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Computer-Generated Fiction in a Literary Lineage: Breaking the Hermeneutic Contract

Abstract
This article examines the place of computer-generated literary texts within the boundaries of modern literary analysis. Any act of reading engages interpretive faculties; modern readers assume a text to embody human agency. With this assumption, readers assign authorial intention, and hence develop a perceived contract between the author and the reader. Yet computer-generated texts bring this contract into question. Drawing from historical examples of conceptual writing, this article shows how computer-generated texts call into question current conceptions of authorship and what it means to be a reader, but how they nevertheless fit within a longstanding literary lineage.

Keywords
natural language generation, authorship, conceptual writing, literary analysis

Introduction

'The day a computer wrote a novel. The computer, placing priority on the pursuit of its own joy, stopped working for humans' (Sato, 2016, p. 33). It is difficult to imagine such a scenario; computers with authorial agency have been consigned to the realm of science fiction. Yet these words are the product of computational storytelling system.

Natural language generation (NLG) – the process wherein computers translate data into readable human languages – is recognised as a subfield of artificial intelligence (AI), and as such has seen much technological development by computer scientists. Indeed, NLG systems are becoming increasingly present in our modern digital climate. Companies such as Arria NLG, Automated Insights, Narrative Science, and Yseop specialise in producing computer-generated news articles for such large-scale clients as *The Associated Press* (Automated Insights) and *Forbes* (Narrative Science), as well as for more niche clientele such as FarmLink (Arria NLG), which provides personalised agricultural reports for farmers across the United States. Facebook hosts numerous chatbots for entertainment, reference, and business purposes, many of which function using NLG technology. Twitter is home to countless bots, and some have been credited as shaping public discussion in various high-stakes elections (Woolley and Howard, 2017). We regularly read computer-generated texts, even if we are not aware that we are doing so. However, NLG has not been subject to any systematic study within the humanities, and there is limited literature about NLG output reception. We do not know where computer-generated texts fit within our current conceptions of authorship.

This article's opening passage is translated from a Japanese computer-generated story entitled 'The Day a Computer Writes a Novel.' This story was one of eleven submissions to the 2016 Nikkei Hoshi Shinichi Award written with at least partial assistance from a computer program. In an article describing the production process, 'The Day' programmer Satoshi Sato describes two contrasting approaches to story generation. The first approach, adopted by his team, emphasises text generation over plot generation, for 'we believe that nobody wants to read a poor text just serialized an event sequence [sic] and such texts are easily perceived as machine-generated' (Sato, 2016, p. 34). The alternative approach focuses on automating plot generation: programs generate story outlines to be realised into narrative form by human researchers. Contrarily, Sato's team 'prepared several components needed for generating stories such as a story grammar and a set of text fragments, and then our system constructed a story (text) automatically using these components, which we submitted without any modification' (Sato, 2016, p. 32). This article's focus is on text generation rather than plot generation, as it is the former that contributes to the shift from a perception of computers as *tools* to a perception of computers as *agents*.

The system that generated 'The Day' is, to be sure, highly dependent upon human intervention for its maintenance and use. Nevertheless, developments in NLG are bringing computer-generated texts to the forefront of communications and literary studies. Computer-generated texts call into question current conceptions of authorship and what it means to be a reader. Any act of reading engages interpretive faculties; modern readers assume a text to embody human agency. With this assumption, readers assign authorial intention, hence developing a perceived contract between the author and the reader. This article refers to this author-reader contract as 'the hermeneutic contract.'

Developers have been trying to create NLG storytelling systems for decades. James Meehan's TALE-SPIN system of 1977, while widely regarded as the first NLG storytelling system, was actually preceded by other systems such as Klein et al.'s 'automated novel writer' of 1973 (Meehan, 1977, pp. 91-98; Klein et al., 1973). Moreover, Victorian automata such as the *Eureka* poetry-generating

machine exemplify early attempts to systematize language to support machine generation of unique texts (Hall, 2007). Other NLG storytelling systems include William Chamberlain and Tom Etter's Racter, Scott Turner's MINSTREL, and Selmer Bringsjord and David Ferrucci's BRUTUS (Racter, 1984; Turner, 1994; Brinsjord and Ferrucci, 2000).

Computer-generated narratives bring into question the current conventional hermeneutic contract: that is, that a text embodies authorial intention, that a text is a means for an author to communicate a particular message to an audience. The hermeneutic contract's communication principle rests on two assumptions: that readers believe that authors want them to be interested in their texts, and that authors want readers to understand their texts. However, this paper will identify historical challenges authors have posed to the hermeneutic contract, ultimately revealing that computer-generated fiction narratives like 'The Day' actually follow from a lineage of conceptual writing that simultaneously alienates and engrosses readers.

The development of the individual author

The author has not always been regarded as an individual creative genius. The material conditions of medieval manuscript production, for example, created radically different circumstances of text reception from those of the modern age, with the medieval writer serving as a systematic plagiarist of sorts. The medieval writer did not so much regard texts as expressions of individuality, but as part of a 'great and total body of knowledge' passed down through the ages (Goldschmidt, 1943, p. 113). Medieval scholars showed little regard for the identities of their books' individual authors, focusing instead on the ancient truths the books held.

There is a substantial body of scholarship documenting how printing technology transformed the textual landscape, and it is not within the scope of this article to review it comprehensively. For this article, what is most important is the widely-accepted theory that printing facilitated a shift away from anonymity and towards the 'cults of personality' that have come to characterise print culture. Technological and cultural developments alike contributed to a movement away from anonymity

and towards these cults (Goldschmidt, 1943, p. 116; 'cult of personality' from Eisenstein, 1979, p. 232; Febvre and Martin, 1958).

Through its crystallisation, print culture prompted a shift in the cultural mindset wherein cults of personality praising individual genius became commonplace. Elizabeth Eisenstein observes that 'the veritable explosion of "creative acts" during the seventeenth century – the so-called '"century of genius" – can be explained partly by the great increase in possible permutations and combinations of ideas,' made possible by cross-cultural interchanges and 'increased [textual] output directed at relatively stable markets,' both factors promoted by the proliferation of printing (Eisenstein, 1979, p. 75). M. H. Abrams observes that, by the eighteenth century, poets began to be evaluated on their 'natural genius, creative imagination, and emotional spontaneity, at the expense of the opposing attributes of judgment, learning, and artful restraints. As a result, the audience gradually receded into the background, giving place to the poet himself, and his own mental powers and emotional needs, as the predominant cause and even the end and test of art' (Abrams, 1953, p. 21). In these views, print both influenced and was influenced by the development of modern individuality.

The hermeneutic contract

Recognition of the current conception of the individual author is vital to understanding today's conventional author-reader contract. There is an assumed communicative function of any text, and any act of communication necessitates both a message transmitter and a message receiver. A text is thus regarded as the effort of one individual (an author) to communicate a particular message to another individual (a reader); through interpretive analysis, readers decipher an author's intended – and unintended – messages. Such interpretive analysis depends upon the assumption that the author is attempting to communicate a message that is both interesting and understandable. This is the hermeneutic contract: that reading is accepted as a social act wherein the reader receives an interesting and understandable text written by an author motivated by an intent-directed agency. Even a text that is not aimed at communicating a clear message (for example, experimental poetry) is regarded as intentionally obfuscating. Nonsense is not random.

In any act of reading there is a balance struck between author and reader. This balance is influenced by a text's genre and the conventions associated with that genre, as well as by each reader's enthusiasm in adopting an interpretive role as he or she reads. 'The reader resists; the reader complies; the reader identifies; the reader re-makes the text, not only in the light of the evidence provided but also in the presence of an unuttered speaking voice, now speaking inside us,' Gillian Beer writes. 'The author as adversary equals the reader as adversary: the two entwine and collaborate, *within the reader*' (Beer, 2014, p. 5). For Beer, it is the reader who negotiates the author-reader balance. The reader controls the reading experience, and the responsibility for textual interpretation and the decoding of any communicated messages lies with the messages' receiver rather than with the messages' transmitter.

Human authors who break the hermeneutic contract

There are numerous ways human authors may deliberately break the hermeneutic contract, asserting control over their texts. Anthony Burgess' use of his invented slang – Nadsat – in *A Clockwork Orange* (1962) initially alienates readers, as slang is wont to do. Indeed, Burgess' use of Nadsat may be regarded as a way for Burgess to maintain a sense of personal control over his book; unable to understand the dialogue, the reader must trust in Burgess as translator. An example of Burgess' use of Nadsat follows:

> And, slooshying with different bliss than before, I viddied again this name on the paper I'd razrezzed that night, a long time ago it seemed, in that cottage called HOME. The name was about a clockwork orange. Listening to the J. S. Bach, I began to pony better what that meant now, and I thought, slooshying away to the brown gorgeousness of the starry German master, that I would like to have tolchocked them both harder and ripped them to ribbons on their own floor [punctuation as in original] (Burgess, 1962, p. 34)

Burgess' desire for control is reinforced by a 1973 article in which he explains 'the true meaning of both book and film… What I was trying to say was that it is better to be bad of one's own free will than to be good through scientific brainwashing' (Burgess, 2012). Ironically, Burgess' message emphasising the evils of institutionalised control stands contrary to his employment of slang as a literary mechanism for control. He does not appear to want his text to be immediately interesting or

understandable to readers. Burgess instead requires readers to translate the slang in *A Clockwork Orange* in accordance with his own intention before they can interpret the text for themselves. To be sure, one can reconstruct linguistic meaning from Nadsat by recognising etymological closeness of Burgess' neologisms to standard English, but to do so is, frankly, exhausting.

Writing five years after *A Clockwork Orange's* publication, John Barth proposed the concept of the 'literature of exhaustion,' arguing that the conventional authorial styles of his day had been employed to their point of exhaustion; no more creativity could be extracted from the realism that characterised modernist fiction. Moving forward from a 'felt ultimacy,' Barth advocates a postmodernist tradition that produces 'novels which imitate the form of the Novel, by an author who imitates the role of Author' (Barth, 1984, p. 72). For Barth, the novel and the author must be reawakened through explicit recognition of their deaths. Barth's argument connects well with Roland Barthes' argument for the death of the author, made the same year. For Barthes, a work should be examined as distinct from its creator; the search for authorial intention is futile or even, to use Barthes' language, tyrannical (Barthes, 1984, p. 64).

Barth's literature of exhaustion exists in a world that roots textual interpretations in perceived authorial intention. To be sure, this is a practice with which the modern world remains familiar. For example, Matthew Kirschenbaum writes of the @uthor, a figure that has emerged out of an increasing immediacy of authorial response to reader questions and commentary through online social platforms (Kirschenbaum, 2015). As Gillian Beer writes:

> Human authors are much more like Satan than God: they can start things but not control consequences. Once the book is published it goes out of their control, into the anonymous realm of the reader. Publishing, making public, both inscribes the name of the author in the work (if he or she wishes) and yields it up. In recent years we have seen an effort by both authors and publishers to prolong the hold of the person behind the work on the market by which the work is distributed: readings, signings, appearances, interviews have all foregrounded the continuing presence of the author. The link between human person and made work has gathered intensity exactly in the face of new technology that more and more disperses authority: not only copyright but the intactness of text as a good are now in question. But readers flock to hear, see, and meet the author (Beer, 2014, p. 1).

Modern readers appear unable to separate the work from its creator: the two are conceptually bound, as we search for the author embedded within the text to contextualise its production. New technology facilitates the connection between author and reader and, while readers are most certainly able to interpret texts as they deem appropriate, curiosity about a work's creator can now be so quickly satisfied that information about the author has reasserted itself as an almost inevitable aspect of modern processes of interpretations.

Writing nearly thirty years after Barth's prognosis of the new postmodernist imitation-author, Gilles Deleuze expands upon Barth's paper by drawing attention back to the author as a point of interpretive consideration. Deleuze emphasises exhaustion, a state wherein 'you combine the set of variables of a situation, provided you renounce all order of preference and all organization of goal, all signification' (Deleuze, 1995, pp. 3-4). He elaborates:

> The combinatorial is the art or science of exhausting the possible, through inclusive disjunctions. But only the exhausted can exhaust the possible, because he has renounced all need, preference, goal or signification. Only the exhausted is sufficiently disinterested, sufficiently scrupulous. Indeed, he is obliged to replace projects with tables and programs denuded of sense. What matters for him is the order in which to do what he must, and, following which combinations, be able to do two things at once – when it is again necessary – for nothing… The combinatorial exhausts its object, but only because its subject is itself exhausted (Deleuze, 1995, p. 5).

Literature of exhaustion represents exhausted authors, succumbing to sets of literary variables that can be combined in a finite number of ways. Limited by convention, literature of exhaustion is created merely by recombining extant concepts in fresh ways, introducing little new content.

Burgess is just one author who flagrantly plays with expectations related to the hermeneutic contract through implementation of the intentionally obfuscated (Nadsat); he asserts his exhaustion and, as a result, his authorial dominance over his readers. *A Clockwork Orange* is, at times, uninteresting. It is at times incomprehensible. Readers themselves may be left exhausted by the text's syntactic and semantic convolution.

Exhausting readers is a form of literary control. It is a means for the author to assert dominance over readers, allowing the author to retain interpretive responsibility and relinquish it to

only those readers who make active efforts to discern authorial intent. There is, as both Barth and Deleuze argue, a sense of ultimacy in the works of the modern authors who produce the literature of exhaustion. Yet the literature of exhaustion is not so cut-and-dry. One author who brings into question attempts for authorial dominance is Samuel Beckett. In Deleuze's view, Beckett's works (notably *Quad* and *Ghost Trio*) seemingly exhaust their 'potentialities,' their combinatorial possibilities (Deleuze, 1995, p. 6). Upon closer examination, though, Beckett's works show themselves to include myriad interpretations that Beckett himself could not have anticipated.

Conceptual writing: a newer 'literature of exhaustion'

Many instances of conceptual writing are likewise generated in response to some authorial motivation, but often leave each reader to distinguish its meaning for him- or herself. Samuel Beckett provides one early example of conceptual writing. In *How It Is* (1964), Beckett foregoes any use of punctuation save for spaces between paragraphs. In doing so, 'the work generates from a void, from a world stripped to nothing more than a few barely identifiably people and objects. What is left of the protagonist is a mere voice, murmuring in the mud' (Tondello, 2016, pp. 23-24). Alberto Tondello explains:

> Rather than moving towards another disintegration of being or annihilation of existence, Beckett starts recreating a possible universe through an exploration of the potentialities that are still left to the imagination, in turn expressed by the spoken (and written) words... Beckett explores the dynamics at the basis of the act of imagination, reasoning, and communication, going back to the primordial being slowly creating a world through the use of language (Tondello, 2016, p. 24).

By foregoing punctuation, Beckett encourages a somewhat frustrating reading experience in which readers are tasked with mentally applying conventional forms of structure themselves. Punctuation guides readers through a text, inserted by the author to indicate where readers should pause and continue. The removal of such forms leaves the reader wandering in a sea of potentialities, left alone to build a life raft of full stops and commas.

Conceptual literature rests upon a basis of potentialities left to be realised by each individual reader. Readers are left to muddle through ambiguity, words largely devoid of the context usually

provided in fiction narratives. In Beckett's *How It Is*, Beckett works 'towards the reassertion of human consciousness and the possibility of thinking through images. This seems possible because of the primordial void where the texts originate, a space where all the external elements are reduced or eliminated, generating a complete lack of referentiality' (Tondello, 2016, p. 35). To borrow the language of M. H. Abrams, this void functions both as mirror and lamp: the reader peers into the darkness to see the depth of her own consciousness, yet the text illuminates the nooks of that consciousness that may have otherwise gone unseen. Reading such literature lets readers transcend the realities of the social and the self through obfuscated juxtaposition of the real and the imaginary.

In a recent anthology of conceptual writing, co-editor Craig Dworkin writes that 'our emphasis is on work that does not seek to express unique, coherent, or consistent individual psychologies and that, moreover, refuses familiar strategies of authorial control in favor of automatism, reticence, obliquity, and modes of noninterference' (Dworkin, 2011, pp. xliii-xliv). He explains:

> Above all, the works presented here share a tendency to use found language in ways that go beyond modernist quotation or postmodern citation… the writers here allow arbitrary rules to determine the chance and unpredictable disposition of that language; they let artificial systems trump organic forms; and they replace making with choosing, fabrication with arrangement, and production with transcription (Dworkin, 2011, p. xliv).

For Dworkin, conceptual writing allows for the revelation of greater truths held within extant texts: truths to be discovered not just through close reading, but also through more drastic *détournement* – literally translated to a hijacking, or a misappropriation of language that has been taken for granted. The author differs from the reader only because he or she is the one to determine what arbitrary rules shall be followed. Conceptual literature, in Dworkin's view, is largely a combinatorial act of creation, exhausting both the author and the reader as both parties quest for meaning produced by artificial systems.

One example of conceptual literature included in Dworkin's anthology is Claude Closky's *The First Thousand Numbers Classified in Alphabetical Order* (Closky, 2011). True to the work's title, Closky begins the text with 'eight, eight hundred, eight hundred and eight, eight hundred and eighteen, eight hundred and eighty,' and continues until he has listed all of the first thousand numbers

appropriately. This is by no means a readable text: the words jumble together, begging the reader's eyes to skip from line to line. The words used are familiar to English speakers, yet the longer the reader stares at the page the more foreign the words appear. These numbers, rarely written in their expanded written form as opposed to in numerals, are presented in such a way as to unnerve the reader, bringing the familiar into question. Closky's *First Thousand Numbers* is just one example of many conceptual writings, but it embodies the essence of conceptual writing. That is, *The First Thousand Numbers* treats language as something to be *seen* rather than *read*. This work is a piece of art – a concept – more than a piece of readable literature. Closky offers no description of what motivated him to portray numbers this way. Readers are left to determine the meaning behind the text. How a reader does this – attempting to discern authorial intent, or disregarding it altogether and interpreting the text solely in light of personal worldviews and experience – is up to the reader.

Although conceptual literature tends to require high levels of reader participation, it simultaneously evokes the cultural elitism of the modernist age, Barth's literature of exhaustion. *The First Thousand Numbers* is not a text to read from beginning to end. It is visually dense and, frankly, boring. If a reader endures the first page, it is almost certainly at the cost of personal frustration. In this way, *The First Thousand Numbers* is a product uniquely of Closky's mind. By instilling boredom and frustration within his readers, Closky asserts authorial dominance. The text is presented as being above the reader, something the reader can only understand by exerting substantial mental effort. *The First Thousand Numbers*, considered in light of the hermeneutic contract, is neither interesting nor understandable: it is an explicit deviation.

Computer-generated narratives that break the hermeneutic contract

In a 1959 article in *Printing Progress: A Mid-Century Report*, Roswell E. Fisher asserts that 'printing is the storehouse of human knowledge. It is man's most widely used form of human communication. Nothing that has happened in the past or seems likely to happen in the future will change this or alter its importance and influence on men's affairs' (Fisher, 1959, pp. 505-506). Yet Fisher's most striking prediction is that the dawn of the twenty-first century will see an overhaul of traditional

printing methods with digital alternatives: ‘man in some future day may develop a robot with the ability to exercise judgment but even in the most advanced and complicated electronic ‘brains’ a man still has to tell the monster what to do and be the judge of how it does it’ (Fisher, 1959, p. 510). Robot authors exist, and computer-generated texts have begun to seep into the world of fiction. In their currently primitive form, many computer-generated texts function similarly to the instances of conceptual writing cited above. Like Beckett’s *How It Is*, many of these texts function both as mirror and lamp: readers peer into the depths of the unknown – or, perhaps more accurately, the nonsensical – yet the texts prompt consideration of concepts that may not have otherwise occurred due to the outsiders’ point-of-view afforded by tasking the computer with the responsibility of text creation.

The example used herein is the first version of Darius Kazemi’s *Teens Wander Around a House*, a novel generated for the first annual National Novel Generation Month (NaNoGenMo) in 2013. Kazemi, the creator of NaNoGenMo, set the goal of NaNoGenMo as such: ‘Spend the month of November writing code that generates a novel of 50k+ words.’ The novel, Kazemi clarifies, ‘is defined however you want. It could be 50,000 repetitions of the word “meow”. It could literally grab a random novel from Project Gutenberg. It doesn't matter, as long as it's 50k+ words’ (Kazemi, 2013 [‘NaNoGenMo]).

All NaNoGenMo source codes are posted on *GitHub* as a requirement of their complete submission, and are available to be commented upon by the active *GitHub* community. The open-source quality of NaNoGenMo permits glimpses into the minds of NaNoGenMo participants. While computer-generated texts do, in many cases, allow for individualised reader interpretation, given the persistent uncertainty towards this new genre it is useful to have developers reveal their motivations and intentions. Through online comments about the novel, Kazemi describes his vision for *Teens Wander*:

> Okay, here's my first novel! http://tinysubversions.com/nanogenmo/novel-1.pdf It uses dreams from http://dreambank.net/ and follows this structure:

- Act 1: random dreams of girls age 9-11
- Act 2: random dreams of girls age 12-14
- Act 3: random dreams of girls/women age 14-20
- Interlude: random dreams of a child molester (really), run through a text obfuscator I wrote
- Act 4: random dreams of women age 20-29
- Coda: markoved text, merging the dreams of girls age 9-11 with the child molester

I'll post the code later.

Basically the idea here was: could I approximate a sense of narrative forward movement by moving between corpuses of the dreams of girls of ascending age, with a creepy/awful interlude to break things up (Kazemi, 2013 [‘Teens Wander’, *GitHub*]).

Following the text’s generation, Kazemi converted the file into a PDF available for free online viewing. The document is formatted to mimic the conventional layout of a modern novel: black text on a white background, standard margins, divided into chapters adhering to conceptual categories (the ‘Acts’ referenced above). *Teens Wander Around a House* is, despite semantic choppiness, readable. Its first page appears as such (Kazemi, 2013 [‘Teens Wander’, *Tiny Subversions*], p. 1):

Act 1: Innocence

School was in session and my friends Barb and Chrissy came to visit and give me a $150 check. Then Barb told me to call her that night. When they left it was raining.

Our class was leaving somewhere (they were very excited) and some kids were going on these airplanes and some kids were going on buses, but the last 10 kids were going (on) gurneys even though they weren't hurt, and they were going on a bus.

I was at a sewing class and you picked out your design on the computer. The lady that was teaching us how to sew took me outside. We started running around the town. It was getting dark and I got scared that I would never see my parents again. But the lady brought me back to a room that my family was in.

I was in school and at a play. There were three new boys. The oldest one gave me presents. They kept coming out of this box. There was a witch. She locked the old one in a cage. Suddenly there was a gust of wind. I struggled for the key and unlocked it. Then I went to some movie with the 5th grade. I went down to sit. Some people sat five rows behind us.

I was picking blueberries in a huge forest, and if the blueberries were workers we had to skin them and roll them up like a burrito. People I was picking with were really nice. It was really fun.

The text continues this way, jumping from dream to dream. Given the similar ages of those submitting to the Dream Bank, each chapter's dreams follow similar themes: the first chapter teems with references to school and family members; the second chapter introduces more mature themes such as cosmetics usage and sexual attraction; the third chapter includes more instances of self-psychoanalysis, making the individual entries noticeably longer than those of the previous two chapters; the fourth chapter follows in similar fashion. The 'interlude,' which Kazemi has titled, 'Interlude: The Dragon,' adopts the same format as the text's other chapters although, having been

run through a text obfuscator, it is peppered with Nadsat-esque 'errors' in its spelling and grammar, sporadic uses of capitalisation, and seemingly random instances of repetition that are not found in the original texts. One dream reads: 'I was in a STRANGAI house. Ther wais a rug on the floor. Men came to vacuum it' (Kazemi, 2013 ['Teens Wander', *Tiny Subversions*], p. 38). The text comprising these chapters has been written entirely by human, aside from the evident human intervention of the interlude; Kazemi's program has merely juxtaposed the texts, setting them alongside one another rather than have them be accessible only through the Dream Bank's search function.

In a discussion of computer-generated texts, *Teens Wander*'s Coda its most significant chapter. Using a Markov method of sentence construction, Kazemi weaves the dreams of girls aged 9-11 with the dreams of 'Norman,' a child molester who recorded his dreams during his time as a patient in various prison hospitals. A Markov method examines inputted texts (in this instance, the Dream Bank texts) to assess statistical probabilities of word pairings. After texts have been processed, texts can be constructed word-by-word, with the inclusion of each word based on its statistical probability of following the preceding word. Following the processing of this text, Kazemi's program has constructed a new text that, at its core, simply combines the inputted words in original ways.

Reading the text in isolation, there is no explicit note that the work is comprised of dreams, and there is no mention of the ages of the females whose dreams comprise each chapter. Given the somewhat fantastic aspects of some of the paragraphs, the paragraph's use of the past tense (e.g. 'I was'), the paragraphs' lack of obvious connection to one another, and the self-psychoanalyses in the later chapters, a reader may deduce that each paragraph recalls a particular dream. However, there is little indication that the text of the interlude is the product of a child molester. The interlude's title – 'The Dragon' – implies an antagonist, but the content of this section is primarily non-sexual. Norman writes about living with his mother and sister, running errands, and time spent at hospitals. Occasionally, however, Norman recalls such dreams that allude to his illegal activities: 'I was in staenge building. A girl about 8 wees there and I greeted her. A few moments later she smiled and

hugged me from beihind around the waist. Weu WERE by a wall. I suggested theut we GO wher there weren't so MANY people around. W went to a secluded part of the building' (Kazemi, 2013 ['Teens Wander', *Tiny Subversions*], p. 53). Another dream simply reads: 'Young boys aabout 15 were indulging in sex play' (Kazemi, 2013 ['Teens Wander', *Tiny Subversions*], p. 40). A dream that appears to combine child molestation and consensual sex between adults reads: 'A child wais standing on a table. I ran my hand on ITS buttox I ran my hand on its BUTTOX I ran my hand on its buttox I RAN my hand on its buttox. A womein came and wanted t be intimate with me and I did so' (Kazemi, 2013 ['Teens Wander', *Tiny Subversions*], p. 45). While disturbing, these dreams never explicitly reveal Norman's status as a convicted child molester. The closest allusion to such a conviction is when Norman writes that 'I was in a school building watching workeirs install an underground sewer. I was surprised how feost they completed a wall. Then I recalled that unauthorized people weren't allowed in the building because of men who molest children, s I aosked someone where the exit was located' (Kazemi, 2013 ['Teens Wander', *Tiny Subversions*], p. 47). Without Kazemi's explanation of his intention, the reader may forego the sense of discomfort prompted by the knowledge that these are the dreams of a child molester.

Perhaps the dreams of girls aged 9-11 and the dreams of a child molester blend together well because they are written by vulnerable individuals who are under the care of family members and institutionalised guardians, such as schools, summer camps, and hospitals. Like the young girls, Norman's dreams suggest that family members dictate many of his daily activities, and society has placed limitations on what he can and cannot do; these limitations permeate his dream world, as they do the young girls'. Yet the dreams included in *Teens Wander* present Norman as a multifaceted human – certainly he is limited by his classification as a child molester but, particularly within the Coda, *Teens Wander* shows that Norman overcomes this classification through his remarkably normal thoughts. We all have unremarkable dreams; we all have strange dreams. In this way, the child molester and the young girl share similarities.

As I have just shown with my own analysis of some of *Teens Wander*'s text, the analytical techniques used for conceptual literature can be applied to computer-generated texts such as this. Like Beckett's *How It Is*, *Teens Wander* presents the reader with an obfuscated juxtaposition of the real and the imaginary, with Kazemi working 'towards the reassertion of human consciousness and the possibility of thinking through images. This seems possible because of the primordial void where the texts originate, a space where all the external elements are reduced or eliminated, generating a complete lack of referentiality' (Tondello, 2016, p. 35). For *How It Is*, the external elements removed are the punctuation markings that would guide the reader through the text. For *Teens Wander*, the external elements removed include standardised punctuation, but more substantially include the semantic context that contributes to a cohesive narrative. *Teens Wander*, like *How It Is*, is a void that functions both as mirror and lamp: the reader steps into the darkness of the text, while the text simultaneously shines light upon that which the reader may not have otherwise considered.

Most of *Teens Wander* seems to adhere to the hermeneutic contract, at least loosely. The paragraphs in which the females describe their dreams are interesting and understandable, even if the transitions between the paragraphs are erratic. The Coda, however, is where *Teens Wander* breaches the contract. It is a syntactical mess, with little apparent semantic meaning. 'I was trying to choose a cream store to celebrate my friend Sandy's school were in a Baskin Robbins ice being at home,' one sentence reads Kazemi, 2013 ['Teens Wander', *Tiny Subversions*], p. 78). As with other examples of conceptual writing, it is the idea behind the text, more than the text itself, that gives the work its value. Context is everything, even if context is not explicit.

Conclusion

Teens Wander is only one of many computer-generated texts. Yet it is a useful example in showing the current state of computer-generated fiction. Like the human-authored texts cited herein, Teens *Wander* was created with intent, as revealed through its creator's description of the work's structure. So too are most other computer-generated texts. Unlike Burgess and Beckett, however, the NLG system operates within highly constricted contexts: it does not so much neglect literary convention

due to conscious disregard, but more out of inability to adhere to syntactic and semantic convention due to programming limitations. When Beckett foregoes punctuation, he does so intentionally. When Kazemi's program foregoes punctuation, it does so because Kazemi has not programmed it to be capable of doing otherwise. Indeed, NLG as it is applied to the production of fiction narratives may currently be regarded as a means for producing computer-assisted literature rather than pure computer-generated content.

Nevertheless, computer-generated fiction narratives in their current state affront modern understandings of authorship. The human author need not be the only agent producing meaning; computational involvement contributes to a new form of meaning production. How much unique content the computer contributes to a text's production varies from system to system, and can be implicitly measured on a spectrum from 'computer as tool' to 'computer as agent'. However, as yet we cannot be certain as to how NLG changes the hermeneutic contract. We can simply be certain that it does.

NLG exists within, and also reinforces, changing conditions of production wherein the human author need not be overtly present. Indeed, computer-generated texts often lack the immediate cogency that gives a fiction text a coherent narrative. Yet in the jumble of computer-generated sentences, readers discern underlying meanings that are both interesting and understandable. Exhausted, the modern reader continues striving to make computer-generated texts adhere to the hermeneutic contract.

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