

Text Generation, or Calling Literature into Question

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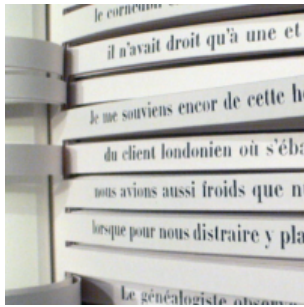
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Reflecting on the genealogy and histories of "transgressive textualities" and text generators, Aquilina offers readings of texts by Swift, Dahl, Orwell, and Borges to consider the terms and issues involved in situating text generators as transgressive.

1 Textuality as Transgressive

In the essay, "From Work to Text," Roland Barthes speaks about the "transformation" or "mutation" of "the notion of the work" brought about by Marxism, Freudianism and structuralism (Barthes 1986: 56). The traditional concept of the work, for Barthes, is now juxtaposed with a new object – the text – which forces us to reassess traditional conceptions of literature such as genre, filiation, reading, and pleasure. For Barthes, while the work is a fragment of substance that occupies the relatively stable space of books and that shows itself, for instance, in bookstores and catalogues, the text is more of a methodological field that exists only when it is caught up in a discourse. Unlike the notion of the work, which is drawn towards coherence and consistency, and which depends, to a certain extent, on institutionalisation and the *doxa* or public opinion, the text raises problems of classification in that it always implies a certain experience of limits. The text, Barthes tells us, "is what is situated at the limit of the rules of the speech-act," (Barthes 58) that is, at the limit of rationality and readability and, in this sense, the text is always paradoxical, that is, outside of the *doxa* and its expectations.

Barthes's placing of the text *on*, *around* and *beyond* limits provokes a discussion of transgressive textualities, especially when considering his further claim that the text practices the infinite postponement of the signified, operating instead in the field of the signifier with its infinitude of play. For Barthes, the text is not "coexistence of meaning, but passage, traversal" (Barthes 59). It thus depends not on interpretation but on "dissemination" and the "stereographic plurality of the signifiers which weave it" (Barthes 60).

I read Barthes in this essay as conceiving the text as fundamentally characterized by a transgressive relation to what he calls the work. "Transgression" – from Latin "*trans*," meaning "across," and "*gradi*," meaning "go" – is a form of going or stepping across. It is a going beyond the limits of what is morally, socially, or legally acceptable. It is, to quote Barthes's words about what the text does, to escape "the Father's inscription" or authority – that of the author, for example (Barthes 61).

To speak of the concept of "transgressive textualities," then, is to a certain extent tautological. The text is always already a traversal, a stepping across, a dissemination provoked by the forgetting of the law and authority and not bound by the need to provide coherent and self-contained signification. The text, in other words, is always already transgressive.

2 The Prefiguration of Text Generators to Come

Barthes does not think of the transgressive nature of textuality in terms of subject matter. When he speaks of writing by Georges Bataille or Chateaubriand as examples of transgressive texts, Barthes refers to their resistance to classification and the way they challenge rationality and readability.

But we do often tend to think of transgression in literature, precisely, in terms of subject matter. We think, just to give a few well-known examples, of D.H. Lawrence's *Lady Chatterley's Lover*, Vladimir Nabokov's *Lolita*, and Anthony Burgess's *A Clockwork Orange* as transgressive, and these are the kinds of work that have historically been more natural targets of censorship institutions and more likely to be hidden in locked library bookcases reserved for morally questionable books.

But there are texts, less likely to be censored, that go beyond limits and norms in other ways, such as in their form or style. Nabokov's *Pale Fire*, for instance, with its play on the paratextual and the hypertextual, its problematization of where a novel begins and ends and what may constitute a novel, is in this sense much further out than *Lolita*. And so are Joyce's *Ulysses* and *Finnegans'Wake*. In retrospect, rather than *transgression*, we tend to speak of these texts in terms of *innovation*, that is, of the way they bring about changes to the literary forms in which they appear and to literature, more generally. Innovative texts have a lasting effect in time. Their mark remains tangible in their afterlife through the revolutions and transformations they bring.

Then there are also other texts that go beyond limits and norms and that are also not censored but which unlike texts which we conceive as innovative, fail to leave a lasting mark on the literary canon. They remain on the margins, sidelined by tradition, definitely not canonized, and possibly forgotten. They have a tenuous bearing on our thinking of what literature is or should be. They remain on the outside of institutionalized tradition, rather than pioneering transformation. They belong to what Margaret Cohen has described as the "great unread" (Cohen 2009, 59) or the "99.5 per cent" that Franco Moretti sees as having been excluded from traditional literary history in what he calls "the slaughterhouse of literature" (Moretti 2013, 66).

It is in this sense, rather than in terms of subject matter, that I think of text generators as transgressive. They do not seem to speak to us in the ways we have been taught to expect "literature" to do. They are often unread, and they do not belong to established literary canons. They transgress laws and expectations, leading not to censorship at law but if not necessarily indifference, bafflement, or downright scorn, definitely a relatively restricted appeal and readership.

The transgressive status of text generators is an issue I will return to *later in this essay*, but before doing that I would like to refer to four texts, all well-known but none of which is contemporary, which in some way or another offer us representations of text generators in literature.

We start first almost 300 years ago, in 1726 and the publication of Jonathan Swift's *Gulliver's Travels*. In the first chapter of part III of this satire, Gulliver visits the academy of Lagado, where he finds, in one particular room, a professor and forty students working on an "engine" (Swift 135). The researchers, we read, aim to develop mechanisms which would allow even the "most ignorant person, at a reasonable charge" to "write books" (Swift 135). A bulky wooden machine, abounding in interconnecting wires, rotates a series of papers on which are written, we are told, "all the words of their language, in their several moods, tenses, and declensions; but without any order." By turning several iron handles, the professor and the students randomly manipulate the papers – a database of sorts – thus churning out a series of phrases and sentences. The process continues with the students sifting the resulting output, and identifying instances of "three or four words together that might make part of a sentence" in order "to give the world a complete body of all arts and sciences" (Swift 135).

For Swift, the writing machine at Lagado, which functions on the principles of generating text through permutation and combination, is primarily an object of ridicule. Satirizing what he saw as the excessive scientism of the time, Swift significantly locates it in the same academy at which professors spend their time trying to develop ways of, for example, extracting sunshine out of cucumbers, building houses from the roof down, and doing all sorts of useless and even disgusting things such as trying to turn excrement to its original state as food – some of these endeavors, it must be said, do not seem so preposterous in the twenty-first century. The uselessness and self-evident absurdity of the engine at Lagado, for Swift, lies, in part, in the way it complicates unnecessarily a process of writing that is proven to work. However, more insidiously for Swift, it also allows for the possibility that, to quote Gulliver, "the most ignorant person, at a reasonable charge, and with a little bodily labor, might write books in philosophy, poetry, politics, laws, mathematics, and theology, without the least assistance from genius or study" (Swift 135). The machine is thus contemptible in two ways: on the one hand, it embodies excessive speculative thinking that is detached from real human needs, and on the other it allows unworthy individuals to access the realm of the intellect, including literature, through technology, money and manual work. Paradoxically, then, it is the result of excessive thinking by its producers while at the same time giving rise to a lack of meaningful thinking in its users as they produce text by simply turning a wheel.

It does not require too much of an effort of imagination to think of the Lagado machine as a very rudimentary prefiguration of the contemporary computer. More significantly for our purposes, the use of the machine to produce random text by combining stored letters, words or strings of text through the application of specific, predetermined mechanisms specifically foretells text generation – whether in print or of the electronic kind. It is an early visualization of what would then become a real artefact: an engine or machine that is capable of producing, with varying degrees of human intervention, extensive linguistic output from a limited input.

Swift's distrust of some of the driving principles of the enlightenment and his satirical attacks on what he perceived as the uselessness of mathematics and theoretical science are well-known, and the portrayal of the mechanical text generator at Laputa falls squarely within this context. However, significantly, beyond Swift, the prefiguration of the intrusion of writing machines into what is conceived as the human affair of textual production tends to coincide with dystopia and is marked, over and over again, by dread even in writers for whom computational text generators would have seemed far less unlikely than in Swift's time.

I take the next three examples from the twentieth century, starting from Roald Dahl's "The Great Automatic Grammatizator." The main character in this short story, the electrical engineer, Adolf Knipe, works on the assumption that "*English grammar is governed by rules that are almost mathematical in their strictness*" and that "[g]iven the words, and given the sense of what is to be said, then there is only one correct order in which those words can be arranged" (Dahl 2001, 7). He then comes to the realization, triumphantly, that "the electric computer could be adjusted to arrange words (instead of numbers) in their right order according to the rules of grammar" (7). Once fed with plots, the "fastest electronic calculating machine in the world" (3) can churn out stories at ease, and Knipe and his employer, Mr Bohlen, can proceed to "corner the market" (13).

Dahl's short story constructs a scene of textual production taken over by efficient machinic automatization. Even "style of writing" (20) is eventually integrated by Knipe as one of the aspects of the texts produced that may be preselected, further shifting human creativity and originality away from the turning of sentences towards the act of designing machines that can turn sentences more and more autonomously and that express Knipe's "real talent for big business" (23). Dahl's dystopia may thus be read as a warning about the mechanization of human creativity and as a biting satire of the changing dynamics of the literary market. But it may also be read as presenting us a prototype of text generation machines that work on the principle of slotting language into pre-designed templates, machines, which are currently freely and widely available on the internet.

George Orwell's "novel-writing machine" (Orwell [1949]124) or "versificator" (131) in *Nineteen Eighty-Four* – a contraption with big kaleidoscopes that are swung around while plots of novels are "roughed in" (101) – reveals even more sinister possibilities in text generation. In Orwell's dystopic Oceania, the writing-machine is one of the tools used to control the proles through a "prolefeed" (294). The writing-machines produce novels

based on a limited range of ready-made plots, but also music, films, newspapers and other cultural products without the need for people to engage in any creative or critical thought while producing them.

The text generators in Oceania and Dahl's short story function within the dynamics of what Adorno and Horkheimer call the culture industry, that is, "a system which is uniform as a whole and in every part" (Horkheimer and Adorno 2002, 94) and which encourages the production of cultural products that belong to "the dominant forms of universality" (103). Orwell's versificator fits in with the general attempt in Oceania to control human thought and to maintain the status quo. The proles are given what they expect through machinic, unthinking production of textuality. By contrast, the writing machine in Dahl's story is successful in the way it generates sellable texts on the basis of generic requirements which are already well established and which are not tested or questioned by the texts produced.

As in these three examples, the prefiguration of text generation for the production of literature is rarely celebratory and often warns against the mechanisation, commodification, instrumentalisation of literature and against the loss of literature's capacity to promote individuality, genius and human freedom.

The final prefiguration I would like to look at does not directly involve any writing machines but may be read as showing potential repercussions of their work. A mechanical contraption that could have had the capability of producing the "extremely vast" though "not infinite" collection of books in Jorge Luis Borges's "The Library of Babel" is, in fact, never mentioned in Borges's story (Borges 1999, 115). Indeed, "the origin of the library" is "one of the fundamental mysteries of mankind," (115) and, we read, it has led to centuries of unsuccessful research by "official searchers, the 'inquisitors'" (116). However, even if the technology of the books' origin and production is obscure in Borges's story (it has to be: which machine could already have produced a total library?), the story may be read as an exploration of what the effects and implications of very powerful and prolific text generators may be on human beings and our attempt to construct meaning when we are confronted by that which we cannot understand. In a signature story-as-thought-experiment, Borges writes how "the Library includes all verbal structures, all variations allowed by the twenty-five orthographical symbols" (117) that are used in the books, which are stored in "an indefinite and perhaps infinite number of hexagonal galleries" (112) distributed in an orderly way over an interminable number of floors and stretching further than the human eye can perceive. The composition of each gallery is uniform: The set number of alphabetic and orthographical minimal units, combined into books of uniform shape – "each book contains four hundred ten pages; each page forty lines; each line, approximately eighty black letters" – produce a total library whose contents Borges describes through a well-known staple of his writing style: the listing technique (113). The Library, we read, contains

All—the detailed history of the future, the autobiographies of the archangels, the faithful catalog of the Library, thousands and thousands of false catalogs, the proof of the falsity of those false catalogs, a proof of the falsity of the true catalogue, the gnostic gospel of Basilides, the commentary upon that gospel, the commentary on the commentary on that gospel, the true story of your death, the translation of every book into every languages, the interpolations of every book into all books... (115).

In this passage, the vertiginous feeling of conceiving, or trying to conceive, the idea of every possible combination that the library contains, including recursiveness and self-reflexivity, suggests the mind-boggling implications not only of Borges's library, but also of the contraptions in Lagado as well as some of the twentieth and twenty-first century writing machines that I will be referencing in the next section. As the French writer, poet and designer of text generators, Jean-Pierre Balpe, puts it: the aim of text generators is rarely to be eternal or "to remain in your memory as something unique and perfect," but they aim to be infinite; "they want to never cease speaking" (Balpe 2005). And faced with infinity, or at least with textual yield which if not infinite is well beyond that which any human being may ever be able to read, we may be, to put it mildly, discomforted.

3 Contemporary Text Generators

But what exactly do we mean by text generators, today? We may start with a jargon-free account by Italo Calvino, whose 1967 essay, "Cibernetica e fantasma," translated as "Cybernetics and Ghosts," focuses on OuLiPo, founded by Raymond Queneau and a number of his mathematician friends (Calvino 1986). Calvino speaks of machines that, on the basis of established procedures, can conceive and compose literary works, one of which is Queneau's *Cent Mille Millions de Poèmes* (1961) that, as Calvino tells us, despite including ten sonnets printed on different pages, is "not so much a book as the rudimentary model of a machine for making sonnets, each one different from the last" (12).

Unlike textual machines in Orwell, Dahl or Swift, Queneau's text generator is not simply a thought-experiment in fiction but a real book which may be leafed through and handled by any reader who can get hold of a copy. The possible combinations of the individually-cut fourteen lines of ten sonnets printed on separate pages are not intended to deliver the complete body of knowledge envisaged by the Lagado inventors or the recombinations and repetitions in Borges's universal library, but the generated sonnet permutations would still require millions of years to be read by any one individual. Queneau's book is an example of a generator that enacts combinatory principles to produce an extraordinary amount of textual variation, using just 140 lines of text to potentially produce a hundred thousand billion poems. One fascinating thing about Queneau's work is that, unlike many text generators that would follow it, it is not born digital. It was neither produced on nor for a digital platform. Since then, computers have become dominant both in the production of and the reflection on contemporary text generators which, as Philippe Bootz and Christopher Funkhouser describe them, involve "the process of producing text by manipulating natural language with algorithms," that is, specific sets of clearly defined

instructions aimed to carry out a task or process (Bootz and Funkhouser 2014, 83). One early example of a digital text generator is Theo Lutz's "Stochastic Texts," which generates random text from given elements. Lutz's 1959 work is often identified as the first example of computer text generation. It uses a key concept of stochastic text generation (that is, randomness, which traditionally would be achieved by other means, for example rolling dice) to produce text from a database of sixteen subjects and sixteen titles, in this case from Franz Kafka's *The Castle*. As Funkhouser explains, "Lutz's program randomly generated a sequence of numbers, pulled up each of the subjects / titles, and connected them using logical constants (such as gender and conjunction) in order to create syntax" (Funkhouser 2007, 37).

At work in this and other text generators are both design and chance. There is a strong sense of the aleatory in terms of the combinations of textual strings being generated and the order in which they appear or are read. However, while computer scientists and Artificial Intelligence researchers have been working to create programs that can be more autonomous in text and language generation, creating machines that can create text on the basis of a few basal units and rules, text generators with literary aspirations have tended to impose constraints on the process.

Of course, members of OuLiPo are well-known for the creation of constraint based poetry and fiction. Georges Perec wrote *Life A User's Manual* using what is called the Knight's Tour method of construction whereby Perec devises a cross-section of a Parisian ten-story building with ten rooms across each floor and moves from chapter to chapter by following how the Knight would be able to move across a chess-board. He also wrote, for instance, a lipogrammatic novel, *A La Disparition* which does not use the letter "e" (translated by Gilbert Adair as *A Void*). Queneau's brilliantly funny, *Exercises in Style*, is also a constraint based work that reiterates the same simple plot line in 100 different styles, including the metaphorical, mathematical, the gastronomical, free verse, haiku, permutations of words of different lengths, a range of rhetorical devices, and many more.

OuLiPo made of constraint writing one of its key creative tenets, and in this it has been very influential in the development of constraint-based text generators. However, it would be a mistake to think that constraint-based literature is a peculiarity of this mainly French group. As Anne Blossier-Jacquemot points out, we may even go as far back as ancient Hellenic constraint poetry that includes pattern poetry by Theocritus, Dosidias, Simias of Rhode, Vestinus and others. While more traditional forms such as the haiku, the sonnet and other genres are also constraint poems to a certain extent, what distinguishes OuLiPo and other writers of constraint literature is the prioritization of constraints as a method of composition, whereby the constraint is often not only an aspect of the work but its driving force, its reason for being, so to speak.

As these preliminary examples have already shown, text generation is not always the same. It may be more or less automated or constrained, and it may be geared towards recombining or remixing already existing language or producing new phrases and sentences. Another early example of constraint poetry that also involves the use of computational, textual machines is Alison Knowles and James Tenney's 1967 digital

poem, "A House of Dust" which generates text by selecting from several pools of given phrases and then slotting them into ready-made syntactic templates to produce serial poetry. Elements from four different categories (material / location / light source and inhabitants) are selected and combine randomly giving rise, in this case, to hundreds of houses, some of which come across as absurd, but others as more strikingly intriguing.

One of the fundamental changes brought about by computers in text generation is the potential scale of the output as well as the speed at which text may be generated. One example is Nick Montfort and Stephanie Strickland's *Sea and Spar Between*, a 2010 poetry generator on an electronic platform that uses two corpora – the poetry of Emily Dickinson and Hermann Melville's novel, *Moby-Dick* – to generate 225 trillion stanzas (Montfort and Strickland 2010). Most of these stanzas will remain forever unseen because even though the stanzas that result from the recombination of the two corpora – Melville's and Dickinson's – are all potentially accessible as we can see them by moving the mouse, typing the coordinates or clicking on various parts of the screen to scroll through the sea of output or to return to previously marked spots, as in the library of Babel, it is humanly impossible to read everything that the generator has generated, even if we had thousands of years of reading time at our disposal.

Unlike other computational text generators, the output of *Sea and Spar Between* is not random and not mutable. It exhaustively combines the elements of the two wordlists (Melville's and Dickinson's) as well as forming new kennings from the most frequently used words of the two writers. It then projects them onto a fixed spatial topology, so to speak, which visually and thematically recalls the sublime vastness of the sea. However, given the immensity of this topology, our encounter with the work will inevitably introduce variation and chance in terms of what ends up being shown and what ends up being read at all.

The outcome of this text generator is a collaborative effort and, in various ways, *Sea and Spar Between* is typical of work in digital and electronic literature. Stephanie Strickland and Nick Montfort collaborate by coming together to decide which patterns of poetic verses and stanzas they want the generator to create. In doing this, they read Dickinson and Melville and, as they design the generator, they select words and formulate syntactical patterns by tapping into what they describe as their "long acquaintance with the distinguishing textual rhythms and rhetorical gestures of Melville and Dickinson" (Montfort and Strickland, n.d). Their writing, then, is also a form of reading or interpretation of the nineteenth-century poets, but what adds further layers of complexity is the distributed cognition at work in this creative process as the computer executes the code scripted by Montfort and Strickland. The term, "distributed cognition," which in cognitive science refers to the idea that a mind may be extended to a collection of individuals and artefacts and their relations to each other in a particular work practice, seems a valid way of accounting for the human/machine interactions in this work.

The text generating machines we have discussed so far – Queneau's; Strickland and Montfort's; Knowles's and Tenney's, but also, Swift's, Dahl's and Orwell's – though varying significantly in scope and purpose, operate on loosely similar principles. Working in a

reverse direction to structuralist criticism intent on identifying and describing the minimal units and the structuring principles behind language variation, generators produce heterogeneous text from wordlists and other linguistic sources through the application of previously established procedures or algorithms. They also all involve the human interaction with machinic technology to turn input, with different degrees of automation, into a different output: the complicated contraptions at Lagado and in Dahl's story, the cut book pages of Queneau's book, and the computer that generates the stanzas in *A House of Dust* or the sea of words in Strickland and Montfort's *Sea and Spar Between*.

4 Transgressing humanist conceptions of literature

However, despite the similarities among these machines, the texts they produce reveal starkly contrasting attitudes towards algorithmic text generation. More specifically, the prefiguration of writing machines in traditional print literature recounts an essential fear and sense of absurdity about processes and ideas that would, on the contrary, then become central to the desires and horizons of digital text generators.

Borges's "The Library of Babel" – which I am thinking of as the product of the ultimate text generator containing "all that is able to be expressed, in every language" (Borges 115) – illustrates some of these anxieties and fears. The library frustrates pilgrims looking for books that "vindicate for all time the action of every person in the universe" so much that they squabble, strangle one another and even plunge to their own death (115). The vindications sought by the pilgrims to the library are thought to exist, but the chances of finding one "can be calculated to be zero" and "no one expects to discover anything" (115). What makes the library a source of dread is its sheer immensity but also "the certainty that everything has already been written," a realization that "annuls us, or renders us phantasmal" (Borges 118). The only "hope" is to find the "Order," a human need in the face of unlimited (and according to the narrator of Borges's story, possibly "infinite") textuality (118).

The library of Babel may be seen as a limit-case of one of the central concerns that may be raised about text generators. The library is a receptacle of all the text that may be generated from a few minimal units, so that meaning should abound. But the sheer volume of the textual output shifts the burden of meaning production onto the reader, who is faced with the sometimes impossibly arduous task of sifting through thousands of pages of seemingly absurd or nonsensical or simply unrecognizable letter combinations on a quest for some lines of revelation.

The analogy between Borges's story and the digital text generators I have referenced so far holds only to a certain extent, of course. When we read the stanzas from *Sea and Spar Between*, for instance, which it must be said occupies a markedly smaller virtual space than that potentially occupied by the Library of Babel, we find words and phrases in a language we recognise, and even though we may be vertiginously affected by the sheer immensity of the textual output, we can focus on specific stanzas or lines and find something we can stay with, meaningfully. However, what is in common to both Borges and Montfort and Strickland is that the process of reading both the books in the library of

Babel and the output of text generators involves, first and foremost, an attempt at establishing ways of understanding how signification works in what we are reading and then deciphering the text as part of a system or machine that has created it. Reading books in the library of Babel only makes sense for the visitors to the library because they know or believe that somewhere there is meaning to be found. And they know there is meaning from the mythology around the library, which acts as a sort of paratextual framing of the actual encounters with the books. Similarly, with text generators, as Stuart Moulthrop argues, we often need the paratextual or the context, that which in other literary approaches would be deemed external to the work itself, outside of its frames, to become part of how we conceive the work if it is to make any sense at all let alone if it is to allow us to interpret it or closely read it (Moulthrop 2013). As Kenneth Goldsmith puts it, digital poets "[swap] the focus from content to context," (Goldsmith 2011, 123) and this, I believe makes text generators understandable primarily as conceptual poetry in which what Barthes describes as the text's "unreadability" recuperates the work as play, production and practice (62). And this, again quoting Barthes on the text, "solicits from the reader a practical collaboration" but also shifts the creative impetus from the textual output to the composition of and encounter with a poetic system and context that cannot easily be subsumed under ideas of wholeness (63).

Take the quite extreme case of some of Nick Montfort's work in *#! What do we make of "All the Names of God,"* for example (Montfort 2014)? Opening the book version of the work, we see, on the left hand-side, the one line of code that runs this text generator, and, on the right, the first page that results from printing the output of the code. Just like the researchers at Lagado or the library of Babel who are on the lookout for strings of meaningful text, we could try to find strings of understandable alphabetic combinations in the output of the code, and if the program were allowed to run long enough, and if the computer had the capability to run it long enough without crashing – no computer can currently do this, Montfort tells me – we could potentially find, for example, all the words in the English dictionary, a task which seems to me to be an excessively laborious and frankly futile thing to do.

But as Moulthrop has put it, words become "missing mass in conceptualism" (Moulthrop 2015). They lose their weight, being present, precisely as "missing mass." And words, in Montfort's *"All the Names of God,"* are perhaps the least interesting thing about the text generator. Nonetheless, if we shift our reading from the language produced to the machine that created it, things, I believe, are slightly more stimulating. I have argued, elsewhere, that something which we may describe as the computational sublime may be experienced in encountering works like this and *"Round,"* also by Montfort. Stuart Moulthrop and Justin Schumaker, among others, have written about the sublime in Montfort and Strickland's *Sea and Spar Between* (Moulthrop and Schumaker 2016). But here it suffices to say that the relation between the output, the title and also the line of code that produces this boundless textuality is more interesting – for me at least – than the output itself. An incredibly condensed line of code is enough to create boundlessness. What we have are finite digits on a quest for infinity in a work that recalls other literary works that deal with the human desire to name the divine which always exceeds it,

among which there is Arthur C. Clarke's *The Nine Billion Names of God*, to which this generator clearly alludes. It is in the conceptuality of the text generator and the experience of potentiality more than comprehension that it evokes in encountering it that meaning resides, more than in the words as text that the generator produces.

This form of literary meaning, what we might call a conceptual potential akin to that generated by, for instance, OuLiPo, is, I believe, radically transgressive in terms of humanist conceptions of literature and the idea of a literary work. It is transgressive, for instance, in highlighting rather than hiding the technological means by which textuality is produced. We tend to think of the book as a natural conduit of the literary even though, of course, the book is a finely developed technology. Text generators do not aim at naturalness; instead, they flaunt technology as not only a prosthetic for but also a part of the creative body of the writer or creator. The problem of secondarity – of a linguistic output that does not seem to flow naturally from the quill (another technology!) or pen of the writer is augmented by the coding or at least programming at a higher level that is required in the production of digital text generators. Creators of electronic text generators produce machines for writing rather than the writing itself. And if, echoing Derrida's deconstruction of phonocentrism, we acknowledge that "[t]here is therefore a good and bad writing: the good and natural is the divine inscription in the heart and soul; the perverse and artful is technique, exiled in the exteriority of the body," then the product of text generators is "bad," transgressive at least in a double way, functioning as an exteriority of an exteriority, twice removed from the writer/creator as origin and source of meaning (Derrida 1976, 17).

This distancing from the human origin of the literary has the effect of producing writing that seems to lack a "subvocalised human voice," which is one of the humanist aspects of literature we expect and which, as N. Katherine Hayles argues, seems often to go missing in electronic literature (Hayles 2008, 118). By loss of voice, I do not simply mean the loss of the voice of the author, but also of persona or character in digital poetry. Who is speaking, for instance, in Nick Montfort's *Taroko Gorge*, a generative poem in which the code generates a nature poem about the Taroko Gorge national park in Taiwan? The poem, as Leonardo Flores describes it, "produces endless permutations of its elements – stones, coves, forests, crags, basins, flows, mists, and the occasional monkey sightings – recreating part of the experience of hiking down this river canyon." Through permutation, the poem generates a continuous, endless flux which mirrors the changes in nature over time. We read about nature. We get a sense of the place, but in whose voice do we hear the poetry? Whose vision or experience of nature is this?

The authorship or the authorial vision, if it can be traced at all, is not in the textual output which is always changing and generated through the execution of the code by the computer. It may perhaps be located in the code, which Montfort, like other practitioners of digital poetry, makes available for free for others to hack, copy, manipulate and use in different contexts and in the case of this work, countless remixes over the years. But even

here, the code has to follow the scripting rules of the programme used, in this case Python, and the code needs the computer to be executed that creates the language. This brings me to a short concluding movement, which may be called:

5 The experimental and theoretical drive of text generators OR Why we won't take text generators to the beach any time soon.

Text generators are not everyone's cup of tea. I'm not even sure they're mine. As a friend likes to put it, "You just don't take them to the beach, or, to change season, you don't just snuggle up in bed with them on a cold winter night." So why should we care? Or, perhaps, a better question to ask would be, "Why do some people care?" and "Why do I care?"

It may be worth quoting Marcel Benabou, one of the founding members of OuLiPo, and what he had to say about Italo Calvino, who was eventually invited to become part of the group. For Calvino, Benabou says, "the Oulipo [sic] meetings and the absolutely unforeseeable exchanges they provoke, are first of all a laboratory for ideas, a test for the newest and boldest suggestions" (as cited in Botta 1997, 82).

"A laboratory of ideas" – the phrase is precise and revealing. It conceives of what OuLiPo does as experimental. In laboratories, one hypothesises, tests, investigates and attempts things with the awareness that things may fail. One does so to understand better but also to possibly discover something new and exciting. Failure, in such contexts, is not only a possibility but almost always a near certainty which is only occasionally defeated by success, in this case, the production of something that is exciting and worth reading as literature. As Funkhouser puts it, "while reading and schemes for computer poems can generate moments of provocative poetry, their use does not automatically produce significant work" (Funkhouser 2007, 80).

This is all of course very cerebral. To think of literature or poetry as the product or even the process of laboratory experiments – a characteristic also, it must be said, of quite a few avant-garde movements as well as Surrealism – is to fly in the face of some of the most firmly established and widely accepted notions of inspiration that, as Timothy Clark shows in *The Theory of Inspiration*, often involve interventions of the divine, spontaneity, geniality, passion or being deeply moved by the world around us (Clark 1997). The idea, as Funkhouser puts it, that "computers can capably co-create poetry" (Funkhouser 2009, 77) and, in Hayles's words, that we should now think of "cyborg subjectivities" rather than exclusively human ones are radically transgressive from the perspective of traditional literary criticism.

But perhaps text generators do not really try to be literature, and the term "electronic literature" under which they are often classified is a misnomer after all. Or, at least, text generators do not try to be literature in the way we tend to know it. It may be, in fact, that a more fruitful way of thinking about the inventiveness or transgression of text generators is to see them as meta-literary or as theoretical texts about literature. In "From Work to Text," Barthes writes that theory of textuality should not be meta-language but should itself be "only text, research, textual activity" (Barthes 64). Text generators are theoretical

in this sense (which is also the sense in which some Modernist texts are theoretical), focusing, as Funkhouser puts it, on "illustrating a theoretical position" (2007, 18) or pushing what Astrid Ensslin refers to as the "self-reflexive agenda" of electronic literature (Ensslin 2014, 35). They thus bring the question of literature into account. Or, to phrase this through Barthes, they turn the work of literature into textuality, always transgressive. And if, to follow Marjorie Garber in *The Use and Abuse of Literature*, we contemplated the idea that "Literature has always been situated on the boundary between itself and its other," (Garber 2011, 78) or, to quote Maurice Blanchot, "Literature begins at the moment when literature becomes a question," (Blanchot 1995, 300) then we can say that the interest in text generation may also be a theoretical interest in literature, as a question, there on or beyond the borderlines of institutional and less or differently transgressive definitions of literature.

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