEMBER” (Marx 321).

² *Twining* features a chapter on this subject

Cayley's third term is "practitioners." Writing is fundamentally a practice, but Twine writers (or creators, designers, developers) use practices that differ markedly from the ones Cayley advocates. In at least its first stages, his "aurature" involves the development of "skills" for Amazon's digital assistant, Alexa. An Alexa skill is a software application the system can run in background or in response to a user's spoken request ("Alexa, ask the Listeners about..."). Cayley's demonstration project for aurature, called *The Listeners*, uses an impressive range of design and production techniques, including interactive sequencing and processing of sound (Cayley "Listeners"). Twine entails a much smaller and less sophisticated range of activities: simple hypertext linking, textual substitution, perhaps some template-based text generation, all usually intended for screen display, though it can embrace other media types as well. Building a Twine game generally presents lower technical barriers than developing an Alexa skill.

Most important, Twine is open source software supported by a non-commercial community. While the programming tools used to develop an Alexa skill are not proprietary, the considerable infrastructure on which it depends – the system of digital monitoring and response behind the Echo device – is intellectual property of one of the wealthiest corporations on the planet. This brings us to the most difficult of Cayley's hard questions: can Twine sustain its creative community commercially or economically?

2. Twine and hard times

Before taking up this question, a certain attitude adjustment is in order. The invidious distinction between proprietary and open source software needs some second thoughts. Nobody loves a Puritan. In art and everyday life, many of not most makers of electronic literature make use of proprietary systems. The world is big enough for both commercial and non-commercial approaches to art. There are good reasons to criticize Amazon's desire to place live microphones in our living rooms, but the low opinions of academics will not make them stop. Categorical resistance may be futile, but subversion remains an option. If we adopt a technological *Realpolitik*, Cayley's call for change is important. Taken more sympathetically, aurature could allow artists to infiltrate Amazon's collective unconscious. (Alexa, you didn't hear that.)

Further, we concede Cayley's economic skepticism about Twine. Like hypertext fictions before them, most Twine works circulate in the public domain and carry the curse of a gift economy. Once the public comes to expect free access to art or entertainment, it is hard to return to a cash footing. Paywalls infamously fail. Many of us do not believe in them in the first place, though it is easier for tenured academics to aspire to feel an obligation to share freely. Those at the rope-end of precarity may do what Anthropy and an increasing number of Twine writers do: include a link inviting financial support on the title pages of their projects. Those who find that work important, especially in teaching, need to give as generously as possible. Patreon and related subscription schemes are another expedient,

though Klimas recently disclosed that his income from this channel amounts to less than the minimum wage in his home state (Klimas).

Could these dismal conditions change? If the "Bandersnatch" possibility ever proves more than mirage, crossovers with emerging markets could be facilitated by formations like the Electronic Literature Organization or the Interactive Fiction Technology Foundation (IFTF), which unites those interested in parser games (especially on the Inform platform), Twine work, and other branching narrative systems. IFTF is not exclusively or primarily academic and welcomes interest from industry. While waiting for other opportunities, collaborations among the current IF emphases might be equally important. Twine/Inform hybrids could be intriguing, along with various ventures to connect Twine and other platforms to the Unity game system, particularly with an eye to mobile applications. In her software development role at Spirit AI, Short continues to explore the integration of artificial intelligence with interactive narrative. Poet and system designer Daniel C. Howe recently joined Tender Claws, the independent software studio known for *PRY*, a groundbreaking integration of text, live-action video, and haptic interfaces. Howe's new system, *Tendar*, like Spirit's *Ally*, focuses on algorithmically generated interaction, with important implications across the field of interactive fiction. IFTF could provide a crucial framework for the integration of developments like these.

Visions of possibility aside, however, economic prospects for Twine, both in infrastructure and artistic practice, remain uncertain – yet of what can this not be said? Independent game development is as tenuous as any garage-based artform. Developers may find refuge in academia, more likely in game or media studies programs than in older departments, but the state of higher education throughout the developed world is parlous, with humanities programs especially at risk. Culture-war politics are one cause of this instability, and attacks on academics involved in game studies have been a part of GamerGate and the larger alt-right movement (see Chess and Shaw; also Warzel). But another cause of trouble is the continuing fragility of post-industrial economies. This insecurity may at first seem paradoxical. Twine's first decade coincided with the longest economic expansion in the history of the U.S.A. Yet the benefits of that expansion were notoriously concentrated, and the inevitable correction has come with a viral pandemic that has at this writing killed half a million worldwide. If as seems likely this crisis lasts beyond a year, the global economy may be headed for an historic depression.

Long ago, at the beginning of the last boom before this one, Neal Stephenson published a novel of speculative fiction that envisions a global virtual-reality system with a social center called "the Street." Essentially a realist, Stephenson salts his Tomorrowland with some sobering observations:

In the real world-planet Earth, Reality, there are somewhere between six and ten billion people. At any given time, most of them are making mud bricks or field-

stripping their AK-47s. Perhaps a billion of them have enough money to own a computer; these people have more money than all of the others put together. Of these billion potential computer owners, maybe a quarter of them actually bother to own computers, and a quarter of these have machines that are powerful enough to handle the Street protocol. (Stephenson 24-25)

It is interesting to re-read this passage at the end of the twenty-teens. Stephenson's informed guess about world population holds up, though the explosion of smart phones has blown out his forecast of a billion computer owners by factor of three. More salient is the allusion to the have-nots, those folks with the bricks and assault weapons. In its day the remark registered (perhaps cynically) the economic inequalities that accompanied early phases of the information revolution. There were concerns about a so-called digital divide. Today we are more inclined to speak of wealth gaps. "These people have more money than all of the others put together" remains a true statement, but the apex class has greatly contracted. Also, the folks with the AK-47s and AR-15s are no longer in mud-brick hinterlands but in our churches, schools, and shopping malls.

Instead of Stephenson's Metaverse and Street, we have Facebook, Twitter, Instagram, and other precincts of the social-media wasteland. The world those forces engender may be very like the neoliberal hell describes in *Snow Crash*, though it is hard now to imagine anything like the entrepreneurial happy ending with which that book closes. That was another century. In this one we face not only economic instability but the subversion of democracies, driven in the first instance by racists and gangsters and exacerbated in some measure by refugee flows. Those displacements are becoming worse as climate change disrupts agriculture and water supplies. How long, it must be asked, before we're no longer the people with computers, but the ones with the rifles and wall-building bricks?

It's not just institutions of popular art and education that are imperiled: the entire civilization seems palpably at risk. In such a dire context, why does the future of Twine matter? True, the social martyrdom of one Twine writer, Zoe Quinn, was the precipitating event for a battle in the culture wars that laid down the pattern for many to come (Warzel). Twine is implicated in a critical moment that goes far beyond game culture; but since that moment probably does count as genuine crisis, with parameters that may include the end of the world as we know it, we need to justify our perverse interest in computerized games and clever ways to tell stories.

Can Twine save our world? Of course not. However, here is a quick list of other things that offer no immediate or total remedy:

- Mumblecore
- Crowd sourcing
- Ukuleles

Food porn
Live streaming
Lin-Manuel Miranda
Polar bears
Psilocybin
Quantum gravity
Donna Haraway
Life on Mars (whatever that means to you)
The Five Virtues
Slavery reparations
Universal basic income
Petting cats

The list, which imitates the “litanies” of Bruno Latour and Ian Bogost (Bogost 38), is unordered and eminently debatable. Some of its items might seem potentially world-saving, depending on one's understanding of the problems. Many will not. The point of this list, like all lists, is to assert totality over singularity. The list contains no answer: the list is the answer. Which is to say, as Anthropy teaches, the best way to stave off the moment when everything is wiped away is to make the case for everything, almost. Expect no saviors, no panaceas, and yet many things may be marginally helpful. Consider some ways in which a world with Twine in it is preferable to one without.

3. Maps and algorithms

In his manifesto of Gamer Theory, McKenzie Wark memorably adapts Plato's allegorical cave to game space (Wark). In an earlier moment Fredric Jameson found allegory in a different sort of cavern, the lobby of the Westin Bonaventure Hotel in Los Angeles, circa 1984. Many who visited grand hotels in the 1980s experienced similar disorientation and procedural uncertainty – *where do you suppose they've put the front desk in this one?* Jameson laid out the full implications of this experience, which was always more than a complication of check-in protocol. As Plato's cave allegorizes the world of phenomena, the Westin lobby makes physical the contours of late capitalism:

this latest mutation in space -- postmodern hyperspace -- has finally succeeded in transcending the capacities of the individual human body to locate itself, to organize its immediate surroundings perceptually, and cognitively to map its position in a mappable external world. It may now be suggested that this alarming disjunction point between the body and its built environment -- which is to the initial bewilderment of the older modernism as the velocities of spacecraft to those of the automobile -- can itself stand as the symbol and analogon of that even sharper dilemma which is the incapacity of our minds, at least at present, to map the great

global multinational and decentered communicational network in which we find ourselves caught as individual subjects. (Jameson 39)

Not knowing where to check in is a signature of postmodern experience, an effect produced by spaces, real or hyperreal, that defy definition or understanding. Never mind hotels, think of the “decentered communicational network” – these days we call this thing the Web, or the Twitterverse, or as advertising types say with ominous familiarity, *social*. In response to mutating hyperspace, Jameson calls for “an aesthetic of cognitive mapping” (Jameson 44). That project has many moving parts, but game culture is clearly one of them. Wark’s gamer theory, exposing the allegories of power behind algorithm, makes an obvious contribution. The same might be said for Galloway’s insight that playing *Civilization III* teaches us how that game’s algorithms intersect historical understanding (Galloway 92).

Though many decades have elapsed since its discovery, we still occupy something like the “hyperspace” Jameson named. Gameplay illuminates the complexity and irrationality of that space. Games can also bring to consciousness several features of cybernetic infrastructure, the reliance of our virtual environments on algorithms and logical transactions. Through the mechanisms of player death and regeneration, games bring home the power of iteration or cyclic repetition, showing us in experiential terms the form of software loops. By incorporating randomized behavior, games make us aware of stochastic outcomes, predictable but uncertain. By presenting complicated simulations involving multiple agents, games demonstrate dependency of elements in a system, and the way such dependencies can lead to emergent or unforeseen consequences. Above all, computer games model contingency, the ability of situations to evolve differently over multiple encounters. They reveal a world of complex, systematic, but unpredictable possibility.

Jameson believed an aesthetic of cognitive mapping would be essential to politics in the 21st century. In order to address injustice, oppression, and ignorance, we need to understand in the deep way art makes possible the baffling structures of a world that is too large, too fast, and too intricately detailed for ordinary human witness. To put this much faith in imagination involves a huge dose of utopian chutzpah, but we might venture some hypotheses anyway. Perhaps a generation of gamers will be less inclined to call for regime change in regions traumatized by imperialism; or route tank trains full of volatile hydrocarbons through major population centers; or mine the tar sands that fill the bomb cars in the first place; or otherwise deny the fragility of our critically damaged ecosystem; or fail to grasp that, ironically, iteration only applies in software, so we can’t reboot the West and replay from 1955 or 1820. (Admittedly, that last one is a reach.)

4. Coming to code

Maybe, just maybe, playing and making computer games can help us map the catastrophe, jam the machines, interrupt the doom program before everything is wiped away. The help in question may be small – more in the way of ukuleles than reparations – but it is something we can articulate. The essayist Joan Didion was once asked to write in the abstract on morality but found the approach inconvenient: “My mind veers inflexibly toward the particular” (Didion 160). We follow her mental tail-lights. Our conceptual/political argument takes in a large swathe of game culture. Twine and its productions belong to that domain, but in a very particular way. Multimedia extensions aside, Twine is fundamentally a text technology. Like Inform, the Text Adventure Development System, and other parser-driven platforms, Twine draws on the considerable power of the written word to evoke and manage playable spaces. We can make a second, more pragmatic case for the importance of Twine, among other forms of interactive fiction, based on their engagement with writing.

Interactive fiction is connective tissue, a ligament anchoring the skeleton of language and literature to the musculature of computing. (Flip those anatomical metaphors if you like.) We invoke the living body, since that is what culture feels like to us, but we could also have gone to geology, thinking of stratified bands in sediments and the interlayers between them. That metaphor brings the advantage of history, which is important here. As another major critic, Alan Liu, has argued, a prime task of humanist work in this century is re-assertion of cultural memory in the face of amnesiac market forces (Liu 72). Twine and its I.F. companions are helpful in this regard, connecting practices from the pre-computer world to those that have evolved more recently. It is probably no coincidence that Jay David Bolter, an important early advocate of hypertext, and Short, perhaps our finest writer of interactive fiction, both started as classicists.

After its very early days, game development has followed the organizational scheme of cinema: production involves large groups overseen by a lead designer. This is necessary when the work involves many specialized skills, such as AI programming, 3-D modeling, motion capture, interface design, sound and voice production, and so on. Because they do not take the exit ramp to graphics but stay on the old textual blacktop, interactive fictions and Twine games especially require no such division of labor. A large number of Twine games have only one or two authors. As Anthropy says in her manifesto for the independent game movement, *Rise of the Video Game Zinesters*, text-based and simpler graphical platforms allow artists to express radically personal visions (Anthropy 2012, 18-19). Independent game creation hearkens back, as we have said, to an earlier moment of digital technology, when imaginations were less constrained by mainstream expectations and corporate economies. Solo and small-group work is not absolutely virtuous, of course. For every celebrated Twine maker there are many who remain obscure, pursuing personal visions that will never connect with a wider audience. By the same token large-scale corporate teams can make thoughtful and genre-redefining games, from *Katamari Damacy* and *Portal* to *Journey* and *Legend of Zelda: Breath of the Wild*. Meanwhile there is a sweet

spot between solo and large-team efforts, where games like *Gone Home*, *Firewatch*, and *80 Days* flourish. However, single authorship and very small collaborations have one important advantage: they open development to people at the margins of game culture.

This opening involves another kind of identity as well. It bridges the cultural divide between programmers and non-programmers, between those conversant with computer code and those whose main expressive mode is natural language. The leading contribution to this unification is Graham Nelson's revolutionary re-writing of the Inform language, Inform 7 (G. Nelson). This system uses something like English syntax in order to configure virtual worlds. Coding begins with ordinary declarative sentences, such as:

Room Zero is a room with description "An irregular cube decorated in the style of Low Flarfism."

Person-Man is a male person. Person-Man is in Room Zero.

The statements above instruct the Inform 7 compiler to generate much less humanly-readable code that establishes and populates Room Zero. At the same time, these statements are also understandable as sentences in the traditional sense. Playing on this overlay of linguistic registers, writers from the I.F. world have composed verses consisting entirely of well-formed Inform 7 expressions. Here is one by a writer who goes by the tag "Adjusting" (Adjusting). It riffs on Noam Chomsky's famous example of formal nonsense, *colorless green ideas sleep furiously*:

Chomsky is a room.
A thought is a kind of thing.
Color is a kind of value.
The colors are red, green and blue.
A thought has a color. It is usually Green.
A thought can be colorful or colorless. It is usually colorless.
An idea is a thought in Chomsky with description "Colorless green ideas sleep furiously."
A manner is a kind of thing.
Furiously is a manner.
Sleeping relates one thought to one manner.
The verb to sleep (he sleeps, they sleep, he slept, it is slept, he is sleeping) implies the sleeping relation.
Colorless green ideas sleep furiously.

"It compiles," one slightly skeptical commenter observes. "It just doesn't do much" – except compile, of course, which the final line will not do in the absence of the lines that precede it. The observation is correct as far as the compiled game goes – there's not much to do in the

room called “Chomsky” -- but placing the exercise in larger context, we come to a different judgment. Wrapping Chomsky’s famous example around the twin poles of poetry and a programming language is culturally speaking much indeed. It demonstrates how the structure of language, which Chomsky’s sleep of reason is meant to reveal, can be not emptied out but doubly loaded: deeply Inform-ed, as it were.

Twine is less formally ambitious than Inform 7. Because Twine games branch off not from rule-based text adventures but from link-based game books and hypertexts, they generally have simpler infrastructures than parser games. In its own way Twine also allows for relatively seamless connections between natural and cybernetic language. The foundational double-bracket convention for linking, with its automatic adjustment of the structure map, offers a prime example of such convergence. The Chapbook story format, intended to simplify Twine writing for beginners, does much to extend this principle throughout the authoring process.

If we think about Inform 7 and Twine not just as clever, marginal improvements to game development, but as interventions in literacy itself, their importance becomes evident. Socially speaking, both platforms allow people without programming backgrounds – often people alienated by the cognitive and ideological signatures of conventional game design – to build programmatic works. Even writers who never go beyond simple linking schemes are introduced to the structure editor. Working with this directed graph both underscores the dual nature of digital production and emphasizes the possibilities for complex expression, a challenge both to writers and programmers. In our classroom experience, a significant number of beginners move beyond basic hypertext, at the very least to conditional linking and textual variation, techniques that lead onto variables and Boolean logic.

Outside the classroom, where Twine writers are driven mainly by aesthetic exploration, there is a clear path from the basic Chapbook repertoire of links, forks, modifiers, and inserts, to more complex approaches like embedded JavaScript. More venturesome creators may also find their way to the Harlowe story format, with its broader array of programming tools.³ At each of these stages, Twine users will find online references, examples, and sources of consultation in places like Dan Cox’s *Twine Cookbook* (Cox), Melissa Ford’s *Writing Interactive Fiction with Twine* (Ford), Anna Anthropy’s *Make Your Own Twine Games!* (Anthropy), and for literary purposes, blogs by Anthropy and Short. Like other forms of interactive fiction, Twine can be an effective gateway experience for those who may not have otherwise thought of themselves as coders. Of course, not everyone is obligated or destined to make such a crossing. For those who carry on happily with older forms, Twine and interactive fiction extend the ambit of literacy to include cybertexts. They expand the field of expression and indeed of reading. In this way, Twine

³ The practical chapters in *Twining* explore both formats.

and its cousins serve that highest function of writing, literary and otherwise: they advance the cause of language itself. In the final analysis, whatever the fate of economies and civilizations, this may be the ultimate goal for any enterprise of meaning.

WORKS CITED

Adjusting. *I7 Chomsky*. 17 June 2007,

<https://groups.google.com/forum/#!topic/rec.arts.int-fiction/2pHd-vPfAVY>.

Anthropy, Anna. *Rise of the Video Game Zinesters*. Seven Stories Press, 2012.

---. *Queers in Love at the End of the World*. 2013. <https://w.itch.io/end-of-the-world>

---. *Make Your Own Twine Games!* Penguin-Random House, 2019.

Bell, Alice. *The Possible Worlds of Hypertext Fiction*. Palgrave Macmillan, 2010.

Birkerts, Sven. *The Gutenberg Elegies*. Macmillan, 1994.

Bogost, Ian. *Alien Phenomenology, or What It's Like to Be a Thing*. University of Minnesota Press, 2012.

Cayley, John. "Aurature at the End(s) of Electronic Literature." *Electronic Book Review*, Feb. 2017, p. n.p.

---. "'The Listeners': An Instance of Aurature." *Cream City Review*, vol. 40, no. 2, 2016, <http://io.creamcityreview.org/40-2/cayley/>.

Chess, Shira and Adrienne Shaw. "We are all fishes now." *DIGRA: Transactions of the Digital Games Research Association*, vol. 2, no. 2, 2016, <http://todigra.org/index.php/todigra/article/view/39/91>.

Cox, Dan. *The Twine Cookbook*. Twinery.org, 2019, <https://twinery.org/cookbook/>.

Didion, Joan. *Slouching Towards Bethlehem*. Farrar Strauss Giroux, 1968.

Ford, Melissa. *Writing Interactive Fiction with Twine*. Que, 2018.

Galloway, Alexander R. *Gaming: Essays on Algorithmic Culture*. University of Minnesota Press, 2006.

Geyh, Paula, et al., eds. *Postmodern American Fiction*. W.W. Norton, 1994.

- Hayles, N. Katherine. *Electronic Literature: New Horizons for the Literary*. University of Notre Dame Press, 2008.
- Hudson, Laura. "Twine, the Video Game Technology for Everyone." *New York Times*, 19 Nov. 2014, p. M44 ff.
- Jameson, Fredric. *Postmodernism, or, The Cultural Logic of Late Capitalism*. Duke University Press, 1991.
- Klimas, Chris. *Twine Past, Present, Future*. Narrascope, Cambridge, MA., 2019.
- Kopas, Merritt. *Video Games for Humans*. Instar Books, 2015.
- Liu, Alan Y. *Laws of Cool: Knowledge Work and the Culture of Information*. University of Chicago Press, 2004.
- Lo, Claudia. "'Everything is Wiped Away:' Queer Temporality in *Queers in Love at the End of the World*." *Camera Obscura* 32(2)[2017], 185-192.
- Marx, Julius. *Groucho and Me*. Da Capo Press, 1959.
- Montfort, Nick, and Strickland, Stephanie. *Sea and Spar Between*. Dear Navigator, 2010, https://nickm.com/montfort_strickland/sea_and_spar_between/.
- Moulthrop, Stuart. "Hegirascope." *New River* 1997. <https://www.cddc.vt.edu/journals/newriver/moulthrop/HGS2/Hegirascope.html>.
- . "For Thee: A Response to Alice Bell." *Electronic Book Review*, Jan. 2011, <https://electronicbookreview.com/essay/for-thee-a-response-to-alice-bell/>.
- Nelson, Graham. *Inform 7*. 2006, www.informfiction.org.
- Nelson, Jason. *Sydney's Siberia*. <http://www.secrettechnology.com/sydney/>. Accessed 20 Aug. 2019.
- Perloff, Marjorie. *Unoriginal Genius: Poetry by Other Means in the New Century*. University of

Chicago Press, 2012.

Raley, Rita. "Interferences: [Net.Writing] and the Practice of Codework." *Electronic Book Review*, Sept. 2002, <http://electronicbookreview.com/essay/interferences-net-writing-and-the-practice-of-codework/>.

Short, Emily. *Emily Short's Interactive Storytelling*. www.emshort.blog.

Stephenson, Neal. *Snow Crash*. Bantam Spectra, 1992.

Wark, McKenzie. *Gamer Theory*. Harvard UP, 2007.

Warzel, Charlie. "How an Online Mob Created a Playbook for a Culture War." *The New York Times*, 15 Aug. 2019, <https://www.nytimes.com/interactive/2019/08/15/opinion/what-is-gamergate.html>.

Wreden, Davey. *The Beginner's Guide*. Everything Unlimited, Ltd., 2015.