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Hyper-constrained: Translating Nick Montfort's Textual Generators

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Abstract

Analysing Nick Montfort's poetry generators, the authors discuss the place of digital literature in the field of contemporary experimental writing. Drawing on the terminology of expressive processing developed by Noah Wardrip-Fruin, they read the generators by examining the input, the process and the output. Montfort's generators are contextualized as the newest type of constrained literature. Montfort is presented as a central figure of the second generation of digital writers, who publish small-sized work independently online. The status of such works is discussed through aspects of gift economy, open access, appropriation, and remix culture. The authors provide a case study of three works, which they discuss from the perspective of the English language, and also in translation. A significant part of the article is devoted to a discussion of the issue of translating digital literature, which is presented as in-depth reading, involving input, process and output.

Keywords: *digital literature, textual generators, translation theory, conceptual literature, constrained literature*

Imagine a class at the world's most famous Technical College, the Massachusetts Institute of Technology, Comparative Media Studies/Writing Department, Cambridge, United States. During a course entitled "The Word Made Digital", a professor at the college, Nick Montfort, is presenting the most important techniques of experimental writing in the twentieth and twenty-first centuries to his students. This major figure in collaborative and programmable literature is standing in front of an enormous blackboard, upon which the most important movements in unconventional writing techniques are written in capital letters. In the very centre, written in the largest letters, we find Oulipo, the French workshop of potential literature. On the left-hand side we find movements that preceded the French school of constrained writing, including Dadaism, pataphysics, Surrealism, and Futurism; and on the right-hand side we have later movements, such as Conceptualism, Noulipo, Flarf, and Concrete Poetry. MIT students sit around the table; these are young people generally with a computer-science background, their laptops are on – during these classes they learn to write and to use words in digital media. There is a total lack of books or paper in this environment. The students are trying to compose another piece of constrained writing assigned by

Montfort, found in the *Oulipo Compendium*, an American guide compiled by Harry Mathews.[1] Examples include writing a story using only four letters of the alphabet, or a haiku with only one of five vowels in the English language. First the students have to develop a rule for generating the text, then program the story.

This picture perfectly renders Montfort's remarkably influential position in the contemporary field of experimental and digital literature.[2] There is scarcely a lecture or essay devoted to the new forms of digital writing that does not cite the work of this MIT professor. Nick Montfort borrows from the Oulipo tradition (which was not placed in the middle of the above-mentioned blackboard by accident), a mathematical approach to literature, supplemented with contemporary technological capabilities and the language of programming. Montfort is not only focused on contemporary novelties. The Trope Tank lab,[3] which he runs, is a storehouse of the history of technology. He and his co-workers managed to gather old equipment (typewriters, printers, and personal computers from the 1970s, 80s, and 90s). This collection of old equipment is continually in use, and stands as proof of a profound awareness of the material history of the text.[4] Montfort believes that if a literary text was created on an Apple II from the early 1980s, or if a game was designed for an Atari system, the reader/viewer should have the opportunity to experience these works through their original media, consoles, and the original apparatuses, and not through emulators. This approach is much like the discipline of media archeology,[5] as well as the methodology of platform studies, developed by Nick Montfort himself.[6] Alongside Ian Bogost he has founded and edited a book series that explores the relationship between software and hardware computer systems and focuses on describing works produced for various platforms.[7]

Nick Montfort is a multifaceted artist: he is a professor of digital media with a literary background, and a creative writing graduate from Boston University (his mentor was Robert Pinsky). He is an authority on interactive fiction (on which he has written a book entitled *Twisty Little Passages*).[8] Nick Montfort is also a writer in his own right, who has worked in many genres (from a novel written on stickers, in collaboration with Scott Rettberg, entitled *Implementation*,[9] through a palindrome which Oulipo has

[1] Harry Mathews, *Oulipo Compendium* (London: Atlas Press, 1998).

[2] Nick Montfort was Head of the Electronic Literature Organization from 2010 to 2013; in 2006 he compiled *The Electronic Literature Collection, Volume 1* with N. Katherine Hayles, Stephanie Strickland, and Scott Rettberg. This publication includes sixty of the most interesting works of digital literature.

[3] Nick Montfort, "The Trope Tank," accessed April 12, 2014, http://trope-tank.mit.edu.

[4] The most spectacular and collaborative publishing project by Nick Montfort has been *10 PRINT CHR$(205.5+RND(1)); : GOTO 10* signed by ten authors: Nick Montfort, Patsy Baudoin, John Bell, Ian Bogost, Jeremy Douglass, Mark C. Marino, Michael Mateas, Casey Reas, Mark Sample, and Noah Vawter. This publication is devoted to a simple program in the programing language of Commodore64 BASIC. His other projects have included "Programs at an Exhibition," co-organized by Páll Thayer at the Boston Cyberarts Gallery (6-16 March 2014).

[5] Cf. Erkki Huhtamo and Jussi Parikka, eds, *Media Archaeology, Approaches, Applications, and Implications* (Berkeley: University of California Press, 2011).

[6] Cf. Ian Bogost and Nick Montfort, "Platform Studies," accessed April 12, 2014, http://platformstudies.com.

[7] In 2009, Nick Montfort and Ian Bogost wrote a monograph on Atari platforms, entitled *Racing the Beam: The Atari Video Computer System* (Cambridge, MA: MIT Press, 2009).

[8] Nick Montfort, *Twisty Little Passages: An Approach to Interactive Fiction* (Cambridge, MA: MIT Press, 2003).

[9] Nick Montfort and Scott Rettberg, "Implementation," accessed April 12, 2014, http://nickm.com/montfort_rettberg/implementation/.

acknowledged to be the world's longest,[10] to literary riddles that require reader interaction).[11] One of his most well-known works is his literary machines, his textual generators, collected at www.nickm.com.[12]

Data, Process, Surface

The point of departure for the present text is the thesis that Montfort's textual generators can be analyzed more in depth when we attempt to translate them into a foreign language. Translation would appear to illuminate several linguistic aspects which might be too obvious, transparent, or even simple to be acknowledged by the native-speaker reader. And while in conventional translation, one might use intuition or gloss over some constraints of the original, in electronic translation this is virtually impossible. As such, it allows us to fully appreciate not only their output, but also the grandeur of the underlying structure.[13] Noah Wardrip-Fruin has noted that the majority of the great many books, articles, and theses that have been written on digital literature discuss how the creative process looks from the outside, based on the output. The American researcher states that those writing about electronic literature use various tools to analyse literary works; but regardless of their perspective, in writing on digital media they almost all ignore something crucial: the actual processes that make digital media function, the computational machines that make the works possible.[14]

Noah Wardrip-Fruin calls this the "output-focus approach", stating that it leaves a great deal unsaid in the critical analyses and reception of digital work. He suggests the term "expressive processing", which he sees as central to the understanding of digital media and perceives as fundamental to the author's expression; in his view, researching how the work is designed is fundamental to its ultimate understanding. Reading merely the output is, he believes, an impoverished sort of reading. The process-oriented innovation he suggests is also the key to understanding the work of the translator of digital literature. This observation entails a number of essential points: between the author and the reader is the work, composed of three level – data, process (invisible to the reader without delving into the code), and surface (accessible to the reader). This method strikes us as binding in the act of translation as well, i.e. in changes performed upon all three parts of the work. The translator of the digital work is responsible for all three parts: (s)he feeds in the given data, and often must modify an element of the process in order to generate the output. This description can be metaphorically applied also to the translation of conceptual literature created in a conventional print medium, such as the Oulipo works.

It would seem that these generators publishing unpredictable texts in infinite quantities say a great deal about linguistic structures that are often untranslatable into

[10] Nick Montfort and William Gillespie, "2002: A Palindrome Story," accessed April 12, 2014, http://spinelessbooks.com/2002/.

[11]Nick Montfort, "Riddles," accessed April 12, 2014, http://studiocleo.com/cauldron/volume4/confluence/ montfort/index.html.

[12] Nick Montfort, "Nick Montfort nickm.com," accessed April 12, 2014, http://www.nickm.com/.

[13] Interestingly, to fully acquaint themselves with a generator, the reader in the target language of the translation needs to know also the language in which the code was written (it is not a common practice to translate code).

[14] Noah Wardrip-Fruin, *Expressive Processing: Digital Fiction, Computer Games, and Software Studies* (Cambridge, MA: MIT Press, 2009), 2-3.

other languages. The authors of the present article have tried to adapt a few of Nick Montfort's text generators to the Polish language. Delving into both the linguistic subtleties and the code of these literary works, they have tried to consider the role of the translator in works of this type, and to present it to the English-language reader.

How Constrained Literature Liberates the Reader and the Translator

A creative approach to Nick Montfort's work is possible in that he is an adherent of gift economy in literature,[15] and he himself encourages free conversion. In the README.TXT on his web page, Montfort writes:

> This directory contains short programs that I have written, each of them explicitly licensed as free software.[16]

This declaration, which many authors of digital work share, goes beyond the traditional concept of authorship and copyright, inviting readers to participate creatively. Each of his works is published with access to the source code, which is an inherent part of the work. It is supplied with the following commentary:

> Permission to use, copy, modify, and/or distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

This generates a logic of creative interception, one poem providing the creative impulse to create the next variations on the theme of the original paradigm, its limitations and capabilities. Through this point of departure, the translator of the work is one of the reader/authors invited to create remakes or improvements. This situation basically differs from that of the reader/author working in the language of Nick Montfort in that the translator has greater restrictions, and is thus obliged to be more creative. This situation casts new light on the role and the obligations of the translator.

Transferring literature to electronic media has changed the status of the reader, bringing him/her closer to the position of the author than a reader of conventional literature. This has been observed from the earliest stages of digital writing by scholars like Jay David Bolter, who wrote that it "offers the reader a new literary experience in which she can share control of the text with the author"[17] or George Landow, who stated that hypertext "[infringed upon the power of the writer], removing some of it and

[15] The principle that goods (in this case, literary works, code etc.) are produced as 'gifts', which can be freely used, shared and modified by members of the community. For a discussion of such practices in the field of electronic literature, see Scott Rettberg, "Communitizing Electronic Literature," in *Digital Humanities Quarterly* 3.2 (2009), accessed May 15, 2014, http://www.digitalhumanities.org/dhq/vol/3/2/000046/000046.html.

[16] Nick Montfort, "README.TXT," accessed April 12, 2014, http://nickm.com/code/README.TXT.

[17] Jay David Bolter, *Writing Space: The Computer, Hypertext, and the History of Writing* (Hillsdale, New Jersey: Lawrence Erlbaum Associates, Inc., 1991), 122

granting that portion to the reader".[18] In various interactive works the intervention of the reader concretizes a given reading of a work. It can happen that the order or appearance of words depend on the interaction between the reader and the program created by the original programmer/poet. Sometimes the creator leaves an open platform for readers to experiment (such as in the module for the augmented reality work *Between Page and Screen*, posted by its authors, Amaranth Borsuk and Brad Bouse, at http://www.betweenpageandscreen.com/ epistles/new,[19] where readers can write their own interactive epistles thanks to the technology created by the authors). Finally, authors of digital poetry like Nick Montfort, working in the sphere of gift economy, encourage their community of readers to "process" their works.

Yet, as Robert Pinsky famously said, "translation is the highest form of reading."[20] Indeed, this seems to be especially true for experimental electronic constrained poetry. The ordinary reader, the passive reader, confronted with a generated poem can – but is not obliged to – look at the code and consider the constraints behind the creation of the original text being produced before his/her eyes. A person who seeks to remake the work in the same language must become acquainted with the source code; with less complicated works, however, (s)he can replace words without paying much attention to the grammatical constraints. Writing about the game Mad Libs, Scott Rettberg confirms this intuition:

> A constraint is simply a rule that a participating writer agrees to follow in the process of producing writing. The constraint itself need not be evident to the reader; indeed, it is typically not revealed.[21]

If, however, a person should seek to rework a text and to create a separate work on its basis – whether it be in the same language or another – (s)he must be well acquainted with how the code functions. He or she will have to deal with the imposed paradigm and attempt to adapt what (s)he wants to say accordingly. The Polish poet, translator, and essayist, Stanisław Barańczak, saw constraints as the key condition for the existence of a poetic work, famously wording this as follows: "[P]oetry begins where the desire to speak encounters constraints."[22] Struggling with constraints even makes us say things that could not otherwise be said, as they knock the reader/author out of their usual train of thought, making us arrive at new statements and new ideas.

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[18] George Landow, *Hypertext: The Convergence of Contemporary Critical Theory and Technology* (Baltimore: The Johns Hopkins University Press, 1992), 71.

[19] Amaranth Borsuk and Brad Bouse, "Between Page and Screen," accessed April 13, 2014, http://www.betweenpageandscreen.com/epistles/new.

[20] Robert Pinsky, interview with Gina Myers, "Poetry Comes First: An Interview with Robert Pinsky," *The Review*, accessed April 13, 2014, http://www.newreviewsite.com/articles/Poetry-Comes-First—An-Interview-with-Robert-Pinsky/200.

[21] Scott Rettberg, "All Together Now: Hypertext, Collective Narratives, and Online Collective Knowledge Communities," in *New Narratives: Stories and Storytelling in the Digital Age*, ed. Ruth E. Page (Lincoln, NE: University of Nebraska Press, 2011), 187-204.

[22] Stanisław Barańczak, "Tablica z Macondo (albo: Najkrótsza poetyka normatywna na użytek własny, w sześciu literach bez znaków diakrytycznych, z dygresjami motoryzacyjno-metafizycznymi)," [A license plate from Macondo (or: The shortest normative poetics for private use, in six letters without diacritics, with digressions of automotive and metaphysical nature)] in Stanisław Barańczak, *Tablica z Macondo: osiemnaście prób wytłumaczenia, po co i dlaczego się pisze* [A License Plate from Macondo: Eighteen Attempts at Explaining Why One Writes] (London: Aneks, 1990).

Following this logic, the translator of constrained literature, be it electronic or conventional, is exceedingly creative. He or she deals with something more than the reader/author working with the original constraint, which is somehow 'adapted' to the paradigm of the original language. There is also an additional dilemma to be faced: how to translate or apply the constraint itself in the system of the target language. Thus the concept, in the sense of conceptual literature/art, becomes the basic unit of the translation.

A simple example of "applying" constraints might come from the translation history of a famous Oulipo novel by Georges Perec, *La Disparition*. The main constraint in this work is that it is written without the letter 'e', which is the most frequently used vowel in the French language. This principle was adopted by the English translator of the work. The Spanish translation, however, by Mariso Arbués et al., does not have the letter 'a', while *Istchezanie*, the Russian version by Valéry Kislov, avoids the letter 'o'.[23] The translators' limitations were not there in order to facilitate their task; on the contrary, they chose the letters most frequently appearing in their own languages, in an attempt to replicate the same level of play.

If we accept that the more constraints there are, the better the conditions for creativity, we need not agree with the dictum of Walter Benjamin, who wrote in his foundational essay "The Task of the Translator":

> Unlike a work of literature, translation does not find itself in the center of the language forest, but on the outside facing the wooded ridge; it calls into it without entering, aiming at that single spot where the echo is able to give, in its own language, the reverberation of the work in the alien one. [...] The intention of the poet is spontaneous, primary, graphic; that of the translator is derivative, ultimate, ideational.[24]

These famous words do not apply to the translator engaged in digital literature. Like the reader, the translator is liberated, elevated, standing in the centre of the "language forest" itself. Experimental literature frees translators from concerns of being the *traduttore traditore* and liberates their creative potential. This work even encourages them to experiment, inviting them as a very special participant in the play.

Two Generations of Digital Literature

In the critical work on digital literature there is a fairly widespread conviction concerning the aptness of dividing all work to date into two structurally differing generations of writers. As David Ciccoricco writes: "The first generation of digital fiction can be characterized as works published in stand-alone format, either on computer disc or (later) on CD that rely on hypertext fiction, hyperfiction, and literary hypertext."[25] Discussing the first generation of electronic literature, researchers point to the leading role of Eastgate System and the Storyspace program for creating and

[23] Dennis Duncan, "Form and Anxiety in Translation: Two Case Studies," *PEER English* 5 (2010), 126.
[24] Walter Benjamin, "The Task of the Translator," in *The Translation Studies Reader*, ed. Lawrence Venuti (London: Routledge, 2000), 20.
[25] See David Cioccoricco, "Digital Fiction: Networked Narratives," in *The Routledge Companion to Experimental Literature*, eds Joe Bray, Alison Gibbons and Brian McHale (London: Routledge, 2012), 471.

mapping hyperfiction. There is often talk of the Storyspace School, which, at its core, was meant to be fairly modernist, basically traditional novels in new forms. A substantial quantity of works released in the Storyspace environment were based on mapping and topography. Many of these works were published and distributed by a publisher, sold in book stores and mail-order shops on floppy disks or on CDs. The classical works of hyperfiction created in the early 1990s remain the most important and most frequently cited digital works. Among the works now considered classics in this fresh discipline are: Michael Joyce's *Afternoon, a story* (1990), Shelley Jackson's *Patchwork Girl* (1995), and Stuart Moulthrop's *Victory Garden* (1991).[26] Most of these works were written before the web community was created and do not use HTML to create and to store text.

The second wave of digital works is tied to the development of Internet search engines and are most often shorter works by genre (as opposed the longer hypertext novels), frequently written collaboratively, such as "The Unknown" project (Gillespie, Marquardt, Rettberg, Stratton),[27] in which motion plays a decidedly greater role, most often based on images, sound, video, approaching the concept of the work in movement. It also marked the transition from text-based works to those based on codes, images, and videos.

Nick Montfort is, by the above description, among the most notable figures in the "second generation" of writers creating digital literature, both in terms of collaborativeness and programmability. Digital-born works redefine traditional notions of the market and dismiss practically all instances of the literary field of cultural production, where both publication and distribution (as well as translation) occur through intermediaries (publishers, agents, distributors, contracts, setting print-runs, prices, etc.). Here, however, we have a sort of upended economics, subversive rules based on creativity, collaboration, passing on literary goods without profit or concern for income.

This heresy and revolt against the rules of the book market is a sort of *status quo* for people writing in digital forms – the best example of this was a discussion that was sparked by a dozen or so experimental authors remixing a poem by Montfort, "Taroko George", and remaking it for their own purposes, using the structure and the code, but changing the content, style, mood, and meaning. In the series of twenty-five remakes (though this number remains open), there were also remixes of remixes.[28] In response, Nick Montfort published a text entitled "Who Grabbed My Gorge."[29] This unconventional situation also redefines the "one-to-many" communication structure to become "many-to-many", an evident part of collaborative writing.

[26] Scott Rettberg, "An Emerging Canon? A Preliminary Analysis of All References to Creative Works in Critical Writing Documented in the ELMCIP Electronic Literature Knowledge Base," ELO 2013 Conference paper, August 2013 Draft, accessed April 13, 2014, http://conference.eliterature.org/sites/default/files/papers/Emerging_Canon_S_Rettberg_0.pdf.

[27] William Gillespie, Scott Rettberg, Dirk Stratton, Frank Marquardt, *The Unknown*, accessed April 13, 2014, http://unknownhypertext.com/.

[28] See Chuck Rybak,"Takoma Grunge," accessed April 13, 2014, http://www.sadiron.com/tacoma-grunge/.

[29] Nick Montfort, "Who Grabbed My Gorge," *Post Position*, July 26, 2011, accessed April 13, 2014, http://nickm.com/post/2011/07/who-grabbed-my-gorge/.

The Computational Poems of Nick Montfort and Their Translation

"Through the Park"

"Through the Park" is a simple generator written in Python.[30] It produces one short tale out of the same twenty-four sentences, omitting sixteen every time, and thus displaying only eight. This produces various reports of a girl's stroll through the park.[31]

The resulting generated works can vary greatly. Let us look at two example outputs:

> A wolf whistle sounds. ... The girl turns to smile and wink. ... The muscular man paces the girl. ... Chatter and compliments cajole. ... The two circle. ... A giggle weaves through the air. ... Things are forgotten in carelessness. ... Pairs of people relax after journeys and work. …

> The girl puts on a slutty dress. ... The muscular man paces the girl. ... The man and girl exchange a knowing glance. ... Pigeons scatter. ... The girl runs. ... Things are forgotten in carelessness. ... The girl's bag lies open. ... The park's green is gray. ...

Depending on which sentences remain, the story can be a warm account of a romantic or friendly encounter, or take on a more sinister tone. In some versions, there is a hint that the girl falls victim to a brutal crime. Through random selections, the generator maintains a state of ambivalence toward the girl's fate.

From a translator's point of view, the issue of deixis is interesting. Given that every version has a different assortment of sentences, the author avoided the use of deictic pronouns in the original. As the authors of the Trope Tank report note, writing about translations of this work into Spanish, Russian, and Catalan, this problem requires the translator's attentiveness; nonetheless, it is the simplest of those outlined below,[32] and the only one that required no change to the process, owing to the simplicity of the generator's concept (only the input needs to be replaced).

"Lede" or "Lead"?

"Lede" is a literature machine for generating one-sentence absurdist works. Its creation was inspired by a true story. The point of departure for programming the work (in Python) was a headline on the "Newser" site.[33] Published on 19 November 2012 by Matt Cantor, "Scotland's New Hero Is Man in Giraffe Suit" tells the story of the unemployed Armstrong Baillie, who, instead of despairing about his painful situation, decides to do something good for people. Nick Montfort's attention was attracted by the

[30] Nick Montfort, "Through the Park," accessed April 13, 2014, http://www.nickm.com/poems/through_the_park.html.

[31] Nick Montfort returned to erasure as a technique in 2013, in *The Deletionist*, a program, written with Amaranth Borsuk and Jesper Juul. This program can be run on whatever web page you choose. It removes the majority of the text, leaving only the words beginning with 'k', thus creating an "erasure poem".

[32] Natalia Fedorova and Nick Montfort, "Carrying across Language and Code," 7, accessed April 12, 2014, http://trope-tank.mit.edu/TROPE-12-04.pdf#.

[33] Matt Cantor, "Scotland's New Hero Is Man in Giraffe Suit," *Newser*, accessed April 13, 2014, http://www.newser.com/story/157857/scotlands-new-hero-is-man-in-giraffe-suit.html.

first sentence: "While sitting on the toilet, a jobless Scottish man had an idea: Why not dress as a giraffe and do good deeds for people?" Later on in the article the reader finds out that, wearing a costume sewn by his mother, the protagonist really does help people, handing out bananas to runners, smiling at people, keeping the beach clean, taking care of dogs, etc. The positive absurdity of the first sentence and the situation is rendered by a commentary published under the article, signed Bosda: "You know, I never, ever imagined I'd ever read the above sentence." The pure nonsense of the sentence inspired Montfort to make literary remakes and remixes.

His "Lede" is a text generated from the structure of this sentence; as the underlying data for the work, Montfort built a three-part skeleton: "While", "had an idea: Why not", and "for people?" All the other components used in the original lead are exchanged for equally absurd actions, adjectives, or nouns (this is the element of expressive processing in the work). Nick Montfort divides it into six categories: "absurd_situation", "sad_descriptor", "nationality", "man_or_woman", "silly_character", "interact_with", in whose framework he inserts a small number of initial data possibilities. For example, the generated protagonists will dress up as "a robot", "a carnivorous plant", "a Deadhead", "a ninja", "Professor Snape", "a turnip", "a skyscraper", "Benjamin Franklin", "a microbe", "a pirate king". Altogether, Montfort provides 61 possibilities: 11 absurd situations, 11 adjectives conveying sadness, 12 nationalities, 4 choices in the "man or woman" rubric, 11 silly protagonists, and 13 interactions for the protagonists. When commanded to choose the random data, the generator prints unique absurd sentences at intervals of a few seconds, as defined in the program; all of these sentences, naturally, have a grammatical structure, and are correct and logical in terms of cause-and-effect, though the absurdity of the situations is meant to disrupt this logic. Three randomly generated literary works might be:

> While watching happy-slapping videos online, a big-boned Micronesian man had an idea: Why not dress as a ninja and vigorously encourage people?
>
> While stepping over a street pizza, an unstylish Turkish woman had an idea: Why not dress as a pirate king and interrogate people?
>
> While being strip-searched in the airport, a fretful Romani senior citizen had an idea: Why not dress as a pirate king and imitate people?

This sort of absurd literature (surface work) can be automatically generated infinitely; only closing the window makes the program stop. Translating the textual generator into another language may seem quite simple, more like a task for 'Google translator'. At first glance, it would seem to involve no more than inserting sixty-one lexemes into the initial data in a different language (even a machine could accomplish a translation of this sort). With the colossal differences between the Polish and English languages, however, such a translation would be doomed (obviously, considering the absurdity of the output, collapsing it into an incomprehensible stream of words could also be absurd, and humorous).

The absurdity appears right from the Polish translation of the title. Although the word *nagłówek* exists in Polish, it is practically unused, while the English word "lead" is more common, though it is written differently than in North America. Meanwhile, "Lede" changes into the permissible "Lead", which is written differently (we should add that the word "lede" communicates nothing to the Polish reader). Further changes come from gender differences, as in the Polish edition there are twice as many components

and selection capabilities, owing to the genders of words, with “masculine” or “feminine” distinctions appearing in every column. Additionally, one of the components of the original has been broken into two “sets”, where the genders of the protagonists are indicated in the Polish version. Because of their declensions and conjugations, the verbs and nouns have been written in for some cases. Here already we can speak of far-reaching changes to the code, even of new rules for the constrained text and new selections through the increase of the number of protagonists. One need also add that alterations on this level are practically invisible to the reader who does not compare the English and Polish versions of the code.

English:

var sad_descriptor = [“a jobless”, “a forlorn”, “a clumsy”, “an antisocial”, “a fretful”, “a hirsute”, “an unstylish”, “a cockeyed”, “an overly trusting”, “an almost illiterate”, “a big-boned”];

Polish:

var sad_descriptor_masculine = [“bezrobotny”, “zbolały”, “niezdarny”, “kartoflany”, “asocjalny”, “rozdrażniony”, “zarośnięty”, “niestylowy”, “ululany”, “łatwowierny”, “niepiśmienny”, “wielkokościsty”];
var sad_descriptor_feminine = ["bezrobotna”, “zbolała”, “niezdarna”, “asocjalna”, “kartoflana”, “rozdrażniona”, “zarośnięta”, “niestylowa”, “ululana”, “łatwowierna”, “niepiśmienna”, “wielkokoścista”];

Creating the absurd textual generator also involves exchanging some elements in the word list from which the target text is generated. Other adjectives, other events, other figures are more absurd in different cultural contexts. Even though the text does not need rewriting and adaptation in order to be comprehensible for the Polish reader, changing the foreign cultural elements into elements familiar to the reader from the target culture allows for the preservation of the functional element, the humour of the piece. Thus, the multi-ethnic and multiracial United States give way to the ethnic minorities and inhabitants of the various voivodeships, an absurd substitution in itself if one considers the almost total monoethnicity of Poland. Pop-culture figures that would be widely recognizable in the United States have also been replaced by, for example, radical politicians who have a major presence in the Polish public sphere. Many contexts that will be recognizable to a user of the Polish language have also been introduced.

“The Two” and the Two Constraints

We have accepted that the constraint can be treated as a basic unit of translation. The constraint, however, or set of constraints, is not always confined to the grammar. The problems to solve can also be semantic. Reconciling constraints of a grammatical and a semantic nature was key to translating Nick Montfort’s poem “The Two”.

Looking at the source code of the original generator, we find it is quite simple. The concept of the work is based on the following principle: the generator randomly chooses three-line stanzas. In the first line, one pair is chosen from seven sets of “two”s, who interact. For the first line we thus receive such phrases as “The rescuer locates the survivalist”, “The babysitter approaches the child”, or “The police officer nears the

alleged perpetrator". The pairs are chosen so that a certain subordinate relationship exists between the figures. In English we cannot tell the gender of the protagonists from these phrases. This we find out in the second line, where two personal pronouns and one of ten verbs are randomly chosen (example random lines: "She asks for advice from him"; "He smacks him"; "She smacks her"). The third random line concludes the story with one of ten resolutions (examples: "They wait in silence"; "Each one learns something"; "Six years later, neither one remembers the incident"). This simple generator can produce 2,800 short stories. Randomly generated examples might include:

> The police officer nears the alleged perpetrator.
> He expresses sympathy to her.
> They pray together.
>
> The student knocks on the teacher's door.
> She confesses to her.
> They feel better after a good cry.
>
> The indigent turns to the librarian.
> He confesses to her.
> They break into laughter.

One interesting principle at work in this piece is the suspense tied to the genders of the participants in the event. The reader first makes certain suppositions, and only when they come to the second line are their expectations confronted with the random selections. The key, therefore, is to maintain this effect in the translation. One only sees how transparent gender is in the English language when one translates into Polish; then one realizes that practically every word to describe a profession or function in Polish has separate terms for male and female, and even if the basic form is the same, it declines differently. If we add semantic constraints to this problem – in other words, that the people participating in the lyric situation have to be in a significant sort of relationship, and all the better if one is dependent on the other – we have before us a considerable challenge in translation.

In searching for definitions of people whose gender would not be immediately evident, we came across a few groups of exceptions. One of these is academic titles or functions, such as *adiunkt* [assistant professor], *doktor* [PhD], *prokurator*, *premier* [prime minister], and *mecenas* [attorney]. These, however, decline differently depending on whether they signify a man or a woman. Thus, in the first line of the poem they can only be used in the first position, at the beginning of the poem, as this will mean they are in the nominative case. The remaining two solutions are not subject to this constraint. The Polish language has a certain number of words in the feminine form which pertain to people of either gender. These words generally refer to people who are weak, awkward, or incapable, such as *łamaga* [klutz], *ofiara* [victim], and *ciamajda* [ninny]. Finally, we can also use descriptive solutions, phrases such as "the hope of Polish politics", "the literary revelation of the year", "the gray eminence of the college", or "the boss's pet".

Having thus dealt with the grammatical constraint, the translators must creatively solve the semantic problem, and select from the limited pool of nouns to create pairs that might seem probable.

Based on this example we can see how constraints inspire creativity. The translators were compelled to search through their vocabularies to find terms that answer to the formal constraints set by the generator. By the same token, the Polish version will sometimes have even more unexpected pairings. By using figures strongly associated with institutionality at the beginning of the first line, the translation acquired a distinct thematic flavour.

This work has also been translated into French, Spanish and Russian. These projects also required solutions to the translation problems involving the nouns used. For instance, to avoid disclosing the gender of the protagonists, the French translator, Serge Bouchardon chose only nouns that begin with a vowel (so the articles *le* and *la* elide into the form *l'*) and Carlos León, the Spanish translator, reformulated the structure of the first sentence so as to avoid naming the participants of the event or used the form *la persona* (the person). The translation processes have been described in depth in the Lab Report by Natalia Fedorova, the Russian translator and a digital literature creator and expert, as well as by Nick Montfort.[34]

Conclusions

Remixes, remakes, reconceptions, uncreative writing, open access to the code, and playfulness are the chief characteristics of today's digital work, generating other models of reading that more closely resemble the processes of distracted reading or text scanning. The above-described decoding and remaking according to the key of another linguistic system is the fullest form of reading, as it involves (re)building the textual machine. By splitting the work into its prime factors, one ceases to merely explore its surface, and begins to think consciously about the work's vocabulary (data), the mechanism by which it works (the process), perceiving the construction of the whole. It would seem that this reading is even more in-depth, as it deals not only with the original constraints but with the whole linguistic system.

To borrow the terminology of N. Katherine Hayles, the above-represented analysis of selected generators is a kind of analysis that respects the properties of the medium, as opposed to a mere analysis of the text.[35] Nick Montfort's literary machines are prime examples of contemporary literary works which, when read without analyzing their platforms, media, and programming languages, do not fully reveal their properties and innovation in a literary sense. The capacity for immediate publication, the general playfulness of this literature, and its collaborative nature often give it an engaged, creatively involved reception, to which the collaborative translation of the present authors has also contributed.

[34] Natalia Fedorova and Nick Montfort, "Carrying across Language and Code," 3–7, accessed April 12, 2014, http://trope-tank.mit.edu/TROPE-12-04.pdf#.
[35] Cf. N. Katherine Hayles, *Writing Machine* (Cambridge, MA: MIT Press, 2002).

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Hiper-constrângeri formale: traducerea generatoarelor textuale ale lui Nick Montfort

Analizând generatorii poetici ai lui Nick Montfort, autorii discută locul literaturii digitale în domeniul scrisului experimental contemporan. Bazându-ne pe terminologia procesării expresive elaborată de Noah Wardrip-Fruin, interpretăm generatorii examinând datele de intrare (input), procesul propriu-zis şi datele de ieşire (output) lor. Generatorii lui Montfort sunt contextualizaţi ca cel mai nou tip de literatură a constrângerilor formale. Montfort e prezentat ca o figură centrală a celei de-a doua generaţii de scriitori digitali care publică online lucrări independente, de dimensiuni mici. Statutul unor asemenea lucrări e discutat prin prisma economiei darului, a accesului liber, a aproprierii şi a culturii remix. Autorii oferă un studiu de caz ce analizează trei lucrări pe care le discută din perspectiva limbii engleze şi, de asemenea, în traducere. O parte importantă din articol e dedicată traducerii literaturii digitale, prezentată ca lectură în profunzime a unui text, ce presupune date de intrare (input), un proces propriu-zis şi date de ieşire (output).