Artificial Reading (Mk II)

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Abstract

This essay re-reads Roxanne Lapidus’s translation of Pierre Lévy’s “La Lecture artificielle” in the context of recent developments in the field of literary criticism, particularly in relation to the emergence of computer-based interpretative practices and text-creation programs, examining the ways in which such activities can be considered to be “artificial.”

Keywords: artificial intelligence, narrative generation, hypertext, distant reading, Pierre Lévy, computerized creativity.

In 1994, Pierre Lévy published a short piece called “La Lecture artificielle” in Azimuts, translated three years later by Roxanne Lapidus for a SubStance special issue on “Metamorphoses of the Book.” Better known for his work on collective intelligence, published in the same year as “La Lecture artificielle,” Lévy’s article, nonetheless, stands out as an early example of a particular kind of criticism concerning itself with the relationship between technology and reading. Just over twenty years later, I wish to return to some of the assertions Lévy makes in that piece, re-contextualizing them in the light of more recent developments on “metamorphoses of the book,” and, perhaps more importantly, in relation to the current—and potential—metamorphoses of the reader.

Artificial Reading I: “Artificial Reading”

Pierre Lévy’s “Artificial Reading” is predicated upon the idea that all reading is artificial. This does not mean, however, that he asserts that reading is not “neutral” or “natural,” a culturally-specific and learned, rather than innate, activity; rather, he is arguing that reading involves the production of an artifice. He begins, “We read a text. What is happening?” (12), and proceeds to outline the ways in which reading is informed by absences: the spaces between words, the fragments we do not comprehend, the ways in which readers “take the sparse, spread-out members that are dispersed on the surface of the pages or in the linearity of discourse, and [. . .] sew them together” (12). From this, he argues, comes meaning: “The space of meaning does not pre-exist reading. It is in traveling over it, in mapping it, that we create it” (12). Like other critics who have changed the landscape of literary studies, perhaps especially Roland Barthes and Jacques Derrida, Lévy sees in the text not a fundamental unity that builds meaning through reading, but an intrinsic disunity that gives rise to something else:

Here it is no longer the unity of the text that is at stake, but the construction of the self [. . .]. It is no longer the meaning of the text that occupies us, but the direction and elaboration of our own thinking, the clarification of our world view, the outcome of our projects, the awakening of our pleasures, the thread of our dreams. (12-13)
Lévy skirts the ways in which the reader appropriates the text, where “reading” is the interaction between text and reader, and “meaning” is a result, always contingent, of this interaction. This is not reading in the sense of an exegesis of the text, an annotation or summarization of what it contains, a direct correlation between textual elements and interpretations, but an act of (ongoing) construction of the relationship between the text and the reader, a record of the experience of reading rather than a final and complete reading in and of itself.

Lévy’s point, however, is not to rehearse poststructuralist ideas, nor, to a lesser degree, reader-response criticism, but to show how a particular emergent literary practice has always already been encoded in the reading experience:

Up to this point, you haven’t yet read the word hypertext. Nonetheless, this is exactly what we’re talking about. Intellectual technologies nearly always exteriorize and reify a cognitive function, a mental activity. In so doing, they reorganize the intellectual economy or ecology in its entirety, and in turn modify the cognitive function that it was supposed to simply aid or re-inforce. (13, italics in original)

For Lévy, then, hypertext is the logical result of, “the already age-old process of artificialization of reading” (14). It is a way of thinking as much as a particular textual form, a mental operation that merely finds a manifestation in the technological affordances of a new medium:

If reading consists of selecting, of schematizing, of constructing a network of cross-references internal to the text, of making associations with other givens, of integrating words and pictures with a personal memory that is under perpetual reconstruction, then hypertextual operations truly constitute a reification, a kind of exteriorization of the processes of reading. (14)

From here, he concludes that digital technologies remove the text’s “clear boundaries,” its “definable interiority,” until it is no longer a discrete object, but one of many nodes in an expansive network, a “semantic map, accessible from anywhere, to which each person can contribute” (15). As a result:

Interpretation—the production of meaning—no longer harks back to the interiority of an intention, nor to hierarchies of esoteric meaning, but, rather, relies on the still singular appropriation of a navigator. Meaning emerges from the effects of local pertinence. It emerges at the intersection of a de-territorialized semiotic map and a goal of efficiency or pleasure. I am no longer interested in what an unlocatable author thought; I ask the text to make me think, here and now. (15, italics in original)

Lévy’s essay, when placed within the context of the then nascent field of hypertext criticism, reads as a call to appreciate the ways in which hypertext, so radically new in technological terms, is effectively old in terms of human thinking—it is how we have always read texts methodologically.

Whilst one might take issue with this, or at least argue that this is an oversimplification of the (historically-determined) processes of reading, we can see in this piece an early incarnation of the various strands that have come to dominate the critical field at the intersection between literary studies and new media technologies since: the ways in which the digital is a mediation
or re-mediation of former print technologies and reading practices (and its converse, that it is a radical break); the spatializing of the text, and the reader as navigator; what “reading” means in a digital age.

Artificial Reading II: “Artificial” Reading?

As in the English term “reading,” however, there is potential ambiguity in Lévy’s “La Lecture.” It is not a performance dominated by artifice, or an artificial (as opposed to “natural”) reading, but a statement that reading is always already artificial. Yet, after twenty years of developments in computer hardware, in which processing power has increased exponentially, with vastly increased numbers of transistors (“Moore’s Law,” loosely meaning that computing power will increase twofold every two years), better hardware architecture, and the development of multi-core processors, the landscape has changed dramatically. It is no longer just a matter of what we read on the screen (rather than in print) having an impact upon or reifying existing reading practices, but the very nature of how we can “read” texts through artificial means. Contra Lévy, this is “artificial” reading in the sense that there is no meaning generated by the reading process, but instead the creation of an abstract dataset that can be used to further understand the processes which go into the make-up of the text.

The most overt way in which computers have changed how we (can) read is evident in the application of that raw processing power to the field of corpus analysis. Sifting through many millions of words of text, computer programs can identify statistical patterns and correlations within large corpora and, where relevant, perform a form of analysis on a given text to see how it compares to other texts. Many language departments around the world now offer courses in such software packages in order to teach students how computers can identify patterns in large amounts of material, a task that computers are obviously more suited to doing than people. But this “analysis” is not what most literary scholars would call analysis, and the “readings” generated are not tightly-constructed prose arguments that elucidate problems in the text, identifying shifting ideologies and ideological affiliations, or interpretations linking textual elements to contextual or biographical markers. Instead, such programs produce lists, diagrams, and graphs showing concordances of words (word usages and frequencies) within particular texts; they identify linguistic patterns and collocations; and, through the use of semantic tagging, they pinpoint recurrences or patterns drawn from different discourse areas.

Franco Moretti’s work, especially Graphs, Maps, Trees (2007), has provoked much debate about what constitutes “reading” using such digital tools. Although his work moves away from corpus analysis, it nevertheless sees literary texts as data, and, in so doing, offers various insights into literary history, whether charting the multiple “rises” in the novel based upon the publication trends of new books, suggestively demonstrating “generations” of genres, or re-imagining characters as vertices in network diagrams of interrelations. For Moretti, computers are a powerful tool for interpretative practices precisely because they can parse more data more quickly than a human reader and so produce more “complete” readings of literary historical trends than an inevitably partial human account. To his opponents, however, this very sense of completion is flawed, derived as the information must be from often incomplete datasets, and denying its own partiality of approach. Moretti is opposed to “close reading,” preferring instead the notion of “distant reading,” but to such opponents, even his graphs, maps,
Reading the Artificial I: Plot Bots...

In addition to providing opportunities for interpretation, computing technologies also facilitate writing, and in a *New Scientist* article entitled “Plot Bots,” Simon Parkin reports on programs that are currently learning how to write stories. Mentioning some of the ongoing projects in computer authorship, such as the What-If Machine and Scheherazade, the piece suggests that the role of the author can be separated out into discrete programmable elements. The most problematic element, for Parkin’s interviewees, is making the stories *interesting*. Scheherazade poses questions in online forums—the example used is what happens when two characters meet in a restaurant—and then utilizes the responses to construct a plausible narrative. The What-If Machine generates a list of “what if” questions to act as springboards into story creation, to try to create interesting premises for plots; examples from the “Utopian and Dystopian” section include, “What if the world suddenly had lots more generals? Then there would be more munitions, since generals command the armies that require munitions,” and from “Metaphors,” “What if august leaders were to lose their power, develop quirks and become unwanted misfits?”

But to call such programs “plot bots” is fundamentally accurate, because such programs are predicated upon the assumption that an interesting premise makes for an interesting story. They have no understanding of “interesting” past what is defined for them as being of interest and are, at best, digital homunculi of Russian formalists, breaking stories down into component pieces and trying to stitch them together. Part of the problem, perhaps, is that the programmers themselves are addressing a challenge, rather than trying to write a story. To use the example of Tony Veale, who works on the What-If Machine Project: “A story about a CEO who becomes chairman of a company is filled with plausible similarity, as CEOs are very similar to chairpersons [. . .]. But where is the tension? A story about an arrogant CEO who loses everything and becomes a bum? Now that’s interesting” (qtd. in Parkin 49). Such assumptions miss the fact that defining a narrative as “interesting” is of very little worth to anything but the most simplistic of reading practices, given that the most boring premise might be turned into a fascinating narrative through how it is narrated and situated, and equally that the most innovative plot idea can be turned into the most turgid of stories if narrated badly. To use J.R.R. Tolkien’s *The Lord of the Rings* (1937-1949) as an example, there comes a point relatively early on in the narrative arc where all the elements have been laid out and most readers will “know” that the ring of power will be destroyed by the end of the books. This does not stop them from reading, and this is broadly true of whether an ending confirms or thwarts a reader’s expectations; it is how the reader traverses the story that is important, and whether there is enough to the unfolding of the plot to hold the reader’s attention. Thus in the case of the *The Lord of the Rings*, narrative tension is not the result of the plausibility or implausibility of the

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1 As Franco Moretti himself outlines at the conclusion of one of the foundational articles of *Graphs, Maps, Trees*, published in *New Left Review*: “I began this article by saying that quantitative data are useful because they are independent of interpretation; then, that they are interesting because they demand an interpretation; and now, most radically, we see them challenge existing interpretations” (“Graphs, Maps, Trees: Abstract Models for Literary History—1,” §XI, italics in original). For some initial responses to Moretti’s work, see the editors Jonathan Goodwin and John Holbo in *Reading Graphs, Maps, Trees* (2005).
plot, but instead the desire of readers to work through various scenes in order to arrive at, at least in terms of the basic quest narrative, a point they already knew was coming.

If “interest” is a central assumption behind the What-If Machine, Scheherazade operates on a different assumption, since it is primarily concerned with plausibility and causation. To reproduce in part the story written by Scheherazade, Parkin’s article quotes:

> With sweaty palms and heart racing, John drove to Sally’s house for their first date. Sally, her pretty white dress flowing in the wind, carefully entered John’s car. John and Sally drove to the movie theatre. John and Sally parked the car in the parking lot. Wanting to feel prepared, John had already bought tickets to the movie in advance. (47)

The extract goes on in this manner for another few sentences, until we reach the (quoted) conclusion: “Sally stood up to use the restroom during the movie, smiling coyly at John before that exit” (47). Scheherazade might be able to crowd-source the plot problems, but its namesake is, I imagine, turning in her fictional, infinitely-deferred grave at this point.²

This is evidence of impressive programming, but it is far from impressive storytelling. It is like a precocious child’s attempt at a story, with less imagination and more concern for causation. There is what would be called a heavy-handed use of adjectives were it written by a human—“to make the story interesting to read,” as children are often told by teachers. There is a flat tone and repetitious focus on either John, or Sally, or both (with the addition of a potential problem of how many agents it takes to park a car). There is, basically, a lack of anything to engage the reader beyond the plot, which is itself somewhat mundane.³ Narration, perspective, structure, and pacing are not concepts understood by this program, and so the story lacks sophistication; it is procedural, with no concern for anything else. This does not mean that it is not a story, only that it is a story that makes the reader wonder why they have bothered to read it in the first place.

My concern here, in terms of programs such as the What-If Machine and Scheherazade, is that computer scientists are, like the systems they program, parsing stories. This makes sense for programmers, as each element is broken down into constituent parts and then compiled together to create the whole. But the question remains: what are the constituent parts of a story? Even within the discipline of literary studies, there is not a common consensus. Most of us are happy to talk about the notions of fabula and syuzhet; narrative voice, perspective, and focalization; language and linguistic structures; prolepsis, analepsis, and metalepsis; mood, and to a lesser extent, duration; form and genre; and linear versus non-linear narratives. There are obviously many more. But even these terms are contested, extended, contextualized, appropriated, adapted, re-appropriated, and utilized to greater and lesser extents over the history of reading, and as much as some insights remain fashionable, others change in a complex web of interactions between all the possible elements of a story—and that is only the stories that have been written so far. New media narratives have led to a reappraisal of some of the above, but more often than not this is a re-inflection rather than a rebuttal, and often such

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² Some readers might be interested to know that the story continues after the excerpt quoted by Simon Parkin, and that the full version of “Movie Date” can be found on the Scheherazade website.

³ This is, of course, with the possible exception of the end of the section, where readers might well wonder what an initially demure Sally, with her virginal dress and her careful entering of the car, is suggesting to John with that coy look, although that is reading “outside” the story.
actions in and of themselves are more strategic than considered, in order to showcase the versatility of “new” media over “old” media.\(^4\)

That is, it is a truth universally acknowledged that there is no universally acknowledged “truth” to plot construction, and that the very composite nature of a story, an amalgam of the type of notions listed above, means that whilst we can break down elements of individual stories, and even then try to group them together into loosely generic elements like poetic and prose forms, there is no narrative outside of its narration, no Platonic form, or uber- or meta-story behind them. For all the instances of resonances, cross-overs, and adaptations throughout history in terms of specific stories, perhaps the only description that adumbrates all possibilities (which it would be important for a program to be able to do in order to function as the “best” storyteller were that phrase not at least twice as ridiculous as it sounds) is that “story” is the short-hand reference term for something that gets a reader from point A to point B, wherever, whenever, and however points A and B occur. In other words, it is the specific ways of how that is achieved, taking into account culture, language, media, and many other considerations, that are of most “interest” to readers.

To express it still more simplistically, there is no universal framework for a story, and what makes a story “interesting” to readers is through the telling as much as what is being told, the contexts in which the telling and what is told occur.\(^5\) Even structural narratologists and formalists do not codify stories and story elements in the ways that programmers do in order for their programs to be able to “write.” Even if the most extreme structural narratologists and formalists were to sit down together to identify the various elements and attempt to compile them, the result would be complexity not simplicity, not a simple formula of “plot + narration = story,” but an emergent interaction between all the possible ways of telling (an unquantifiable variable) with all the possible types of story (another unquantifiable variable), within all the cultural, generic, linguistic, and historical frameworks for a story (which are impossible to quantify and codify individually). Although I would argue that John and Sally’s escapades do form a story and would acknowledge that it is at least in part written by a computer program, that does not make it worth reading for anything but the value of seeing how a computer program “attempts” (a verb assuming volition, I admit) to move a reader from point A to point B.

Reading the Artificial II: ... and Script Generators

Such issues are reminiscent of another story that I find my thinking on the subject returning to, Philippe Vasset’s \textit{ScriptGenerator©®™}. Vasset’s first novel and his only work to date to be translated into English, \textit{ScriptGenerator©®™} attracted comparatively little attention at the time and has fallen under the radar of most critics working at the intersection of literature and new media. It is ostensibly about a geologist who uncovers a manual outlining a secret software package that can create and market stories, and the narrative is split between two kinds of chapter: “commodification” chapters (called things like “Diamond,” “Cotton,” “Natural Gas,”

\(^4\) For more on this, see Will Slocombe, “Techno-Babel: Re-Pre-Positioning Narratives and New Media.”

\(^5\) Raymond Queneau’s \textit{Exercises in Style} (1947) is a case in point here, telling the same mundane story in ninety-nine different ways. Matt Madden’s \textit{99 Ways to Tell a Story: Exercises in Style} (2006) is an adaptation of this concerned with graphic storytelling. Each text foregrounds the ways in which the telling of the story alters how the basic “plot” is perceived.
and “Maritime Freight Index”) and chapters from the manual of the eponymous software package, “ScriptGenerator©®™.” This manual is intended to both rationalize and “sell” the product, and contains phrases such as “narrative has finally become a raw material, a commodity. Therefore its treatment can be mechanised” (Vasset 5, emphasis in original) and “the author forms an essential part of the proposed content [. . .]. Using the ScriptGenerator©®™ database, you can produce the author you need to sell the product, and then employ an actor to incarnate the character” (71, emphasis in original). As the literal translation of the French title, “Display Copy,” reveals, however, there is something far more reflexive about the text: it emerges that, yes, this entire story is created by ScriptGenerator©®™, utilizing a basic quest-narrative framework—“investigator,” “sought-after object,” and “narrative units that link the one to the other” (29)—and that the story itself is part of the marketing campaign to foster consumer interest in the software.

For all its satire and cynicism, Vasset’s view of this commodification of narrative is not entirely inaccurate. Take for example, the following passages in which the manual discusses “creation” and “creatives” (one can well imagine Veale’s former uninteresting CEO being very interested at the thought of dismissing his “creatives”):

> It is ridiculous to allocate millions of dollars to the “creation” when this part of the production process can be replaced beneficially by a judicious and systematic recycling of two thousand years of narratives, maturing in libraries, archives, data bases.
> [. . .]
> The creative members of staff you employ—perhaps not for much longer—will tell you that such electronic enhancement kills innovation. We do not claim that it favours it, but we remind you that, commercially, novelty in itself counts for much less than the illusion of novelty. (6, 19)

Using computers to search for patterns can throw up some intriguing results. Recently, for example, three computer science researchers (Ashok et al.) have created a program that can predict whether a work will be a “bestseller” with 84% accuracy, through the analysis of its writing style. Despite The Telegraph’s lauding of the results—“Scientists find secret to writing a best-selling novel”—and despite some issues about assumptions behind and within the research (such as what constitutes success in the long- and short-terms, and whether that is the same as “merit,” however that is quantified), their results should force a reconsideration of the ways in which style can play a role in success. If computer programs that are beginning to learn to write exist, such as the What-If Machine and Scheherazade, those that attempt to determine literary marketability are also becoming more significant.

Albeit through the filter of research rather than economics, it is useful to compare Vasset’s fictional ScriptGenerator©®™ software with projects like the What-If Machine:

> In Computational Creativity research, we study how to engineer software which can take on some of the creative responsibility in arts and science projects. There has been much progress towards the creative generation of artefacts of cultural value such as poems, music and paintings. Often, when produced by people, such artefacts embed a fictional idea invented by the creator [. . .]. While such ideation is clearly central to creativity, with obvious applications to the creative industries, there have only been a few small, ad-hoc studies of how to automate fictional ideation. The time is therefore ripe to see whether we can derive, implement and test
novel formalisms and processes which enable software to not only invent, but assess, explore and present such ideas. (“Project Overview,” italics mine)

Programs taking on “creative responsibility” and the automation of “fictional ideation” in order to “explore and present such ideas” sound remarkably like the fictional ScriptGenerator®©®©. It is an early (in the sense of a prototype) program for identifying plot areas that might be of interest to readers, and one can easily imagine the software behind this being used to form part of a larger package in the future that looks remarkably like ScriptGenerator®©®©.

However, the intent behind the What-If Machine is ostensibly less cynical than Vasset’s imagined software package: whereas ScriptGenerator®©®© is an allegory for the conservative recycling of already existing narratives (the premise being that “the illusion of novelty” is all that is required to market a text), alongside a denigration of the role of the author, the What-If Machine is intended to generate surprising and counter-intuitive results to encourage the creation of new ideas based on a re-appraisal of the familiar. To this end, Veale’s “Running with Scissors” explores the value of the cut-up technique, exemplified by William Burroughs, as a generative process:

Creative producers are masters of ambiguity. They make the most of the ambiguity in their inputs, and induce ambiguity in their outputs to foster indeterminism and the emergence of new, unexpected meanings. The cut-up technique is designed to unleash the latent ambiguity in an otherwise business-as-usual text, such as a news story or a well-thumbed novel.

For Veale, this procedure goes to the heart of the issue of the What-If Machine, which is not coded to produce semantically polished, culturally-accurate prose, but to generate questions that demand participation in order to resolve them:

Consider < dictator; suppress; critic >, a triple which captures the widespread belief that dictators censure their critics, or worse. A system that also believes that < critic; criticize; artist > and < artist; produce; art > may well construct an inferential chain from dictators to art via critics and artists, to infer that dictators indirectly promote art by thwarting the critics that impede its producers. Such a chain embodies a surprising claim, that more dictators lead to more art, but it is predicated on several acts of sophistry.

As Veale sees it, what is interesting is not that this sophistry is inaccurate, however, but that it embodies the potential for “inference chains [...] to be surprising in ways that make us think about what we know” (8):

This friction poses a challenge to an audience—how can this be so?—that must be resolved meaningfully, either by accepting the conclusion at face value or by identifying the sophistry at its heart. In either case, the audience is aware of both the friction and its resolution; indeed, the resolution actively draws our attention to the friction, and draws us into its worldview.

6 With similarly laudable aims about breaking down the barriers between humans and machines, Mark Reidl of the online Scheherazade project has stated that, “My goal as a researcher is to instill computers with narrative intelligence—the ability to craft, tell, and understand stories based on human reactions. In doing so, I hope to make computers better communicators, educators, entertainers and more capable of relating to us by genuinely understanding our needs” (“Why Artificial Intelligence Should Read and Write Stories,” italics in original). In this instance, however, it is about familiarizing our actions for machines.
Far from being a sinister attempt to remove authors from their roles, then, Veale and his colleagues at work on the What-If Machine are attempting to use an automated version of the “cut-up” to generate new ideas and new thinking. It is, to over-generalize, a form of counter-factual historicism applied to ideas and concepts; we might learn something new from it, but it is very hit and miss about whether it works or not.

Yet it must be observed, we are still talking here about intent. Veale intends the What-If Machine in one way, whereas the mysterious creators of ScriptGenerator©®™ intend their system to be used in another way. In fact, one of the problems that I would argue has contributed to Vasset’s ScriptGenerator©®™ being overlooked is in fact the issue of intent, as one reviewer notes:

So what was the author’s intention in writing the book? It is clearly a savage parody of the commercialism of contemporary culture, and of the publishing industry’s role. It may have been an attempt to show the vapidity of the writers of currently popular fiction. It may have been an attempt to illustrate that it will soon move to absurd conclusions. It may also have been a diatribe aimed at fellow authors, who so closely attach themselves to the strategies of commodity-moving used by book publishers that they begin to write commercially-adapted stories as commodities. (Kohn)

This question of “intent,” of acknowledging the book’s satirical nature but not being able to nail down its “point” prevails, towards a suspicion that, in “its parody of novel writing” (Kohn), the text’s failure to satisfy might be deliberate, but equally might not be. As Michel Faber’s online review of the novel—rather cruelly titled “the dearth of the author”—articulates: “It’s difficult to guess how good the narrative parts of the book, ostensibly generated by ScriptGenerator software, are intended to be. Characterisation is non-existent, espionage clichés are grafted on shamelessly. Some lines tempt us to identify them as parody” (italics mine). Faber’s conclusion that “Vasset understands the mindset and the machinations of the companies that own our planet; all he needs is proper characters and a story” is indicative of the way that the novel can feel unsatisfying at its close—rather like reading a story called “A Corporation’s Hostile Takeover of Narrative” by a more advanced version of Scheherazade. Vasset is either a genius at writing like a computer program or a bad writer; he is either a brilliant satirist, to such an extent that the book has failed to sell well (does this invalidate his point?), or a failed writer, according to such arguments. How are we to read not only ScriptGenerator©®™ as a text, but also interpret its place in the market, and why it has failed to attract much attention?

The Artificial, Reading

If what I have said in the above sections is at all accurate, then computer programs (and their programmers) only identify story elements in isolation, at the expense of the whole, and there remains a larger concern. The broad definition, “something that gets a reader from point A to point B,” means that the story, as much as text has a phenomenological existence outside of the reader, only becomes story if it takes the reader somewhere, whether metaphorically or just getting them through a rainy day. There is something outside of the text (no misappropriations of Derrida, here, as counter-arguments) that we must take into account: the reader. If we
consider reading—perhaps a necessity given the importance that writing courses put on an awareness of reading and reading contexts—then the situation is obviously even more complicated. To return again to Tony Veale’s fictitious CEO, one can imagine a CEO very much enjoying the story of a CEO who becomes a chairperson, as it would “speak” to them in a way it would not to other readers, and if this “story” is classified as “biography” or “self-improvement,” then I can imagine quite a market for it. Equally, I can imagine that arrogant CEO, finding a copy of the riches-to-rags version, not being interested, and if they had already bottomed out, certainly not wanting to read about how it was probably their own fault anyway. “Interest” is as much in the eye of the beholder as it is in the narration of a plot.

If readers are as central to narrative construction as theorists such as Barthes assert, then another agent comes into play at this point, if we are to speculate on the future. To echo Lévy: up to this point, you haven’t yet read the words “artificial intelligence.” Nonetheless, this is exactly what I am talking about. In these models and processes of reading, in these much-vaunted claims for the death of the (human) author due to the ability of computers to process information and parse it more rapidly and efficiently than humans, we are seeing a denigration of the act of authorship, not least of which is concerned with—if they are to be deemed important still, anyway—politics, morality, dare I say responsibility. If we devalue the author to such an extent that they are merely a textual-production machine, an algorithm through which ideology, unconscious trauma, or whatever else might convert an input into an output, then they are little better than calculating machines.

This may of course be true; according to some types of readings, the role of the author is perhaps reduced to that of a throughput. Nevertheless, how many readings have been generated, especially since the birth of New Criticism and the decline of centrality of the author, which barely mention the author at all? I would imagine not that many, for most critics would acknowledge the author as a cultural or psychological agent or their Foucauldian “function,” even if they refuse to acknowledge the significance of authorial intent to a text. Yet, by ascribing a systematic program to what constitutes a story, computer scientists are indeed suggesting that the author is no more than data-parser and compiler, which the most ardent of poststructuralist critics would probably take issue with even as they talk about language speaking through the author. As literary critics, we might deny authorial intent, but we cannot deny the role of the author in the construction of the text, even when we cannot agree what that role is.

But let us not forget that Barthes asserts in his well-known critical essay “The Death of the Author” (1968) that “the birth of the reader must be at the cost of the death of the Author” (148), and from that observation we can nuance the preceding sections; rather than a human reading a computer-generated story, what might happen when a computer “reads,” not just in the sense of parsing data and “comprehension,” but the generative process of creating a reading?\(^7\) Does the

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\(^7\) An early example of this “reading-AI” can be seen in Elaine Rich’s “Computing and the Humanities.” Despite the “primitive” state of AI in 1985, what I “read” in(to) her piece is not what it says, but the gulf between “reading” as a humanities scholar and “reading” as defined by a computer scientist (which Rich is), and the misapprehensions of each area towards the other that persist to this day. Rich thus usefully demonstrates an approach to “reading” that is predicated on problem-solving (that is, reading as comprehension for information to answer questions) rather than the construction of interpretations. Another early reading, this time of “Artificial Intelligence,” is David J. Bolter’s 1984 article, which somewhat presciently argues that “artificial intelligence will grow in importance as a way of looking at the human mind, regardless of the success of the programs themselves in imitating various aspects of human thought” (17). For him, the tendency for computer scientists to
death of the (human) author herald the advent of the (computer) reader? To my mind, this speculation is by no means idle, even if artificial intelligence is insufficiently advanced to act in this way currently. Computers have “read” for a while now, although they “read” in very different ways to humans. Aside from the computational linguistics aforementioned and Moretti’s use of graphs and computers to parse out data from stories, we can of course talk about examples of OCR (Optical Character Recognition), text recognition software, machine translation, and speech packages, although the ways in which these constitute different sense of “reading” can be debatable. To illustrate: ScriptGenerator©®™ is fictional, but it is designed to deal with large amounts of data—today’s “big data” industries spring to mind—to derive a sense of what is happening culturally, as the text’s definition of the cultural “zeitgeist” suggests: “ZEITGEIST, an index unique to ScriptGenerator©®™, features prominently in the profit and loss assessment. This index constantly measures the frequency with which themes, imagery and characters appear in the media or in a cultural context, and it allows you to integrate them in your productions” (52, emphasis in original). Vasset is being cynical again, but computers are far better than humans at pattern recognition and sifting through large amounts of data, and it is not too much of a stretch to assume that this kind of data mining of cultural outputs is not that far in the future.

As a result, if computer programs can learn to “data-mine” culture, and link to other programs that can construct syntactically meaningful sentences, and then to other programs that are more advanced “plot bots,” we arrive at a situation where programs are, indeed, “reading” culturally, and producing “readings.” If we then enter the realms of Science Fiction and attach sentience, or at least agency, onto such conglomerations of programs, we step further into the rabbit hole and see a time in which all our literary endeavors might be interpreted through computers acting as literary critics, or even programs writing stories that other programs read. It is between these two poles that I wish to devote what is left of the article—between computers “reading” encoded cultural data and computers producing “readings” of literary works.

The short form of this is to ask a question: if we are to create a sufficiently advanced program that could read literary works and write essays on them, would it merely be an “artificial” reading? If, as Lévy states, interpretation “relies on the still singular appropriation of a navigator” (15), what does it mean for a computer to “navigate” a text? To return to another of Lévy’s statements, re-contextualized from the conditional: “reading consists of selecting, of schematizing, of constructing a network of cross-references internal to the text, of making associations with other givens, of integrating words and pictures with a personal memory that is under perpetual reconstruction” (14). In literal terms, a computer program could achieve all this, and thus, according to Lévy, “read.” But its reading would not be a reading that we would necessarily recognize as such. As Moretti has shown, computer programs can enable us to

“replicate” human cognition is much the same process as I am outlining here in their tendency to “replicate” stories, and I share his concerns about the existence of a blasé tendency to accept the assumptions of the model merely because such a model can be successfully programmed.

8 This piece is obviously the product of both a directed search for sources and the happenstance of coming upon them, whether fictional, critical, or popular science and journalism. It is, also, the product of work that does not correspond to acts of reading; a response to a call; the creation of a new undergraduate module on “Ways of Reading,” looking at the different ways in which we can read a text (a literary theory module by another name); various articles in New Scientist, Scientific American, and the national press; arranging an event on Artificial Intelligence as part of a national festival of the humanities, Being Human; even biographical research into psychiatry and diagnostic criteria. And these are just some of the ones of which I am aware.
“read” in radically different ways and identify features of texts that we may not have noticed (and to somehow empirically “prove” the obvious, sometimes), but programs “read” in the manner in which they have been programmed: identifying particular elements of texts, keywords, and a multitude of other things that I have and have not mentioned above. They do not, and arguably cannot, traverse a text in the manner that Levy suggests, from initial thoughts and impressions to coherent and plausible interpretations.  

There are many reasons for this. For instance, there is no self-reflection going on, even as the text itself is being searched in a sustained and thorough manner, and even if modifications are occurring within the program as it is shaped by what it is reading. And that, perhaps, is the difference—humans tend not to read by searching for patterns, at least on a conscious level, whereas programs do. When Lévy states that reading is more about “the direction and elaboration of our own thinking” (13) than it is about identifying the meaning of the text, a program would not read in such a manner, and neither could it “ask the text to make me think, here and now” (15, italics in original). This distinction is, in loose terminology, that between “closed” and “open” readings, where reading with a particular cultural or theoretical bias refuses to acknowledge areas of the text outside of that approach. Human critics can read like that, but they do not have to read like that. Moreover, a program could only produce a reading of something it was programmed to read, and then (presumably) not be able to forget it, as it would be incorporated into a vast textual reservoir of its database. It could not necessarily select a text to read, based on personal predilection, and neither could it then “forget” what it had read, only to resurface in unexpected and perhaps interesting ways later on.

This notion of different “readings,” of different ways of reading, is something that literary scholars are familiar with, from their own historical and theoretical awareness, and this, too, is something that a computer could (arguably) not achieve. Imagine a very well-programmed system, with a multitude of different theoretical approaches at its disposal, that is introduced to a new text. Users could ask it to generate a feminist reading, or a queer reading, or a postcolonial reading, even a deconstruction of the text, but that would still be closing down its options—even assuming that it would be possible to program the behaviors and expectations embodied by such approaches in the first place. The notion of a “complete” reading, imagining such a sufficiently advanced and extensive system, is anathema anyway. Such a program could relate minute amounts of detail of the author’s life (assuming it is recorded) with socio-political contexts at the time (assuming enough data), with versions and editions of the texts pre- and post-publication (assuming that they are kept), with prevailing literary trends past and present (to be fair, as Moretti observes, it would be less selective than a human reader); but it would still fail to be a complete reading of the text, if only because it would in so doing miss the partiality of approach that generates readings and counter-readings—a diehard narratologist would not,

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9 This is not to presume that Pierre Lévy is correct, and that there are no other ways of reading, but it is a useful illustration of the ways in which a program cannot read.

10 Aside from the issue of whether such an artificial intelligence, were it to exist, would have a conscious versus unconscious mind, this notion of pattern-searching is debatable. After all, disciplines approach the matter of reading quite differently, and some are more system-oriented than others. To cite one example, Andrew Elfenbein has usefully explored the relationship between cognitive science and the history of reading, in an article of the same name. Whilst I disagree with some of his statements, the discussion about relationships between “online” and “offline” reading, concept activation, cohort activation, and standards of coherence do provide interesting ways of approaching the matter of “reading,” especially in terms of how programs and humans “read” differently.
indeed could not, interpret the text in the same way as a Marxist critic, and the two readings are mutually exclusive unless combined into a coherent reading, in which case they cease to be either Marxist or narratological but a blend of the two.

**Artificial Reading (Mk II)**

All of which is to say, humans are not better at reading than computers, but neither are they worse. The purpose of reading, of generating readings and interpretations, is under threat, particularly in the increasingly technological and economic paradigms in which we “operate” (I cannot say “live” there). There is value, however, in reading differently; learning to accommodate other readings, whether generated by programs or people, is no bad thing. The advanced system posited above, reading texts in tandem with human readers, could generate new insights and new ways of approaching problems, because it would offer both systemic and qualitative approaches to texts, to culture, and to human experience. The tendency of programmers (and policy makers) to assume bigger (data) is better (data), that systems for meaning-making and reception might be better than individual acts of the same, suggest a culture attempting to eradicate its own humanity, a fetishization of the order of the machine at the expense of the meat. But as all good writers know, and quite a large number of critics, binaries are products of ways of thinking, not truths, and are there to be interrogated. All reading is artificial, says Lévy, yet he does not suggest that it is not fundamentally human.

**Works Cited**


