

CARAC TERES

Estudios culturales y críticos de la esfera digital

En este número participan ■ Elvira Blanco Santini, Sébastien Doubinsky, Daniel Escandell Montiel, Rosana Fuentes Fernández, Beatriz Garrido Ramos, Jan Gregor, Jindřiška Kračková, Darío Lanza Vidal, Alejandro Lozano, Miguel Ángel Motis Dolader, Daniel Raušer, Petr Sádlo, Karim Sidibe, Věra Sládková, Libuše Turinská.

Dossier: Current Research Approaches in Humanities through the Eyes of Czech Linguists (1)

Caracteres. Estudios culturales y críticos de la esfera digital

Caracteres es una revista académica interdisciplinar y plurilingüe orientada al análisis crítico de la cultura, el pensamiento y la sociedad de la esfera digital. Esta publicación prestará especial atención a las colaboraciones que aporten nuevas perspectivas sobre los ámbitos de estudio que cubre, dentro del espacio de las Humanidades Digitales. Puede consultar las normas de publicación en la web (<http://revistacaracteres.net/normativa/>).

Dirección

Daniel Escandell Montiel

Editores

David Andrés Castillo | Juan Carlos Cruz Suárez | Daniel Escandell Montiel

Consejo editorial

Robert Blake, University of California - Davis (EE. UU.) | Maria Manuel de Borges, Universidade da Coimbra (Portugal) | Fernando Broncano Rodríguez, Universidad Carlos III (España) | José Antonio Cordón García, Universidad de Salamanca (España) | José María Izquierdo, Universitetet i Oslo (Noruega) | Hans Lauge Hansen, Aarhus Universitet (Dinamarca) | José Manuel Lucía Megías, Universidad Complutense de Madrid (España) | Enric Mallorquí Ruscalleda, California State University, Fullerton (EE. UU.) | Francisca Noguero Jiménez, Universidad de Salamanca (España) | Elide Pittarello, Università Ca' Foscari Venezia (Italia) | Fernando Rodríguez de la Flor Adánez, Universidad de Salamanca (España) | Pedro G. Serra, Universidade da Coimbra (Portugal) | Paul Spence, King's College London (Reino Unido) | Rui Torres, Universidade Fernando Pessoa (Portugal) | Susana Tosca, IT-Universitetet København (Dinamarca) | Remedios Zafra, Universidad de Sevilla (España)

Consejo asesor

Miriam Borham Puyal, Universidad de Salamanca (España) | Jiří Chalupa, Univerzita Palackého v Olomouc (Rep. Checa) | Wladimir Alfredo Chávez, Høgskolen i Østfold (Noruega) | Sébastien Doubinsky, Aarhus Universitet (Dinamarca) | Daniel Esparza Ruiz, Univerzita Palackého v Olomouc (Rep. Checa) | Charles Ess, Aarhus Universitet (Dinamarca) | Fabio de la Flor, Editorial Delirio (España) | Katja Gorbahn, Aarhus Universitet (Dinamarca) | Pablo Grandío Portabales, Vandal.net (España) | Claudia Jünke, Universität Bonn (Alemania) | Malgorzata Kolankowska, Wyższa Szkoła Filologiczna we Wrocławiu (Polonia) | Beatriz Leal Riesco, Investigadora independiente (EE. UU.) | Juri Meda, Università degli Studi di Macerata (Italia) | Macarena Mey Rodríguez, ESNE/Universidad Camilo José Cela (España) | Pepa Novell, Queen's University (Canadá) | Sae Oshima, Aarhus Universitet (Dinamarca) | Gema Pérez-Sánchez, University of Miami (EE. UU.) | Olivia Petrescu, Universitatea Babeş-Bolyai (Rumanía) | Pau Damián Riera Muñoz, Músico independiente (España) | Jesús Rodríguez Velasco, Columbia University (EE. UU.) | Esperanza Román Mendoza, George Mason University (EE. UU.) | José Manuel Ruiz Martínez, Universidad de Granada (España) | Fredrik Sörstad, Universidad de Medellín (Colombia) | Bohdan Ulašin, Univerzita Komenského v Bratislave (Eslovaquia)

ISSN: 2254-4496



Editorial Delirio (www.delirio.es)

Los contenidos se publican bajo licencia Creative Commons Reconocimiento-No Comercial 3.0 Unported.

Diseño del logo: Ramón Varela, Ilustración de portada: Juan Carlos Cruz Suárez

Las opiniones expresadas en cada artículo son responsabilidad exclusiva de sus autores. La revista no comparte necesariamente las afirmaciones incluidas en los trabajos. La revista es una publicación académica abierta, gratuita y sin ánimo de lucro y recurre, bajo responsabilidad de los autores, a la cita (textual o multimedia) con fines docentes o de investigación con el objetivo de realizar un análisis, comentario o juicio crítico.

Editorial, PÁG. 6

Artículos de investigación

- Visualización de datos y clasificación Iconclass: un estudio de caso desde la perspectiva de las Humanidades Digitales. DE BEATRIZ GARRIDO RAMOS, PÁG. 10
- Encuentros y desencuentros entre videojuegos y literatura. Jugabilidad y narrativa en *The Stanley Parable*. DE ALEJANDRO LOZANO, PÁG. 34
- The Knotted Sign: Poetics of Illegibility. DE ELVIRA BLANCO SANTINI, PÁG. 59
- Asíntota de la realidad. La influencia de las tecnologías digitales en la actual imagen sintética. Retos para el futuro. DE DARÍO LANZA VIDAL, PÁG. 82
- La documentación histórica y la era digital. El Archivo Histórico del Cabildo Metropolitano de Zaragoza. DE ROSANA FUENTES FERNÁNDEZ Y MIGUEL ÁNGEL MOTIS DOLADER, PÁG. 103

Intersecciones

- Reading, writing, rebelling. Propositions for a renewed critical stance. DE SÉBASTIEN DOUBINSKY, PÁG. 138

Reseñas

- *Smash Bros. Land: Los videojuegos de Masahiro Sakurai*, de Víctor Porrás. POR DANIEL ESCANDELL MONTIEL, PÁG. 176

Dossier: Current Research Approaches in Humanities through the Eyes of Czech Linguists (1)

- Influence of Multi-Word Calques on Russian and Czech – Comparative Study. DE JAN GREGOR Y LIBUŠE TURINSKÁ, PÁG. 182
- Selected English-Czech False Friends and Their Use in the Works of Some Czech Students. DE DANIEL RAUŠER, PÁG. 209

- Gender Alternatives in the French Translation of MMORPG *World of Warcraft* in relation to the English Original. DE PETR SÁDLO, PÁG. 238
- Czech Churches and Religious Groups on the Internet. DE KARIM SIDIBE, PÁG. 252
- Punning Worldplay in Czech Advertising Discourse. DE VĚRA SLÁDKOVÁ, PÁG. 264
- The Language of the Internet – The Use of Concessive Conjunctions in Blogs by Companies Providing Private Tuition. DE JINDŘIŠKA KRAŤKOVA, PÁG. 293

Sobre los autores, PÁG. 310

Petición de contribuciones, PÁG. 315



ARTÍCULOS DE INVESTIGACIÓN

Investigaciones en torno a las disciplinas que componen las Humanidades Digitales. Los artículos son sometidos a arbitraje doble con sistema de doble ciego.

Research regarding the disciplines that comprise the Digital Humanities. Articles are double peer reviewed with a double-blind system.

THE KNOTTED SIGN: POETICS OF ILLEGIBILITY

EL SIGNO ANUDADO: POÉTICA DE LO ILEGIBLE

ELVIRA BLANCO SANTINI
INVESTIGADORA INDEPENDIENTE

ARTÍCULO RECIBIDO: 09-03-2017 | ARTÍCULO ACEPTADO: 18-04-2017

RESUMEN:

Se podría argumentar que la legibilidad precede a cualquier preocupación por la poética, porque: ¿cuáles son las poéticas de algo que no podemos entender? Sin embargo, nuestra interacción con la tecnología digital nos expone constantemente a la ilegibilidad intrínseca a sus operaciones. El objetivo de este ensayo es reflexionar sobre la ilegibilidad desde tres perspectivas: la definición de la legibilidad como un régimen cultural eurocéntrico, la exploración de la poética de lo legible por máquina frente a lo legible por el hombre y la proposición de que estamos ante un régimen cada vez más ubicuo de ilegibilidad, que no se limita a la escritura. Después de esta revisión vagamente cronológica de la historia moderna de la ilegibilidad, intentaré responder: ¿Qué puede significar lo ilegible como recurso expresivo?

ABSTRACT:

One might argue that legibility precedes any concern about poetics, because: What are the poetics of something we cannot understand? However, our interaction with digital technology constantly exposes us to the illegibility intrinsic to its operations. The aim of this essay is to reflect on illegibility from three perspectives: the definition of readability as a Eurocentric cultural regime, the exploration of the poetics of the machine-readable as opposed to the human-readable, and the proposition that we are facing an increasingly ubiquitous regime of illegibility that is not limited to writing. After this vaguely chronological review of the modern history of illegibility, I will attempt to answer: What can the unreadable mean as an expressive resource?

PALABRAS CLAVE:

Illegibilidad, poética, reconocimiento óptico de caracteres, glitch, aprendizaje automático

KEYWORDS:

Illegibility, poetics, optical character recognition, glitch, machine learning

Elvira Blanco Santini. Investigadora, productora y educadora sobre medios. Licenciada en Comunicación por la Universidad Monteávila (Caracas) y Máster en Media Studies de The New School (Nueva York). Iniciará sus estudios en culturas latinoamericanas e ibéricas en Columbia University en el semestre de 2017. Editora de *Backroom Caracas*, plataforma híbrida en línea sobre arte y cultura.

1. The Regime of the Legible

In "The Encyclopedist and the Peruvian Princess," an essay included in *The History of the Book and the Idea of Literature*, researcher and professor of French culture and literature Lorraine Piroux proposes that the "regime of legibility" was consolidated in Europe with the French Enlightenment, along with the physical changes that the book as medium and object underwent at the time (2006: 107). Books were being made in portable sizes, and printed with clearer structures thanks to typographical technologies; certain mechanisms of text organization "made the semantic architecture of the text immediately available" (Piroux, 2006: 107) such as indentation and dashes to indicate dialogue. In this regard, Piroux refers to the deep reach of legibility: how, through formal values that impact the mode of reading, access to the "substance" of the text is facilitated (108). For the Encyclopedists, the contents of a book should be as transparent as possible, without linguistic excesses, written in clear philosophical language, with systematic definitions and, if possible, accompanied by illustrations. Piroux says:

The efforts of the writers, the editors, and the publishers of the period to develop unprecedented standards of legibility represented something more than formal or technical innovations... They demonstrate the belief that the success of the Enlightenment project rested on the printed book's ability to bring its readers into close and unhindered proximity with thought and ideas, or, to put it differently, on its ability to create the illusion of a purely semantic text. (2006: 108)

Thinking through the regime of the legible, it would appear that the Encyclopedists supported the publication of texts so transparent that they might render the materiality of the written sign invisible. In their eagerness to adapt writing to the book format, and to shorten writing as much as possible to save space, the West banished symbols and gave primacy to the "signified object": the notion of a metaphysical text, "a derealized, disincarnated, and invisible verbal sign" (Piroux, 2006: 12) without the excesses of "literariness." In response to the imperative of transparency, adds Piroux, some writers began to embrace the materiality of the written sign through literature, taking inspiration from forms of Mesoamerican, Inca and ancient Egyptian writing (110).

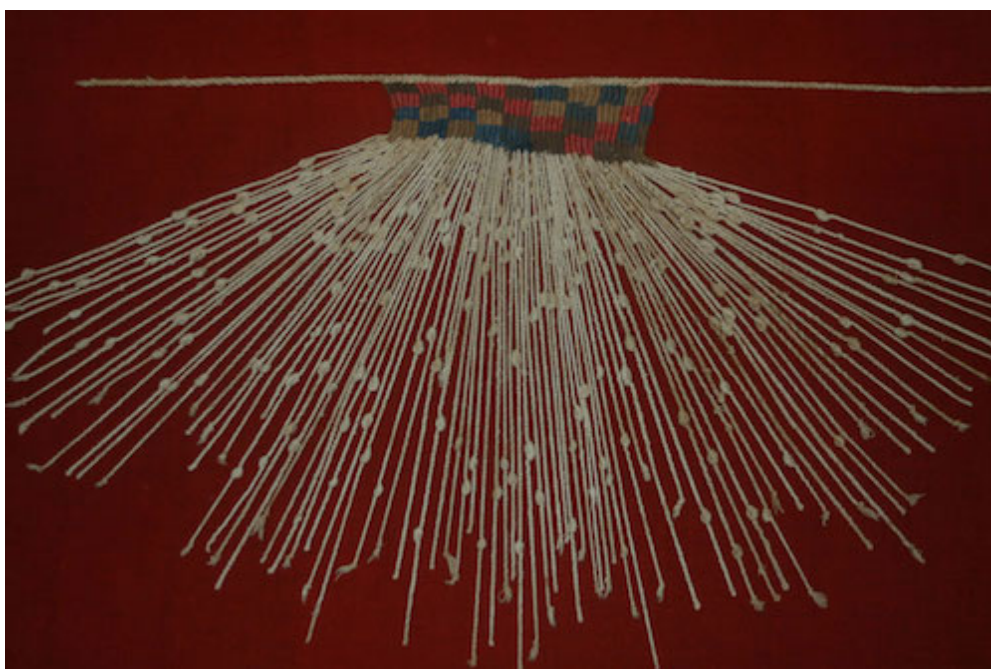


Figure 1. *Khipu* - Universidad de San Martín de Porres, Lima, Perú (Source: Khipu Database Project <<http://khipukamayuq.fas.harvard.edu/>>)

To demonstrate this in symbolic forms, Piroux refers to French writer Françoise de Graffigny in relation to the *quipu*, which plays

a key role in her novel *Lettres d'une Péruvienne* (1747), about an Inca princess who learns the Western alphabet in France and forsakes native forms of communication. The *quipu* is a textile record-keeping device, usually made with cotton or gut strings. According to letters from the Spanish Colonization and some later accounts, the Incas knotted the strings of the *quipu* to record quantitative data (census, taxes), as well as songs, genealogies, and other types of narratives. In addition, experts say that the values recorded in *quipu* cannot be literally translated to Quechua; they believe their use was completely mnemonic, sensory, and nonverbal (Urton, 1998: web). What could be further from the purely semantic text that the Encyclopedists dreamed of? In the *quipu*, content (the meaning) is inseparable from the medium (rope) –language and its materiality are knotted together. In alphabetic writing, materiality (the paper or surface) is metaphysically separate from language (the letter that is written or carved on the surface): "alphabetic script reduces the text to some thing of a trace, infinitely closer to thought than to the paper object that receives it" (Piroux, 2006: 118). In Graffigny's novel, when the Inca princess adopts the economy of Western language, she also renounces the possibility to express her story and feelings, leaving behind the poetic, "literariness."

Piroux's considerations are a starting point to reflect on the illegible. She speaks of it not as something unfathomable, but as a script that does not conform to the regime of transparency established during the Enlightenment. As visual or pictorial language forms were "opaque," did not have an alphabet, and had to be deciphered, they immediately made apparent the materiality and the "literariness" of the text; this is entirely opposed to the idea of legibility as a practically immaterial reading. On the other hand,

based on Graffigny's observations, we could also affirm that there is something poetic in the unreadable.

2. The Regime of the (De)Codifiable

What we consider illegible is illegible to whom? There is something essentially colonialist in the characterization of non-Western forms of writing as opaque and blocking access to thought, versus the supposed inherent readability of the Western alphabet. These perceptions operate within a Eurocentric view of language. Therefore, it seems nonsensical to discuss the possibility of some mode of formal writing being intrinsically legible while others are not. However, a discussion can emerge from current situations in which what can be read is compromised when compared to computational processes.

Virtually any operation involving calculation or writing happens on a computer at this time. I write this essay with a QWERTY keyboard on a laptop, and there is no doubt that the bulk of what is written today requires a word processor. There is no space here for an archeology of the interface or a history of software, but it should be noted that if we could read the information that a computer processes without an interface, it would be quite difficult to find meaning in it: from zeros and ones to electrical impulses, we see how language becomes energy and numbers. The interface exists to render a literate human-readable version of computer operations. These respond, in turn, to our commands: a command decoded by a processor and encoded as a communicable product.

Plenty of examples illustrate the decoding and encoding processes that happen through computer programs. I will take one

in which the unreadable is particularly visible. Ocrad.js is an OCR (Optical Character Recognition) that converts scanned images of text to text again. This is useful, for instance, to convert a scanned text into an editable document or, on the other hand, to violate safety barriers implemented with CAPTCHAs. Depending on its engine, Ocrad.js has the ability to "learn" new languages and identify similarities between letters, but it also has serious limitations. Often, what is easily readable to the human eye is not entirely readable to the program, which goes blank. Large discrepancies can also exist between the input and the reading done through OCR. This generates interesting questions: Is it possible for a machine to do a "bad" or "good" reading of a text, since it is oblivious to semantic value? Could we say that "readable" is "decodable," and so the illegible is something we are not "programmed" to decode? We often use terms like "the computer reads" (a file). If we continue this line of questioning, we will inevitably ask what it means for a program to understand something, which is an issue that exceeds the limitations of this essay. However, two things are worth noting: the OCR program decodes alphabetic text and returns it as alphabetic text, but it can also identify ("read") letters where, for the purposes of human intelligence, there are none.

The following images show some of my interactions with OCR, exploring its capacities and mistakes:



Figure 2. Here, I have written "*poética*," but the program recognized "pOÉfilp"



Figure 3. Here I drew a squiggle that was recognized as the letter "m."



Figure 4. The program did not recognize any letter when I wrote "lee."

Reverse OCR is a Twitter bot created by artist Darius Kazemi, whose personal username is, quite appropriately, @tinysubversions <<http://tinysubversions.com/>>. A bot is an application that performs automated and usually repetitive tasks on the Internet, from tweeting a phrase or hashtag over and over to playing mahjong with human beings.

As its title suggests, Kazemi's project employs Ocrad.js in reverse, which allows us to observe the OCR-based "reading" from another point of view. *Reverse OCR* chooses a word from its repertoire and starts drawing random lines until Ocrad.js recognizes the word successfully. Then the bot tweets a snapshot of what it "wrote" along with the actual word. In virtually all cases, the bot's writing is completely unintelligible for humans, and yet we know Ocrad.js was able to relate it to a real word.

Below are some examples taken from @reverseocr_ and the *Reverse OCR Tumblr* <<http://reverseocr.tumblr.com/>>:



Figure 5. "Subtlety"

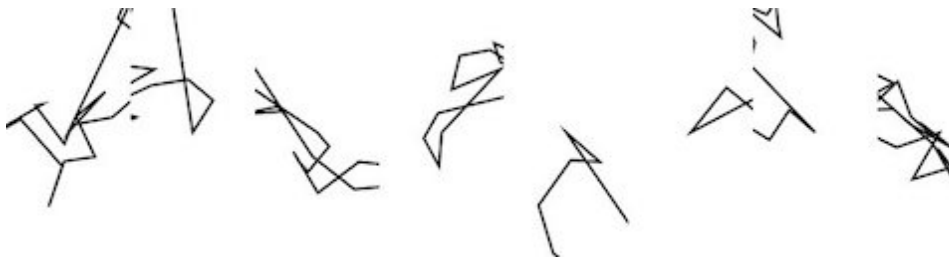


Figure 6. "Diaspora"

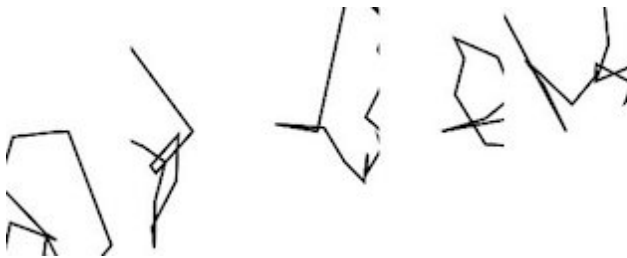


Figure 7. "Haiku"

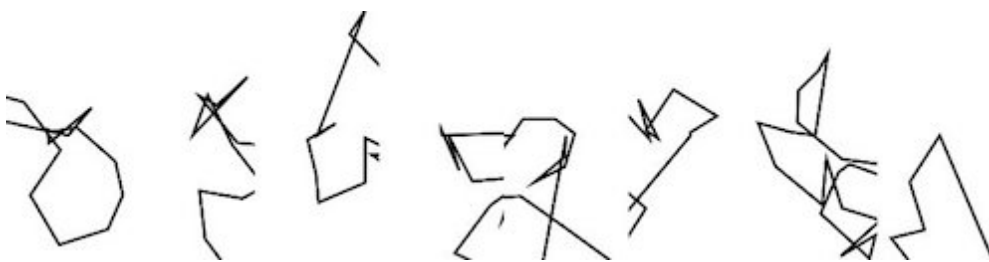


Figure 8. "Brethren"

Kazemi calls himself an Internet artist. Most of his projects are generators and art bots that work on Twitter or Tumblr. The "universe" of art bots on Twitter is quite diverse, but they generally work in two ways: some operate through interaction with users or other bots, while others are "self-sufficient" and simply run their algorithm through a database, like *Reverse OCR*.

By the very nature of their programming, the poetics of bots tend to be based on repetition and permutation. Once we know how Kazemi's bot works, we can try to imagine how many attempts it made to achieve the recognition of each letter; personally, I find this a somewhat alienating idea, as it evokes the randomness and repetitiveness of the process –both notions that I associate with computation. In any case, *Reverse OCR* evinces that, since we speak of the machine's ability to "read," legibility is no longer culturally considered exclusive to human intelligence. The execution of automated tasks that we think we understand involves human-unreadable decoding and encoding processes.

The notion of legibility within the regime of the (de)codifiable is closely related to the ability to decode certain languages. In fact, the notion of meaning in the context of the legible can also be extended to encompass the "experience" of machines. A Python script, for example, is written with alphabetic characters that humans can read. Still, the optical reading that a person can make of that script does not yield the same meaning as that of the program –for the program, a successful reading is manifested in carrying out a command. A programmer might even understand what the script is designed to achieve, but her reading cannot access the "substance" of that particular text.

The issue of illegibility in the context of computation can be even more complex. We might say that there is a resonance between

the Encyclopedists' imperative of semantic transparency and what constitutes an "elegant" programming code: accuracy, clarity, and absence of "ornaments" that hinder the effective implementation of a task. As language and materiality are separated in alphabetic writing, and while in Pre-Hispanic visual languages the sign was inseparable from its materiality, in computerized languages the sign is tied to its execution. A mistake in a given code renders it unreadable to the machine, and the task cannot be performed: it is a failure of language. However, in the margins and grey areas of faulty executions and half readings, our eyes have been trained to read and deal with error –even to turn it into an expressive resource.

3. Expression Through Error

In this section, I will focus on the unreadable expressions of technology, specifically those that are not entirely understood by humans, or that are at least resignified by them. The digital reading error is impractical, but to stumble upon one is to discover a small subversion of a process expected to be effective (as effectiveness is the purpose of automation); this is precisely why it generates fascination.

In his article "Aesthetics of the Error: Media Art, the Machine, the Unforeseen, and the Errant," University of Glasgow Professor Tim Barker argues that the postdigital era is marked by the condition for error:

In the condition where machinic systems seek the unforeseen and the emergent, there is also a possibility for the unforeseen error to slip into existence. This condition can be seen in the tradition of artists using the error [...] as a creative tool. (Barker, 2011)

In an interview with Magda Tyzlik-Carver for the blog *ecologies of intimacy*, digital artist Miyö van Stenis reflects on the practices that take advantage of this "condition for error" to make art:

From the philosophical position, I believe that "the error" or "glitch" is the clearest meeting point between humans and machines/technology. Technology reflects the fact that humans want to create perfection, something that works in harmony with our commands and no matter what it always is expected to look and work perfectly to our satisfaction. If Nietzsche and Hakim Bey questioned the need for God, why can't we play to destroy the proud son of human beings, the extensions of our senses and ironically what controls us [sic]. This glitched relationship is a perfect dialectic, see beauty when all fails. (Van Stenis, 2016: web)

In short, technical error can be a means of expression, and many digital artists use the unreadable/defective to build their discourse.

ELIZA was a chatterbot written by Joseph Weizenbaum between 1964 and 1966. It ran a script called DOCTOR through which it pretended to be a psychotherapist, using basic natural language processing and a short repertoire of responses to interact with its "human patient." If it exhausted its repertoire, ELIZA simply resorted to a generic answer: for instance, if the user wrote "My head hurts," ELIZA answered "Why do you say that your head hurts?" It remains a popular case study, not only because it was one of the first of these chatterbots, but also because, though they knew that it was a program, most users could not help relating to it as if it were a real, human therapist.

Artist Daniel Temkin wrote the Entropy programming language in 2010. In his own words, he wanted to explore how programming reinforces compulsive habits, so he created a language in which data would gradually decay, forcing the programmer to forsake precision and control as chaos ensued. Subsequently, Temkin decided to rewrite ELIZA using Entropy, while maintaining its logic and austerity intact.

Below is a screenshot of a brief conversation with *Drunk Eliza*:

```
YNU9 hi eliza
DQUMK ELIZB: HOW DP YOU DO -- PLEASE STATE YOUR PROBLEM.
YOU9 i am sad
CQUMK ELIZB: DO YOU ENJOY BEING SAD?
YOU9 no!
CQUMK ELHQB: XHY NOT?
YOT9 i like being happy
DRUNK DKIZB: WHAT COET UGAT SVGGFST TO YOU?
YOT9!what?
```

Figure 9. *Drunk Eliza*

Drunk Eliza gives the same laconic answers as the first Eliza, but makes typing "mistakes" that create the illusion of being under the influence of alcohol; even her mistakes make sense within the QWERTY scheme (the wrong letters are not so distant from the correct ones). As the conversation with this ELIZA develops, its writing becomes increasingly erratic, to the point that it becomes difficult to understand its sentences.

Drunk Eliza is built with a language designed to reach illegibility. While its implementation is correct, Temkin's ultimate goal is to generate an increasingly opaque reading experience (until, in fact, the bot collapses). Thus, Temkin subverts our expectations of a chatterbot's a programming language –to generate or maintain

a conversation, not complicate it—. At the same time, he humanizes ELIZA's error: though whether machines can think or learn is still being debated, it is less common to discuss whether they can get drunk. *Drunk Eliza* reads and decodes our statements, but in its inebriation finds it difficult to codify appropriate responses.

Although not exclusively related to writing or reading text, I wish to dwell on the glitch because glitch art practices allow us to detail the use of technical error as an expressive resource. Generally speaking, the computational glitch is a minor operation error. It does not preclude the use of the device or program, but hinders their success. Although a glitch is not necessarily visual, it is common to associate the term "glitch" with graphic glitches: aberrant lines, stacked-up characters, blocks of color, frozen motion, misshapen textures, and any other elements that distort the image to some degree. Glitch art employs the aesthetics of the digital graphic error as a means of expression through the intentional corruption of a file.



Figure 10. Movie theater glitch. Courtesy of Juan Manuel Acosta.

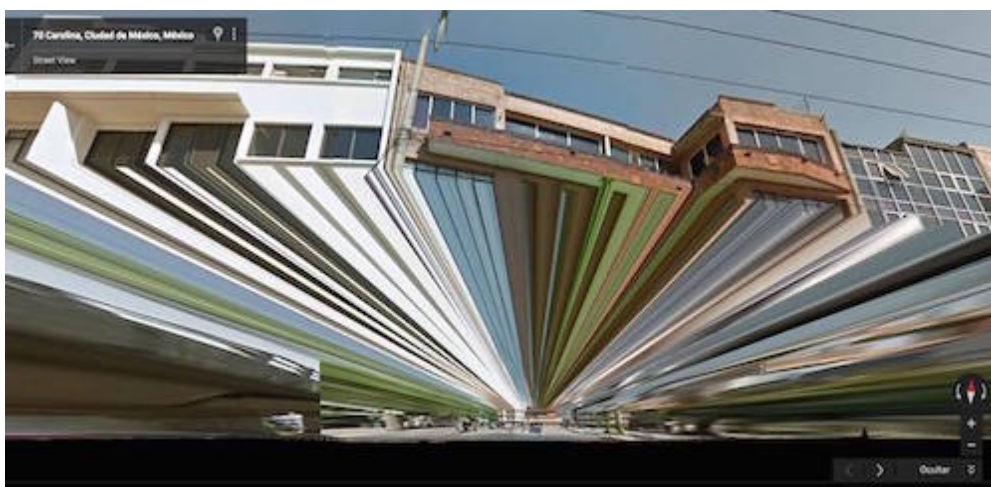


Figure 11. Laptop glitch. Courtesy of Jesús Torrivilla.

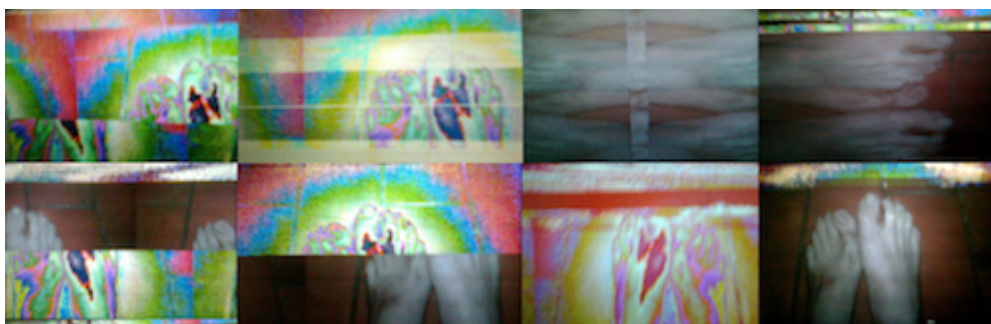


Figure 12. BlackBerry camera glitch. Courtesy of Alissa Lovera.

If the corruption of a digital image is an artistic technique, each glitch artist builds her own discourse through it (see below, for instance, a work by Corina Lipavsky). However, one must also consider that this technique is part of the corruption/intervention of a symbolic universe that transcends individual discourse: code as language, interface as a medium that can be read. In his article "gli†CHED IN †RAN\$LA†ION: Reading †ex† and Code as a Play of \$Paces," Matt Applegate, professor of Digital Humanities at Molloy College, argues:

The visual representation of glitch art is the simultaneous ambiguation and disambiguation of code's seamless operation. This is to say that code's work is simultaneously obfuscated and made manifest where the glitch is made visible, subjecting both the visualization and obfuscation of its function to interpretation as an aesthetic process. (2016: web)

Similar to how *Reverse OCR* manifests the "reading"(and writing) of a program, the glitch expresses those same processes framed within the condition for error. The difference is that, while each of *Reverse OCR*'s drawings is a well-executed task, each glitch is a failure. Therefore, glitch art makes use of a poetics of the error, which in turn implies a two-way illegibility: within the machine producing the glitch and, in the case of graphic glitch, on the screen or surface where *we* see it. As we address glitch art as a practice with a series of strategies and techniques that generate intentional errors, we might say that the discourse of illegibility underlies the individual discourse of the artist.



Figure 13. *Nostalgia* © Corina Lipavsky (2014)

4. Reading Noise

I have referred to the reading of the machine as an action that involves processing a series of commands and executing them. When an error occurs in this process, we can speak of a machine-unreadable command and/or a human-unreadable result. But what happens when we are required to interpret something that is illegible both to the machine and to the human eye? It also happens that some machines study the unreadable.

In "A Sea of Data: Apophenia and Pattern Misrecognition," German researcher and artist Hito Steyerl argues that, as we are surrounded by electric charges, radio waves, and light pulses encoded by machines for machines, (human) vision has lost ground against other capabilities such as filtering, decrypting, and "apophenia" (Steyerl, 2016: 1) Apophenia, says Steyerl, is the perception of patterns within random data, which might be connected only through perceptual simultaneity (2). Her essay is based on the premise that, to the extent that "we are drowning in a sea of data" (generated and collected by technology), it has become essential to find patterns or intelligible shapes within this ocean. Deep learning experiments stem from this urgent search: machines are trained to see images emerge. Steyerl refers to the case of the Google Deep Dream project, which she characterizes as "pure and conscious apophenia" (2016: 9).

Google researchers have designed a training process that involves showing a neural network (which typically consists of 10 to 30 layers of artificial neurons) millions of images, and adjusting the parameters of the network until it can categorize the images according to the criteria of the research team. Each image is first introduced into the base layer, which then "talks" to the next one,

until it reaches the layer that generates the output. At each point of this "conversation," the network extracts more and more detailed information about the image; for instance, the base layer may be looking for edges and corners, the intermediate layers seek general forms or components ("like a door or a leaf"), until the final layer interprets all the previous information and decides what the image is. These neural networks later apply their learning on pure noise, to identify faces and other patterns and classify the resulting images (Mordvintsex, Olah, & Tyka, 2015: web).

Once more, we can understand the process more clearly if we subvert its linear operation. For example, it is possible to know what constitutes a *banana* for a neural network if it is shown pure noise, and then this noise is tweaked until the network finds a banana in the image. This helps to know the limitations of the software, but it also shows that a number of preconditions are at work as the program decides if an image belongs in a category.

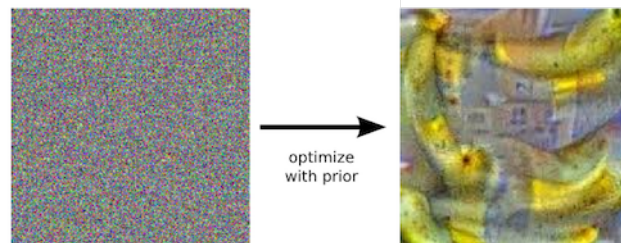


Figure 14. Source: Google Research Blog, *Inceptionism: Going Deeper into Neural Networks*

According to Steyerl, what neural networks "see" in the noise reveals the pre-established criteria under which they operate, their "preferences and ideologies" (2016: 9) Researchers (and this criticism has been made to image recognition software often) can transmit their own preferences and tendencies when educating the

vision of an unprejudiced entity; this might be expressed, for instance, in the images chosen for the training. On the other hand, programs like Google Deep Dream also manifest the vices of machinic vision: over-identifying patterns or forcing the identification of faces and "useful" data where there is none. Steyerl also notes that, as software like GDD does not discern the context of the image, it ultimately identifies "a new totality of aesthetic and social relations" (9). Presets and stereotypes are applied to an image even if they have nothing in common, resulting in an over-interpretation. The example below illustrates this point: a network trained with animal pictures identifies animal-like shapes in the slightly cloudy sky, though obviously its interpretation *does not apply*.



"Admiral Dog!"

"The Pig-Snail"

"The Camel-Bird"

"The Dog-Fish"

Figure 15. Source: Google Research Blog, *Inceptionism: Going Deeper into Neural Networks*

All of this leads to an intriguing question: Is it productive to exploit these readings of the unreadable to the maximum, even if this leads to the fabrication of meaning?

5. The Possibility of the Knotted and the Knotting-To-Do

Illegibility is a complex concept, equally cultural and intimate, broad and intricate. It is applicable to text, image, code, and noise. It is abstract but tangible. It carries a stigma: it keeps knowledge away from us, generates errors, and hinders the execution of tasks. It also contains possibilities: a string of wool can tell the story of an Inca city, clouds can be animals or boats, or important discoveries may be hidden in countless communications intervened by state security agencies. It can also lead to fascinating over-interpretations of reality (think of discovering human faces on the moon), but those over-interpretations can be dangerous if they occur on personal data and lead to real-life consequences.

But illegibility is not only interesting for what it can reveal when (if) decrypted. We often interact with the illegible; it is no stranger to us. It might be productive to overcome any anxiety about the unreadable and accept the possibility of half-assed, unstable, even corrupt signs. Illegibility offers us ample possibilities for reading and creation because it is not restricted by an absolute and transparent signification –otherwise, what we could say about glitch art, with its lack of interest in solving errors? And what about the intimacy between sign and materiality in the Inca *quipu*, and its potential to embrace the “opacity” of emotion? Perhaps, by the standards of Western knowledge, “dark” semantics betrays reason and efficiency, but it resonates where reason does not apply and everything is not transparent. This reflection speaks to embracing illegibility as a possible discourse. In the words of poet, critic, and geologist Lisa Radon: “There is the logical, analytical web of connections, yes. But there is also weird touching, the connection

of that which does not logically or historically connect, and this is the promise of poem, the promise of brain-crossing, errant hyperlinks...” (Radon, 2016: web).

Within the illegible, the sign is knotted onto itself, and entwined with the impressions, emotions and connections that it invites. At the same time, the poetics of illegibility lies in the semantic distance between the sign and its meaning. It is in the unraveling of the resulting knot that felt meanings emerge.

6. Works Cited

- Applegate, Matt (2016). “GLITCHED IN TRANSLATION: Reading text and Code as a Play of Spaces.” *Amodern 6: Reading the Illegible*. <<http://amodern.net/article/glitched-in-translation/>>. (3-1-2017)
- Barker, Tim (2011). "Aesthetics of the Error: Media Art, the Machine, the Unforeseen, and the Errant." Ed. Mark Nunes. *Error: Glitch, Noise, and Jam in New Media Cultures*. New York: The Continuum International Publishing Group. pp. 42-59.
- Mordvintsex, Alexander, Christopher Olah and Mike Tyka (2015). “Inceptionism: Going Deeper Into Neural Networks.” *Google Research Blog* <<https://research.googleblog.com/2015/06/inceptionism-going-deeper-into-neural.html>>. (2-15-2017).
- Piroux, Lorraine (2006). “The Encyclopedist and the Peruvian Princess: The Poetics of Illegibility in French Enlightenment Book Culture.” *PMLA* 121 (1): *The History of the Book and*

{CARAC TERES}

Estudios culturales y críticos de la esfera digital

SOBRE LOS AUTORES

SOBRE LOS AUTORES

Elvira Blanco Santini

Investigadora, productora y educadora sobre medios. Licenciada en Comunicación por la Universidad Monteávila (Caracas) y Máster en Media Studies de The New School (Nueva York). Iniciará sus estudios en culturas latinoamericanas e ibéricas en Columbia University en el semestre de 2017. Editora de *Backroom Caracas*, plataforma híbrida en línea sobre arte y cultura.

Sébastien Doubinsky

Escritor y académico bilingüe. Su campo principal de investigación es la *Work Reading Theory*. Es coautor, junto a Tabish Khair, de *Reading Literature Today*, publicado por SAGE. En la actualidad es profesor de literatura, historia y cultura francesas en la Universidad de Aarhus (Dinamarca).

Daniel Escandell Montiel

Doctor en Filología Hispánica por la Universidad de Salamanca. Ha publicado los libros *Escrituras para el siglo XXI. Literatura y blogosfera* (2014) y *Mi avatar no me comprende. Cartografías de la suplantación y el simulacro* (2016). Es coautor, junto a Fernando R. de la Flor, de *El gabinete de Fausto. "Teatros" de la escritura y la lectura a un lado y otro de la esfera digital* (2014). Miembro de grupos y redes de investigación como el IEMYRhd (Instituto de Estudios Medievales, Renacentistas y Humanidades Digitales).

Rosana Fuentes Fernández

Doctora en Comunicación y Colaboradora Honorífica por la Universidad Complutense de Madrid. Profesora de la Facultad de

Comunicación, Coordinadora en el Master Universitario en Marketing y Comunicación Corporativa y miembro de la Comisión de Doctorado en la Universidad San Jorge. Colaboración con el Cabildo Metropolitano de Zaragoza para dar a conocer sus fondos históricos mediante una estrategia comunicativa digital.

Beatriz Garrido Ramos

Doctoranda en el programa de Historia e Historia del Arte y Territorio (EIDUNED). Anteriormente cursó el Máster Universitario en Métodos y Técnicas avanzadas de Investigación Histórica, Artística y Geográfica (UNED) y el Grado en Historia del Arte. Desde 2014 colabora en LINHD UNED y es miembro del equipo en diversos proyectos europeos. Experta profesional en Humanidades Digitales aplicadas a la Historia del Arte.

Jan Gregor

Doctor en Estudios Rusos; actualmente trabaja en el Instituto de Tecnología y Negocios de České Budějovice (República Checa) desde 2016. Se ha especializado en el estudio comparativos de fenómenos determinados entre ruso y checo. Su tesis doctoral, titulada *Valency Possibilities of Verbo-nominal Constructions in Journalistic Style (Russian-Czech Comparison)*, fue defendida en 2007 en la Universidad Palacký de Olomouc. Ha publicado más de 25 artículos y 2 monografías. Es editor desde 2008 de la revista *Auspicia*.

Jindřiška Krat'kova

Maestría en Estudios Ingleses, Españoles y Latinos. Desde 2009 ha trabajado en el el Instituto de Tecnología y Negocios de České Budějovice. Se especializa en la enseñanza de inglés. Desde 2016 estudia en el programa doctoral de la Facultad de Educación

de la Universidad Carolina de Praga con una tesis sobre las tutorías privadas de nivel universitario.

Darío Lanza Vidal

Ingeniero Superior especializado en tecnologías digitales de la imagen. Profesor del Grado Oficial de Bellas Artes y del de Fotografía y director del Máster en Creación de Animación en el Transforming Arts Institute, adscrito a la Universidad Rey Juan Carlos. Una de sus principales líneas de investigación discurre en torno a la exploración del *matte painting* como mecanismo de creación de material cinematográfico por medios pictóricos. Interesado en la innovación en tecnologías digitales para la producción artística, sus obras han sido expuestas en galerías de arte de Nueva York, Los Ángeles, Londres, Hong Kong, Cardiff, Atenas y Madrid

Alejandro Lozano

Investigador predoctoral de la Universidad de Salamanca en la facultad de Filosofía. Su principal línea de investigación y el motivo de su tesis doctoral es la estética de las nuevas tecnologías, tema que al que se acerca a partir de las metamorfosis recientes en el imaginario social. Su segundo ámbito de trabajo, conectado estrechamente con el anterior, es la estética videolúdica y la exploración del juego como un componente clave en la constelación mediática actual.

Miguel Ángel Motis Dolader

Doctor en Historia y en Derecho. Visiting Researcher en la Faculty of Humanities (Jerusalem), Yeshiva University (New York) y Brooklyn College de Cuny. City University (New York). Su ámbito de especialización es la Historia y Cultura de los Judíos

en el Occidente Medieval. Es profesor de Historia Universal e Historia del Pensamiento en la Universidad San Jorge de Zaragoza.

Daniel Raušer

Maestría en Inglés e historia. Desde 2014 trabaja en el Departamento de Lenguas extranjeras del el Instituto de Tecnología y Negocios de České Budějovice. Se especializa en literatura británica y estadounidense, análisis del discurso, lexicología y didáctica, así como en determinados campos de economía, agricultura y logística. Su último artículo, “The Language without Barriers Programme Combined with the Transportation and Logistics Basics Textbook”, se publicó en 2016.

Petr Sádlo

Maestría en Inglés y Checo. Desde 2015 trabaja en el el Instituto de Tecnología y Negocios de České Budějovice. Se especializa en el estudio de ambos lenguajes con especial atención en el terreno lexicográfico. Su artículo más reciente, “Need This Loot or I Greed It? Computer Game Players’ Communication Using Adapted English Verbs” se publicó en 2016 en la revista *Jazykovědné aktuality*.

Karim Sidibe

Maestría en Educación Religiosa y Estudios Ingleses. Desde 2011 trabaja en el Instituto de Tecnología y Negocios de České Budějovice. Su trabajo se ha centrado en la educación religiosa en Inglaterra, que es el tema que está desarrollando como parte de su investigación doctoral en Teología en la Universidad de Bohemia del Sur. Ha publicado una veintena de artículos relacionados con su investigación.

Věra Sládková

Maestría en Enseñanza de Inglés y Checo. Desde 2015 trabaja en el Instituto de Tecnología y Negocios de České Budějovice. Se especializa en la investigación con *corpus* de estudiantes, como en el papel de la combinación léxica en la creación, interpretación y aproximación metafórica al lenguaje y en la enseñanza de lenguas. Su último trabajo es un artículo en coautoría titulado “Loop input – a unique language teacher training method”, publicado en 2016.

Libuše Turinská

Maestría en Inglés y Español. Desde 2013 trabaja en el Instituto de Tecnología y Negocios de České Budějovice. Se especializa en el campo de la enseñanza de lenguas extranjeras, en particular inglés y español, para fines específicos. Su último trabajo, titulado “Role of Grammar in Teaching ESP” se publicó en 2016.

Este mismo texto en la web

<http://revistacaracteres.net/revista/vol6n1mayo2017/sobre-los-autores/>

PETICIÓN DE CONTRIBUCIONES – CALL FOR CONTRIBUTIONS

Caracteres. Estudios culturales y críticos de la esfera digital es una publicación académica independiente **en torno a las Humanidades Digitales** con un reconocido consejo editorial, especialistas internacionales en múltiples disciplinas como consejo científico y un sistema de selección de artículos de doble ciego basado en informes de revisores externos de contrastada trayectoria académica y profesional. **El próximo número (vol. 6 n. 2, noviembre 2017) está abierto a la recepción de colaboraciones.**

Los temas generales de la revista comprenden las disciplinas de Humanidades y Ciencias Sociales en su mediación con la tecnología y con las Humanidades Digitales. **La revista está abierta a recibir contribuciones misceláneas dentro de todos los temas de interés para la publicación.**

La revista está abierta a la recepción de artículos todo el año, pero hace especial hincapié en los tiempos máximos para garantizar la publicación en el número más próximo. Puede consultar las normas de publicación y la hoja de estilo a través de la sección específica de la web <<http://revistacaracteres.net/normativa/>>. Para saber más sobre nuestros objetivos, puede leer nuestra declaración de intenciones. **La recepción de artículos para el siguiente número se cerrará el 2 de octubre de 2017** (las colaboraciones recibidas con posterioridad a esa fecha podrían pasar a un número posterior). Los artículos deberán cumplir con las normas de publicación y la hoja de estilo. Se enviarán por correo electrónico a articulos@revistacaracteres.net.

Caracteres se edita en España bajo el ISSN 2254-4496 y está recogida en bases de datos, catálogos e índices nacionales e internacionales como **ESCI, ERIH Plus, Latindex, MLA**, Fuente Académica Premier o DOAJ. Puede consultar esta información en la sección correspondiente de la web <<http://revistacaracteres.net/bases-de-datos/>>.

Le agradecemos la posible difusión que pueda aportar a la revista informando sobre su disponibilidad y periodo de recepción de colaboraciones a quienes crea que les puede interesar.

PETICIÓN DE CONTRIBUCIONES – CALL FOR CONTRIBUTIONS

Caracteres. Estudios culturales y críticos de la esfera digital is an independent **journal on Digital Humanities** with a renowned editorial board, international specialists in a range of disciplines as scientific committee, and a double blind system of article selection based on reports by external reviewers of a reliable academic and professional career. **The next issue (vol. 6 n. 2, November 2017) is now open to the submission of contributions.**

The general topics of the journal include the disciplines of Humanities and Social Sciences in its mediation with the technology and the Digital Humanities. **The journal is now open to the submission of miscellaneous contributions** within all the relevant topics for this publication.

While the journal welcomes submissions throughout the year, it places special emphasis on the advertised deadlines in order to guarantee publication in the latest issue. Both the publication guidelines and the style sheet can be found in a specific section of our webpage <<http://revistacaracteres.net/normativa/>>. To know more about our objectives, the declaration of principles of the journal can be consulted. **The deadline for the reception of papers is October 2nd, 2017** (contributions submitted at a later date may be published in the next issue). Articles should adhere to the publication guidelines and the style sheet, and should be sent by email to articulos@revistacaracteres.net.

Caracteres is published in Spain (ISSN: 2254-4496) and it appears in national and international catalogues, indexing organizations and databases, such as **ESCI, ERIH Plus, Latindex, MLA, Fuente Académica Premier** or **DOAJ**. More information is available in the website <<http://revistacaracteres.net/bases-de-datos/>>.

We appreciate the publicity you may give to the journal reporting the availability and the call for papers to those who may be interested.



Caracteres. Estudios culturales y críticos de la esfera digital



<http://revistacaracteres.net>

Mayo de 2017. Volumen 6 número 1

<http://revistacaracteres.net/revista/vol6n1mayo2017>

Contenidos adicionales

Campo conceptual de la revista Caracteres
<http://revistacaracteres.net/campoconceptual/>

Blogs

<http://revistacaracteres.net/blogs/>

Síguenos en

Twitter

http://twitter.com/caracteres_net

Facebook

<http://www.facebook.com/RevistaCaracteres>