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Journal

CR: The New Centennial Review, 16(1)

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Publication Date

2016-04-01

Peer reviewed

Algorithmic Translations

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THE SPINY INK SHAPES OF ERIC ZBOYA'S VISUAL TRANSLATIONS OF Mallarmé's *Un Coup de Dés* radiate, insectlike, against a white background, the sharply angular lines spinning out from quasi-larval cores suggestive of the sudden dynamic movements of alarm, attack, flight. A nightmare of a Rorschach test for an entomophobe, perhaps, but the discrete shapes also conjure up speculative life forms—transgenic fusions of sea horse and sea urchin, mutant species emerging from the oceanic abyss of Mallarmé's poetic text. When understood as page-by-page, verso-recto renderings of the complex typographic design of *Un Coup de Dés*, the images start to coalesce and lend themselves to optical rearrangement and imagined visual correspondence, the large capitals of Mallarmé's visually arresting first word, "JAMAIS," surely reflected in the black nucleus of the near-horizontal entomological form unfolding away from the bottom right corner of the frame. Zboya's images, reproduced in a pamphlet for /ubu editions, and in different constellations for gallery shows and other publications, are at once discrete yet part of an

CR: *The New Centennial Review*, Vol. 16, No. 1, 2016, pp. 115–138. ISSN 1532-687X.
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Figure 1. Eric Zboya, algorithmic translation of Verso 8a, *Un Coup de Dés*.

expansive series, each page of Mallarmé the potential source text for millions of translational permutations.¹ (See Figures 1 and 2.)

Proceeding from the recognition that Mallarmé's letters are sculptural, spatial entities, Zboya seeks with this series to exploit the dimensional potential of Mallarmé's typography, its volumetric projection kept in check by the constraints of the two-dimensional printed page. He employs two translational techniques—3-D typography (using Ji Lee's *Univers Re-*

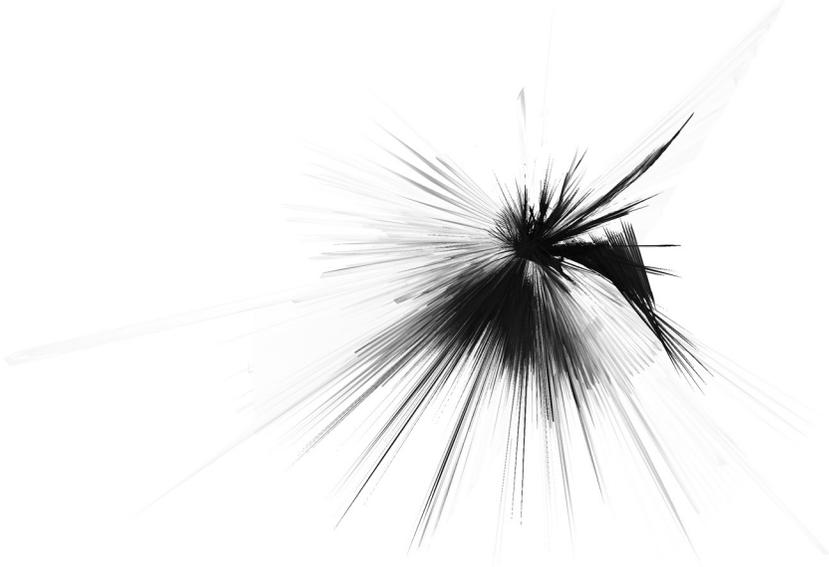


Figure 2. Eric Zboya, algorithmic translation of Recto 8b, *Un Coup de Dés*.

solved font) and anaglyphic projection—in an effort to “unlock” and enhance the dimensional aspects of Mallarmé’s text before settling on algorithmic extrusion, the process resulting in the dynamic inked forms (Zboya 2011, 11).² Within a computational environment, he is able to give free rein to the “higher-dimensional motifs” in Mallarmé’s text, volumetric projection and temporal dynamics, without, however, evacuating the literal text, the letters and words inscribed on the page (Zboya 2011, 12). Situating his trans-medial translations in dialogue with prior artistic engagements with the typographic design of *Un Coup de Dés*, Zboya considers how best to pay homage to the original text—as Marcel Broodthaers and Michalis Pichler have done with black rectangles and laser cutouts that mark the significance of Mallarmé’s words by negating or erasing them—while still preserving the letters as such, along with their “topographical significance,” their materiality and placement on the page (Barwin 2013). His project is thus to reduce content to pure forms that maintain the typographical information of the original work—the literal components—while also intensifying its latent dimensional properties.

In practical terms, the first stage of composition is to replicate the text, a “forgery” or “mimetic operation” to reproduce the look of Mallarmé’s page (Zboya 2011, 68). Then in Photoshop, a 3-D graphics editor, Zboya algorithmically extrudes the letters, which in the process retain their informational content, their material form and topographical arrangement, into abstract, nonlinear, nonalphabetic entities. The letters are thus transformed, mutated, but not technically erased; they are morphed but not scraped away. Zboya’s rhetoric for this practice of algorithmic translation is geological: the letter forms become “non-Euclidean stalagmites” through reiterative extrusion into a 3-D mathematical model, which he describes as a process of “crystalline metamorphosis” that translates and transforms letter into figural mineral (Zboya 2011, 68). What is achieved in the process is a “textual transcendence from one spatial plane to another,” but the “stalagmites,” also visualized as arboreal “dendrites,” notably have both spatial and temporal properties, the lineal shadowing and layering suggesting the interlacing of multiple still images within a single frame, both volume and temporal states thus compressed but preserved, even fossilized, within a paradoxically flattened and still figure (Zboya 2011, 68). The look of lossy, imperfect compression, as if the animation of the change of state, or transcendence, from letter to crystalline form had been incompletely executed, suggests a kind of instantaneity, the “metamorphosis” envisioned as a “miniature ‘Big Bang’ burst of frozen sound, photographed a few moments after the acoustical waves produced through phonetic pronunciation propagate through space” (Zboya 2011, 69). Not only do the images, the translations, burst away from the flattened plane of the page, accentuating the volumetric properties and dimensional signification of the source text, then, but they also invoke a present that is marked, stained, smudged, by both past and future, “acoustical waves” echoing, reverberating, toward the next word, the next image.

Zboya’s algorithmic translations of Charles Bernstein’s “Alphabetica” are produced with the same compositional process, monochromatic “dendrites” in this instance extruded from the bright, jumbled, sans serif letters of Bernstein’s HTML piece.³ Each of the images—the visual poems—is distinct, singular, the inherently aleatory aspect of the computational transformation resulting in a series rather than a set of copies. Each image is distinct, but they

all look alike, and no reasonable guess as to the source could be made. Even with an informed understanding of the composition process, it is impossible to determine with the naked eye which text is preserved in, or gives rise to, a particular ink form, to recognize Mallarmé's or Bernstein's text on sight. We might then ask which cognitive or perceptual faculties, what optical enhancement or machine assistance, would determine the artistic signature, the style or voice, that has given shape to the image. The ontological and epistemological crossing from alphabetic letter forms to code, the manual input of the source text into Photoshop, is itself a linguistic "metamorphosis," but it is the extrusion of the letters, their "planar ascension" as they assume abstract dimensional form, that metaphorically echoes with a "burst of frozen sound" (Zboya 2011, 69). Perhaps then we are to hear in this burst of sound Walter Benjamin's reverberating "echo of the original," the algorithmic translations in this regard fulfilling what for Benjamin is the translator's task (Benjamin 1968, 76). But we might also consider the difference it would make to their reception if the translations were incorrectly identified, the captions inaccurate or the images corresponding to particular pages in *Un Coup de Dés* displayed out of order. In a text of some influence on Zboya, J. Abbott Miller says of his dimensional typographic forms that "their physical manifestation is not a final objective," that the virtual potential of the design process should implicitly be granted priority over the actual artifacts that result (Miller 1996, 8). Given that one verso-recto page of *Un Coup de Dés* could potentially be translated into millions of different ink forms, each output different from the last, much the same might be said of Zboya's practice, though again one might consider how best to appreciate or even evaluate the expressive creativity of the translation if it is almost pure opacity—not technically erasing the original but certainly occluding and "block[ing] its light," "pursuing its own course according to the laws of fidelity in the freedom of linguistic flux" (Benjamin 1968, 79, 80). Fidelity to the original in the instance of an algorithmic translation such as this, however, is a fidelity to the virtual, a fidelity to the *idea* of the original, rather than the thing itself. But if the "unrestrained license" Benjamin holds to be granted the bad translator is shared by graphics software, how are we to understand the "kinship" or "central reciprocal relationship" between language and algorithm (Benjamin 1968, 78, 72)? Toward what understanding

of translation, of text, even of language, are we being nudged by *algorithmic* translations?

Recent institutional data—job listings, publications, exhibitions, conferences, and symposia such as the one from which this special issue emerged—indicate a certain enthusiasm, perhaps renewed enthusiasm, for considering questions of translation and translational practice in the academy at large. The investment is at once practical and theoretical, psychic and financial, with increased resources (full-time equivalents, grants, degree programs and certificates) devoted to developing new networks and circuits of knowledge intermediating between the academic and public sector, linking institutions, professionals, administrators, faculty, and students. High-profile projects such as the *Dictionary of Untranslatables* certainly effect short-term fluctuations in the currency of translations studies, but the structural and epistemological transformations in the discipline of comparative literature as it has shifted from a Eurocentric to a planetary model of comparativism have been determining factors in the recent appreciation of the field of translation practice (Cassin 2014). The contours of what might loosely be regarded as a second “translational turn,” however, are not strictly disciplinary or institutional, though they importantly partake of both (and here we might note the expansion of translation studies beyond the boundaries of designated centers or institutes and into departments across the humanities and social sciences). The “translational turn” as it has richly been articulated and enacted confirms translation as a category for both analysis and action, as adaptation and appropriation, as a means of thinking the interstitial and the border, and of attending to processes of mediation (Bachmann-Medick 2009). The operational field of translation in this newly expansive sense shifts from text to culture (translating between religious and secular communities), from language to action (migration as translation), such that one can conceive of the whole of cultural studies recast as translation studies. If we look beyond the academy to industry, however, it quickly becomes apparent that the critical, ethical, and political stakes of the question—how do we understand translational practice in the contemporary moment—are perhaps even more immediately significant than we have fully recognized.

That the question of stakes should be posed in expansive and time-sensitive terms is licensed by the sweeping rhetoric of two landmark visions of the technoscientific future—blueprints, in effect, for this past decade’s intensive research and development labors pursuing fully automated high-quality translation (FAHQT). The first announcement, by then-chairman of Google Eric Schmidt in 2007, mere months before Google’s statistical machine translation system was publicly available, is prefaced by a speculative query about a possible future world—“What happens when we have 100 languages in simultaneous translation?”—that has been almost fully realized in less than a decade. His announcement that the company had dedicated significant resources to its data-driven machine translation system “so that we can on demand translate everything all the time” surely seems less fantastic in a moment in which 90 languages are supported by Google Translate, along with real-time visual translation for some language pairs, but it remains striking for its prescience about the always-on, 24/7 world of communication services responsive to every need it has itself produced (Tanner 2007).⁴ President Barack Obama’s 2009 strategy statement on innovation and the “grand challenges” of the twenty-first century—from intelligent prosthetics and exascale computing to “automatic, highly accurate and real-time translation between the major languages of the world”—is no less modest in scope, though it is not hindered by a brand identity of corporate benevolence and thus able to frankly identify the endgame for FAHQT as the facilitating and accelerating of global commerce (Executive Office of the White House 2009, 5).

The implementations of the grandly speculative only become visible at the level of the ordinary and the everyday, through applications such as Lingual for Siri, using Bing’s API as a backend, iTranslate, iProTranslate, Voice Translate Pro, SpeakText, SayHi Translate, and, of course, Google Translate, all so that one can navigate a city and ask for directions in countries where one does not speak the language or own a dictionary.⁵ Add to these the numerous mobile apps for optical character recognition so that one can read the subway signs or museum didactics, or order a meal in Beijing or Tokyo. Or at one’s desk, PROMT Personal 8.0 Translator, Universal Translator for Mac, or simply Google Translate, for quick consultation while reading, writing, chatting, watching a video. Or while reading a multilingual blog: Transposh, Translator

Revolution, qTranslate. In short, translation has become an ordinary, everyday practice, a fully embedded feature of our media environments. We summon—detect language, translate now—but more often the work is done for us, a page automatically translated on Chrome, or triggered server side, when, for example, browsing an English language site with a European IP address. Location is detected, and the requested text provided in the regional language. If for Gayatri Spivak the politics of translation necessitate rigorous attention to the rhetoricity of the translated text, its “protocols,” then we might say by extension that the politics of translation today require equally rigorous attention to all of the protocols that govern our translational practices in the everyday, from the ASCII character set to interface design, content templates, and user agreements (Spivak 1993, 190).

Search fields, menu options, and interface design more generally all instantiate habits of routinized, even compliant, use. They are the ground on which behavioral patterns form and give rise to unconscious expectations: we anticipate immediate and functional intelligibility (what does this word mean?) and are perplexed when thwarted. In this regard, automatic translation tools reinforce the techno-linguistic consensus, the mandate that “everything,” every inscription and every speech act, be made accessible, “all the time,” “on demand,” wherever we are. In common practice, then, translation is a fundamentally mediated, technically organized activity, and media artists working on site, within the actual terrain of translation practice—computational environments—are at the moment best positioned to explore this aspect of translational practice, the problematic of algorithmic mediation. Translational media arts practices endeavor to make visible and intelligible the structural logics of the new linguistic doxa, thematizing through self-reflexive representations the fallacies of linguistic equivalence and pure, loss-less communication. What’s more, they prompt critical engagement with the epistemological assumption of a metaphysical distinction between the expressivity of the mind and the mechanization of software. Their work can thus be understood in Jacques Rancière’s terms as a “mode of interpretative discourse,” itself a translation of the material and conceptual infrastructure undergirding the semiotic regime of the present (Rancière 2009, 11).

To begin to trace these aesthetic and sociolinguistic commitments, we must go back almost exactly 40 years to find bpNichol en route to Toronto after a sound poetry festival in London, reportedly unhappy with his writing and casting about for a new approach, one that would allow him to resituate creativity at the level of form rather than content (Nichol 1979, n.p.). “In my mind,” he writes in the “Int(o)ro(nton)duction” to *Translating Translating Apollinaire*, “was the idea of a pure bit of research,” “formal inventiveness” that would use limitations to overcome limitations (Nichol 1979, n.p.). He decided then, he reports, to take the first poem he published, “Translating Apollinaire,” written at a time when he was in fact translating Apollinaire and that incorporates some of the original French, and put it “thru as many translation/transformation processes as I & other people could think of” (Nichol 1979, n.p.). The formal exercise was translation by series of constraints: to start, a transcription of what would become “TTA4” from memory and then a set of rules for generating the numbered series, among them rearranging the letters alphabetically; rearranging by word length; sound, acrostic, musical, and typewriter translations; the poem as a machine for generating line drawings; and exercises in memory retention using other readers who produced variants for “TTA20”. At the time of the preliminary report on the project in 1978, Nichol had elaborated 55 “systems & or results” with some only imperfectly executed; those not published were those that were unfinished, too long, or dependent on knowledge of some of his unpublished essays. It had been conceived, Nichol explains, as “an open-ended, probably unpublishable in its entirety, piece”—translation as continuous transformational process that grants authority only to the *memory* of an original that is itself a translation, necessarily “open-ended,” with time and space as the only constraints authorizing a break in the continuum (Nichol 1979, n.p.). As with Zboya’s algorithmic translations of *Un Coup de Dés*, each translation is one of millions of possibilities, the exercises thematizing translation as process and pure variation.

So too with John Cayley’s *Translation* series, which symbolically performs continually evolving translations among English, French, and German versions of Walter Benjamin’s “On Language as Such and the Language of Man” and excerpts from Proust’s *A la recherche*, algorithmically cycling the texts through the three states of floating, sinking, or surfacing (Cayley 2004). In

“translation₅,” for example, the verso features a scanned image of a printed page from a German-language version of Proust and the recto a transcription of the same, along with excerpts from Benjamin’s essay, the cyclical operations of the different textual states conveying the sense that the viewer is witness to a real-time translational performance. This sense of responsiveness and relative immediacy is confirmed by the single keystroke that summons a monolingual English, French, or German text to the surface, on demand. Of a piece with the “translational turn,” *Translation* eschews notions of fidelity and equivalence in favor of incompleteness and alterity—the fragmented quality of the texts, the limited mechanics, and the nonintuitive relation of cut-up codex to versified lines, and language to sound, all situating the work wholly within the discourse on translation as a process in which one is always a bit foreign, uncertain, and vulnerable. It is also a nicely illustrative instance of the now-double register of translation as “black-box”: the unavailability of the cognitive, aesthetic, and psycho-linguistic operations of the translator now supplemented by algorithmic “magic.” (As Friedrich Kittler reminds us, in a computational environment, “we simply do not know what our writing does” [Kittler 1997, 148].)

The “source” for *Translation*, a complicated designation in the context of a work so manifestly concerned with undermining even the very appearance of a primary or originary text, is Benjamin’s essay on language, an English-language version of which can be pulled to the surface and read with the shift-e command:

Translation attains its full meaning in the realization that every evolved language can be considered a translation of all the others. By the relation of languages as between media of varying densities the translatability of languages is established. Translation is removal from one language into another through a continuum of transformations. Translation passes through continua of transformation, not abstract areas of identity and similarity. (Benjamin 1996, 69–70).

Translation enacts Benjamin’s conception of translation as transformation: one translation, one transformation, producing another—with the additional twist that the text describing the transformation is the very text being

transformed.⁶ An exploration of the “iterative, procedural ‘movement’ from one language to another,” Cayley’s series thematizes translation-as-movement between so-termed human languages (German to French), as well as between media and compositional environments (the printed page to a Quicktime library), and programming languages (C++ to machine code) (Cayley 2004). Cayley appropriately claims the artistic license granted to the translator in his transcription of Benjamin, his authorial tinkering and creative misappropriations driven both by practical necessity (line length) and aesthetic concern, in the interests of producing fluid phrasings that fit within the dimensions of a default screen.

The next stage, it seems, would be to introduce error or glitch into the functioning of the text, to interrupt the transmission in an actual sense, beyond the symbolicity of fragmented appearance and the intrusive, interlineal noise of other, equally fragmented, source texts. And indeed the work of literalizing the encroachment of one text upon another, of underscoring the violence inherent in the “continuum of transformations,” has been done by another media artist in the process of transcribing a fragment of Benjamin’s “Task of the Translator” into binary code.

Michael Kargl exhibited *on translation* (2008/2009) for a language-based conceptual art show in Vienna, *Übersetzung ist eine Form. | Translation is a mode* (2010). As the title of the work suggests, *on translation* is at once a commentary upon, and a physical and epistemological removal from, the act of translation. But there is another layer of removal: Kargl’s *on translation* is a documentation of a performance that featured the artist at a terminal, deliberately introducing an error, a “random variable, a translation mistake, a misunderstanding,” into the automated translation of Benjamin from one sign system to another, from natural language to code and back again (*Übersetzung ist eine Form*). The performance itself—of which I have seen only the exhibited documentation, the circulation of the archival record doubly instantiating Philip Auslander’s point about the inherently mediatised aspect of “liveness”—is somewhat routinized, even dull, and presents, not clearly self-consciously, the familiar nonspectacle of the artist-as-hacker at his terminal. Here he sits, almost as a kind of automaton, typing, eyes fixed on the screen, occasionally uttering cryptic half statements, the dramatic effect conjured

through figural quotation of comparable televisual and cinematic scenes of programming (Auslander 2012). The impoverished imagination of the generalized scene of knowledge work as mechanized labor thus suggests the failure of another type of translation: the non- or miscommunication of the content and significance of that work.⁷

One consequence of shifting the space of performance from the body to computational operations, however, is that the dynamics of risk and intimacy are decidedly altered, particularly when the errors introduced into the process situate the spectacle of failure on machinic terrain. To frame the translation mistake as aesthetic intervention is paradoxically to stage-manage and contain algorithmic processes as human activity, the mistake introduced by intentional act, while at the same time stripping away all of the shame and embarrassment customarily attendant upon the scene when a mistake is made before an audience. That is, at the same time that it contains the algorithmic as human, it reinforces the machinic aspects of the algorithms, which lack sensory intelligence, emotion, and an awareness of social convention. For a more complex picture of the intrusion of the “human”—of bodily movement, sensation, cognition—into the translational circuits linking natural and programming languages, we will thus have to look to other media artists exploring the aesthetic and sociopolitical dimensions of machine and automatic translation practices, artists presenting us with self-reflexive representations and enactments of translational procedures.

This is precisely the terrain of Antoni Muntadas and his long-term, multisited, multimodal, and modular series, *On Translation* (1995–), which has featured publications, interventions, lectures, and installations in sites across Europe and North and South America (Staniszewski 2002; Phillips 1996). Each of the different projects in the series retains the English title, signaling in Muntadas’s terms the status of the language as “a global form of communication,” with the specific subtitles themselves serving a translational function as “filters” (Muntadas and Lozada 2004, 108). To the last, the projects aim to make visible the agents and sociotechnological infrastructures of translation, “exposing the concealed mechanisms” and asymmetries of mass communication and investigating the material conditions that shape the production of meaning (Scoates 2002, 90). For the Atlanta Olympic games,

for example, Muntadas constructed a translation cabin with video projections of interviews with the speech of the professional interpreters translated into Vietnamese, situating the industry professionals at the center of the work by creating a physical space in which “the intangible processes of power relations, language, and mass visual spectacle could begin to be understood by means of a metaphor made material” (Scoates 2002, 92).

The work in the series that bears most directly on my analysis in this essay, however, is *On Translation: The Internet Project (OTTIP)*, which Muntadas devised for Documenta X the year after the games.⁸ At the root of the *Internet Project* is a single English sentence that was successively translated into 22 languages: “Communications systems provide the possibility of developing better understanding between people: in which language?” Appropriately enough for a participatory exercise modeled on the telephone game, the documentation of the original is not standardized: in some versions the understanding is “greater” rather than “better”; in some what is provided is an “opportunity” rather than a “possibility”; in some the final clause takes a conjunction rather than a colon. The visionary plan for *OTTIP* was real-time transmission from one translator to another, each posting the translated sentence on the website and passing it along to the next person in the chain, with the entire cycle repeated. As we recall, however, in 1997 there were limitations on character sets, and the inability of e-mail programs and Web interfaces to read non-Roman characters meant that participants had to default to older technologies—fax and the postal system—with, for example, messages containing Japanese, Arabic, and Cyrillic characters eventually scanned and published as picture files. Hence the cautionary note for viewers of the *äda’web* site: “Due to computer network and cross-platform transmission [translation], the project may require a little willing suspension of disbelief” (<http://www.adaweb.com/influx/muntadas>).

The illusions of global harmony invoked by the sentence in circulation—which optimistically looks to communication channels for the development of “better understanding between people”—were emphatically punctured by the manifest disparities in national linguistic and technological resources. And indeed *OTTIP* ultimately functioned as “an asymmetric mirror of the charms of translation,” the mythic fellowship of planetary equivalence and

connectivity, each translator and translational site as equal actor in the global network (Arnaldo 2002, 50). In practical terms, the translators did not have comparable access to the Internet, for which English is the operational language, from high-level programming languages up to HTML and domain names, nor did they have the same amount of assistance with the “backstage” labors of receiving, decoding, and transmitting the central message. A partial record of the physical and cognitive labor of the translators is archived on the website, in substantive e-mail records updating participants of the status of the project.⁹

From May 20, 1997, translated from German with the aid of both Google and Bing and then again by me into the bureaucratic and transactional voice of routine e-mail communications:

There were some unforeseen delays with the last translations in part because of holidays; the text is currently in Cairo at the sixth station.

Or, from Delhi on May 27, 1997:

Since we received the sentence in Russian we have to find a new translator; the only one suitable does have a fax connection but he’s leaving for Germany in two weeks so we have to receive the sentence soon. If it’s late there is a local German teacher who studied Russian but he can only translate into Punjabi, not Hindi.¹⁰

The e-mail records serve to materialize the metaphor of the communication chain, the potential of a break always hovering in the background, materializing as well the sense of movement, the carrying or conveying across, at the root of translational practice. But the records also communicate the intrinsically situated aspect of any translational act, particularly including the differential relationship each translator has to the temporal dimensions of work: to national holidays, vacations, working hours, schedules, lag. The unseen, invisible labor of the translators, along with all of the agents facilitating the process, the whole of the “backstage,” which reveals the asymmetrical relations between these agents and their respective languages, is here brought into the

foreground and incorporated within the signifying field of the text. Such a foregrounding opens up a space for critical reflection on the fallacies of equivalence and commensurability, the notion that a metaphysical sameness underlies all human languages.¹¹

What also comes into view in the e-mail records is a latent critique of the functionalist or operational criterion for translation—the criterion that specifies that the good is that which works, that which communicates a basic meaning, even if it violates grammatical rules or if some of its content is asemiotic noise. A Dutch translator inquires of one of the project coordinators on September 13:

“Systems of analysis” in the sentence I received does not seem to make much sense, but I see now that the word “analysis” has been introduced into the translation of communication system; interesting to consider what would have happened if someone along the line had “corrected” rather than translated that phrase.¹²

The inquiry, which goes to the heart of Muntadas’s investigation of translation as interpretation and semiotic transformation, speculates upon different trajectories, different possibilities, different futures: the alternate temporality of “what might have been” notably at odds with the relentless linearity and sequentiality of the communicative chain, which marches forward, onward as planned, from station to station. Behind the scenes of any translative movement from A to B—in the spaces between English and Chinese, Russian and Hindi—we are reminded, there is a great deal of traffic. Obstacles are negotiated, forks in the road considered, and bidirectional transfers, the possibilities of a mutuality of exchange, explored. It makes intuitive sense, then, that the illustrative figure that implicitly conveys the passage of the single sentence, of any sentence, from station to station is not that of the line or telephonic cord but rather that of the spiral, a cluster of messages at its center in one instantiation, but often simply a perceptible shadow in the background of the documentary webpages, one cycle through the stations coiled within another, the process turning within itself until all that is left is pattern—form and the protocols governing the transmission of messages.

David Gramling has astutely remarked on translatability as a “planetary mandate with its own technical systematicity” (Gramling 2014, 4). Informed by an ethical imperative and rights-based discourses, the unspoken mandate stipulates total translatability, each party granted access to the same information, everything known to everyone. To fully account for translatability as a planetary mandate, however, we have to consider the temporal dimension—the mandate that everything be legible, linguistically accessible, familiar, in real time or on near-instantaneous demand. The operative fiction, made possible by the wonders attendant upon technological apparatuses (look at what this phone can do!), is of a perfectly networked system, one in which the vision of pure communication, the universal translator of science fiction, might be realized: a seamlessly integrated linguistic system without friction or undue temporal lag. It does of course have noise, which is a feature, not a bug, of a communicative system based on probability models rather than linguistic rules. In this integrated linguistic system, nodes or elements—that is, languages, speakers, corpora—do not have to be relationally or sequentially connected; rather there is the appearance of a flattened plane of equivalence. Of course one can move in an instant from English to Haitian Creole; no need to consider French as the necessary intermediary or to reflect on the mechanism, the algorithms, that make the information instantly available. If basic meaning is not sufficient, if noise, errors, are unacceptable, if that is one needs more than a surface-level consultation, more than parameters or general context, there is “one-hour translation,” 24/7, made possible by an always-ready global team of freelance workers, a marketplace that, as Scott Kushner incisively argues, “has married the logics of standardization, automation, and protocol to casual labor, motivated by incremental profit and lubricated by entrepreneurialism” (Kushner 2013, 1241).

Linguistic degradation as both goal and procedural logic of the telephone game thematizes the loss that inheres in any translational act. But what changes, if anything, when the site of the game shifts from a circuit of human translators to statistical machine translation, from Documenta X and the Goethe Institute to Google Translate?²³ For this purpose, consider Baden Pailthorpe’s *Lingua Franca* exhibition (Firstdraft Gallery, Sydney, 2012), shown in text-based form only the year prior as *Lingua Franca: Google Trans-*

late vs. George Orwell's 1984 (Copenhagen, 2011).¹⁴ *Lingua Franca* emerges from extended reiterative play with Google's translation platform, each paragraph of Orwell's novel run through every language then supported (58), returning to English as the pivot—and initially one might think the “lingua franca” of the title—for each successive translation. At the end of the process, only five original words of the first paragraph remained, the opening line of Orwell's novel, “It was a bright cold day in April, and the clocks were striking thirteen,” replaced by the poetic formulation, “April that he recognized three times.” Beginning with the Copenhagen show, the Twitter feed linked to the project featured excerpted lines on a regular basis over the course of eight months, the descriptive language identifying the account implicitly declaring a rhetorical victor in the battle staged between Google's algorithms and literary prose: “Linguistic remix. Shit translation. Beautiful errors’ (@EightyFourDoors).” In other words, artistic activity, critical judgment, aestheticization—activities historically understood as the provenance of the human cognizer and here serving as a kind of territorial claim over code, the actual “lingua franca” of the work.

Found poetry aside, what a project such as *Lingua Franca* necessitates is the shifting of critical locus from form to historical context and to the mechanisms and materialities of communication. Though available to aestheticization, the output, “April that he recognized three times,” or what Pailthorpe terms the “linguistic detritus (jumbled, random & nonsense words)” is not best or most productively read for its significance, or lack of significance (Pailthorpe 2012, n.p.). Rather we have to consider the project as a whole, as does Jussi Parikka, as a work of “statistical machine art,” one of a number of exercises that would now allow for the identification of a certain genre or mode of composition: repeatable practices of (mis)translation that manifest, and dramatize, the techno-linguistic consensus in the era of Google (Parikka 2012, 6). “April that he recognized three times,” as one of a series of phrases that have been “dragged” through the translation process and “left stranded, untranslatable,” highlights what we might regard as the differences between human and machinic labor: if the work of the human translator is that of thoughtful reflection and interpretation, machinic translation, by way of contrast, emerges through rule-based or statistical—that is, dumb—algorithmic

processes (Pailthorpe 2012, n.p.). But this is simply a heuristic: the algorithmic is not purely mechanical in the sense that it was authored and can be manipulated, and Muntadas's *Internet Project* most certainly saw the introduction of dumb errors and the omission of words and other bits of information. The heuristic is a useful one, however, because it exemplifies the paradigm shift from the grammatical to statistical calculation, the grammatical approach to translation based on the reconstruction of meaning in the target language and the statistical based on the probability that a phrase will be translated in a certain way.¹⁵ (There have to be family resemblances between languages, for example, word order, to avoid linguistic "detritus"; April becomes the subject of the new first sentence because the translated phrases are numerical rather than syntactical units.) This then is arguably the true schism in translational discourse in the age of statistical machine translation: not the divide between the theoretically untranslatable on the one hand and the pragmatics of actual practice on the other, or between the insistence on the absolute singularity of a text and a motivated, rights-based approach to ensuring the democratic circulation of information, but rather the divide between the hermeneutic and the nonhermeneutic, the divide between what is meant on the one hand and sheer pattern recognition on the other (Steiner 1975).

Pailthorpe's account of the translational operations that he initiated conveys the sense of agency that is conventionally and colloquially attributed both to our devices and to our software. "The 'voices' of Google's algorithms become more and more present," the artist says of the new ghost in the machine that acts upon the text. He continues: "Words are omitted, the syntax is rearranged and new words are added" (Pailthorpe 2012, n.p.). We can only witness the results, the exact procedures are black boxed, but there are many levels of not seeing, not knowing, the proprietary only one among them. For Parikka this writing, this language of algorithms, comes to be understood as "detached from the living human body . . . mediated only between machines" (Parikka 2012, 3). It is "statistically calculated wordplay" that "might not *sound* like anything," the "not anything" suggesting the output's nonbelonging to the order of human languages (Parikka 2012, 3). But the alterity is crucially triple: it is the wordplay that does not "sound like anything," that is not recognizable, that does not belong with other linguistic things; there is the alterity of the

algorithms themselves, whose unknowability is in almost directly inverse proportion to our cognizance of their growing presence; and, last, there is the alterity of our own language, of our own text entry, of acts of writing in which our language is visibly adjusted, rearranged, mediated: “did you mean X” or, without asking, an auto-correction of a language that is no longer properly ours. And, indeed, in *Lingua Franca’s* exposure of the algorithmic dimension of our writing, of the fundamental mediations of language, it asks us to come to terms with, to process, precisely this: the machinic dimension of the symbolic. What I wish to suggest, then, is that *Lingua Franca*, along with other artistic experiments of writing with and against Google, enacts the very linguistic logic of our sociotechnical milieu: there is no longer a “pure” or originary translated text, not because of the lessons learned from philosophy and literary theory but because we can no longer be certain about the distinction between a human-produced text and textual expressions that have been algorithmically mediated.

To think about the politics, and ethics, of translation today, therefore, one must grapple with this basic fact: the claim for a categorical, metaphysical difference between “human” use of an “algorithmic” translation tool are both practically and theoretically untenable. Google Translate may well be an instance of “disintermediation,” as Michael Cronin has suggested, eliding the translator as intermediary and erasing their labors in the automated instantaneity of “translate now,” but the efficacy of its statistical models is inextricably intertwined with corpora that, absent publicly accessible data, can only be described as massive—corpora comprised of human-authored documents, not simply for the United Nations and the European Union but presumably everything scanned for Google Books (Cronin 2013, 45–47). If the first theoretical move was to turn authorship into a human collectivity, metaphorically a network, *Lingua Franca*, along with Eric Zboya’s algorithmic translations and John Cayley’s literal art, and even the text generators producing earthquake reports and sports stories for our daily news outlets, all provide empirical examples of authorship as a multiplicity of indissociable human and nonhuman agents.¹⁶ So, too, the freelance translation machine, which as Kushner reminds us, is “made of equal parts flesh and silicon that manages skilled labor algorithmically” (Kushner 2013, 1241). But should Google not then be listed as a coauthor on “Eighty-Four Doors,” the text-only component of *Lingua*

Franca? And should it not be “Google & Pailthorpe” rather than “Google vs. Orwell”?

There are, however, not-insignificant material differences between Google as an authoring environment and the library of algorithms written by Cayley, the HTML and e-mail programs used by Muntadas for his *Internet Project*, and the graphics software used by Zboya. As we well know, within our networked computational environment, the logic of data is accretive: every translational act, like every search and much else besides, adds to the corpus out of which probability statistics are determined and auto-correct algorithms developed. As the then-project head of Google Translate matter-of-factly noted in 2007: “The more data we feed into the system, the better it gets” (Tanner 2007). Running linguistic detritus such as these remnants from *Lingua Franca*—“Coral Contact rollo candy” or “Language is an important place in the white top licked here”—through the system is a statistically insignificant gesture, but it is nonetheless a gesture. The intensification of error can be enjoyable on its own terms, a way to test the limits of a corpus and thus recognize it as such and not as a mystified black box of uncertain provenance. Google exhorts its users to do what they can to improve the platform, to rate and validate to “Make Translate better,” and our labor does indeed incrementally improve the probability models for different language pairs, but it is surely not a new insight to point out that the accrued linguistic value is, shall we say, disproportionally distributed (Google Translate Community, <https://translate.google.com/community>). Deliberately, even relentlessly, feeding noise into the system—writing with and against Google—is in this regard not an illusory exercise of protest but rather a compelling failure to manifest ideal user behavior, a failure, that is, to accede fully to the techno-linguistic consensus that mandates a purely instrumentalist approach to language and communication. Machine translation in the academic imaginary is often embedded in the (non)culture of technological rationality, a good translation on these grounds appreciated merely for its technical operability and use value. The compelling paradox of algorithmic translations as I have outlined them here is thus that they offer models of critical engagement with the new linguistic doxa—resituating the technical within the cultural and manifestly reintroducing the aesthetic into the predominant terrain of commercial transaction.



NOTES

Earlier versions of this paper were prepared for two symposia: “Translation and the Global Humanities” in liberal studies at the University of Louisville (October 2014) and “Performance, Technology, Translation,” sponsored by the Theater Department and Center for Translation Studies, Barnard College (April 2015). Many thanks to the organizers, participants, and audience members, too numerous to list here, for the stimulating questions and conversation.

1. For a complete set of algorithmic translations of the pages of Mallarmé’s text, see Zboya (2011). *At the Heart of a Shipwreck*, a translational rendering of the second page of Mallarmé’s text, is the only named piece in the series.
2. J. Abbott Miller (1996), whose design work Zboya cites as an influence, outlines the typographic techniques by which the dimension of type has historically been simulated (extrusion, rotation, tubing, shadowing, sewing, molecular construction, modular construction, bloating).
3. “Alphabetic” is part of Bernstein’s HTML Veil series (1996), <http://epc.buffalo.edu/authors/bernstein/visual/cbalphaz.gif>.
4. On the not-insignificant development of real-time visual translation for the Google Translate mobile app, see “How Google Translate Squeezes Deep Learning onto a Phone” (2015).
5. This incomplete list of applications and software platforms offers a snapshot of the consumer translation market in August 2015. It does not include platforms for localizing content or reaching non-English-speaking audiences; neither does it include interactive, often game-based, instructional systems, Duolingo notably among them.
6. Jakobson’s thinking on the “Linguistic Aspects of Translation”—that “the meaning of any linguistic sign is its translation into some further, alternative sign”—would also be a precursor to this operative theory of translation (Jakobson 2000, 114).
7. Video documentation of Kargl’s performance available at <https://vimeo.com/7163976>.
8. Documentation available on the Walker Art Center’s early net.art research platform, *ada’web*: <http://www.adaweb.com/influx/muntadas>. Also see Weil 2002.
9. Also archived on the site are the earlier works in the Translation series (e.g., the project for the Atlanta games) and user-submitted commentaries on the question of translation: http://www.adaweb.com/influx/muntadas/bk_process.html.
10. See <http://www.adaweb.com/influx/muntadas/letters/may20.html> and <http://www.adaweb.com/influx/muntadas/letters/may27i.html>. For full e-mail transcripts, see http://www.adaweb.com/influx/muntadas/bk_process.html.
11. The best visual illustration of the fallacy of equivalence comes from John Cayley’s *riverIsland*, the morphological resemblance of the English word and Chinese character as they dynamically morph into each other implicitly suggesting philological relations (Cayley 2007).

12. See <http://www.adaweab.com/influx/muntadas/letters/sept13.html>. This message has been translated through the same informal process used for those previously quoted.
13. For a full account of statistical machine translation (SMT) see Hearne and Way (2011). SMT systems include Google, Microsoft Translator, Language Weaver, and Asia Online.
14. For the exhibit, excerpts of Orwell's 1949 text were intercut with scenes from the 1984 filmic adaptation, with data visualization work as well by Stefanie Posavec. See <http://vimeo.com/32419716>.
15. SMT has its roots in translation memory and terminology management systems (databases of original texts and terms along with recurrent translations used for instant text retrieval), so the positing of a paradigm shift refers not to technological development but to the authority of common use.
16. Quakebot developed by Ken Schwencke for the *LA Times*, <http://www.latimes.com/local/earthquakes> (accessed September 13, 2015).

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