

Reading the Code between the Words: The Role of Translation in Young-hae Chang Heavy Industries's *Nippon*

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1. Introduction

Recent critical discourse about electronic literature has focused on a fundamental question: "Where is the text?" In analyzing works of digital literature, should we read the onscreen text, the programming code, or a combination of both? Early discussions of electronic literature and digital textuality grappled with the fact that digital works contain multiple layers of text. Distinguishing between these layers prompted Espen Aarseth (1997) to articulate a taxonomy of "scriptons" and "textons" and inspired others, like Loss Pequeño Glazier (2002), to advocate for a critical practice that reads the source code as the real text. The most recent Modern Language Association conference (Philadelphia, December 2006) included a panel titled 'Reading Code' (chaired by Rita Raley); in it Mark Marino introduced and advocated for Critical Code Studies, a method of reading programmable code which would enable critics to 'analyze and explicate code as a text, as a sign system with its own rhetoric, as verbal communication that possesses significance in excess of its functional utility' [n.p.].^[1] Marino (2006) writes, 'In effect, I am proposing that we can read and explicate code the way we might explicate a work of literature' [n.p.]. Other critics warn against reading code as text, arguing that the division between text and code lies not at the level of interface but in the processes of execution. For example, Florian Cramer (2002) explains that text becomes code only when it runs: it 'is solely dependent on how another piece of code – a compiler, a runtime interpreter or the embedded logic of a microprocessor – processes it' [n.p.]. John Cayley (2002) highlights the fact that 'composed code is addressed to a processor' and 'complexities of address should not be bracketed' [n.p.]. These critics share a distinction between text and code that relies on the identification of the screen as a dividing interface between human and computer readers, a boundary between the execution and the representation of textuality. This essay participates in the current discussion by reconsidering the screen not merely as a surface separating code from text but also as itself a representational layer that, when examined, can provide crucial insights into the

relationship between the executable code and its end-product. To show how this plays out at the level of interpretation, I read a literary work whose onscreen performance promotes an awareness of its coded performance but limits such examination to the screen. This reflexive move, I argue, stimulates a similar assessment of our analytical methods for reading and discussing works of electronic literature.

Electronic literature is the result of the performance of executable code being processed by the computer. As new media critics, we know this and have rightly dedicated extensive analysis to examining the effects of this material fact on the experience of reading. But there has been less critical engagement actually reading literary works to see how they themselves participate in and respond to this situation and the critical discourse it inspires. By considering how digital texts conceptualize their own relationship to ongoing critical discussions, I am not encouraging a return to a screenic approach of reading electronic literature that focuses solely on what is visible onscreen. However, neither should we abandon the practice of reading electronic literature as literature, for its narratives and aesthetic strategies might have something to say onscreen about its coded operations and semiosis. Instead of addressing what code does for our readings of electronic literature, then, this paper considers what electronic literature can do for our discussions of code. Young-hae Chang Heavy Industries's *Nippon* serves as my tutor text because the online work represents the relationship between screenic text and computer code as one based on a process they share: translation. *Nippon* is not codework; it does not display a mixture of computer code and English onscreen.^[2] Nor does it visibly engage in discussions of code, computers, or digital culture in either its form or content. Yet, as I will argue, *Nippon* aesthetically depicts translation as a metaphor for the acts of compilation happening beneath the screen. Recognizing translation to be a key principle of digital literature provides a perspective for reading *Nippon* and engaging in critical discussions about electronic literature that is neither focused on the onscreen text nor the computational code but which illuminates the symbiosis enabling both.

2. Translation: the Heart of Electronic Literature

Nippon's interface displays an aesthetic of translation, as the following screenshot reveals.

Figure 1: Screenshot from Young-hae Chang Heavy Industries's *Nippon*.

Japanese and English occupy opposite sides of a horizontally-divided screen. *Nippon* thus presents an opportunity for translation onscreen. Like all of their works, Young-hae Chang Heavy Industries's (YHCHI) use Flash to produce fast, flashing narratives choreographed to a jazz soundtrack. When the music speeds up so does the text. The Flash-ing animation proceeds in a temporal, multimodal performance that lasts almost seventeen minutes. But this bilingual work proves to be decisively different than the rest of YHCHI's oeuvre: when *Nippon* begins the languages flash in synchronicity to the same beat and tell the same story, but with the introduction of syncopation into the jazz track, the languages diverge across the dividing line. Each language begins to flash to a different instrument: English to the trumpet, Japanese to the piano. As the music accelerates, so too does the text. The visual dialectic is strengthened by the contrasting colors of the screen, an adaptation of the colors of the Japanese flag. In the upper part of the screen, Japanese appears as red text against a white backdrop; in the bottom register, English is presented in white against red. The languages dance and clash in a performance that aesthetically depicts the traffic of translation happening between and across them. The effect is an audio-visual dialogue between two languages and the cultures they represent, two nations who are central players in advancing global technology and the technoculture of the World Wide Web upon which *Nippon* is accessed.

The relationship between East and West is intimately tied to digital technology and is both the subtext and context for reading *Nippon*. Recent criticism has examined the role of this relationship in the emergence and popularization of Internet culture and has identified Orientalism as playing a vital part in this process. In *Control and Freedom* Wendy Chun (2005) argues that U.S. and Japanese cyberpunk narratives helped popularize the Internet by presenting cyberspace through the guise of Orientalism. Chun reminds us that

cyberspace is a literary invention that emerged from a genre which, she argues, is deeply dependent upon techno-Orientalism. Chun writes that William Gibson's *Neuromancer*, the cyberpunk classic that gave the world the word "cyberspace", presented an Oriental landscape ready to 'be conquered and made to submit... [so that] ...entering cyberspace is analogous to opening up the Orient' (188). The result: '[c]yberspace as disembodied representation rehearses themes of Oriental exoticism and Western penetration' (188) and 'the narrative of the Internet as Orientalist space accompanies narratives of the Internet as disembodied space' (244). Like other acts of Orientalism before it, the most recent use of the Orient as an "other" space open to the projection and proliferation of Western fantasies depends upon a coupling between Orient and Internet that enables a vision, or 'hallucination' (as Jacques Derrida might call it),^[3] of cyberspace which is both universal and disembodied. *Nippon* aesthetically displays this situation in order to complicate it. Its visual allusion to the Japanese flag provides a backdrop for an interaction between the languages of Japan and the United States which serves to represent and challenge notions that either cyberspace or computer code are disembodied or universal. *Nippon*'s narrative never directly discusses digital technologies, the Internet, or the culture of transnational capitalism; however, the effects of this technoculture provide its centrifugal force. Translating the content of *Nippon* into an interpretation about the digital moment in which it exists is an act of reading between the lines, a reading strategy that *Nippon* encourages. The work reorients the ways in which we read between ideographic and alphanumeric text as a means of promoting a similar reading strategy for approaching the relationship between onscreen text and the code compiling it. Without explicitly displaying or discussing code, *Nippon* reminds its reader that computers, their operations and codes, and the ways in which they are discussed are never separate from but always embedded in human contexts, cultures, and constellations of power.

Reading between and across the human languages depicted onscreen provides a metaphor for reading between and across the interface dividing the translations between machine and human language. YHCHI employ compilation as a literary tool and aesthetic technique to reference the acts of translation enabling the presentation of their digital aesthetic. Compilation is translation at the heart of digital computing. The compiler is that program or set of programs which translates one computer language (source code) into another (target code). I use "compilation" as a technological

metaphor for a literary strategy that seeks to engage and aestheticize the actual acts of compilation which are, by necessity, invisible and unavailable to the reader. The fact that *Nippon* is created in Flash exacerbates the inaccessibility of its code, for Flash renders its source code unavailable to the reader. Unlike codeworks which, as Rita Raley (2002) explains, ‘make[] exterior the interior workings of the computer,’ *Nippon* does not depict code onscreen [n.p].^[4] Whereas codeworks present the interaction between human and computer languages in a form of hybridized text displayed onscreen, YHCHI’s flashing narrative represents this relationship as a temporal performance whose onscreen aesthetic indexes the acts of computational translation happening beneath the screen. It thus presents an opportunity to extend the insights offered by critics of codework to works of digital literature whose onscreen textual aesthetics express and signify the acts of translation happening beneath the screen.

Nippon shows translation to be at the heart of digital literature and of our critical engagements with it. It does so before the work even begins. Its title is a translation, or more accurately a transliteration, of the Japanese articulation of “Japan.” In addition, *Nippon*’s soundtrack is also transliterated: the text flashes to “Kojo No Tsuki (a.k.a. ‘Japanese Folk Song’),” recorded by Thelonious Monk. Containing translation and transliteration, the song’s title identifies the non-semantic language of music as also implicated in and affected by translation. The music provides the soundtrack for the choreographed, textual performance which depicts the central role of translation in enabling digital information and its interpretation. Onscreen, *Nippon* juxtaposes two languages and thus sets up an opportunity for translation between them that is dashed by the actual, animated presentation of the text. Due to the speed of the flashing words, even a reader fluent in both languages is unable to read both texts simultaneously. Instead, the reader grows acutely aware of the failure of human translation to keep up with the other reader concurrently working to translate *Nippon*’s text – the computer. The work reminds its human reader that the computer is a partner in its multilingual performance; the computer’s circuitry and protocols (particularly since it is accessed online) are involved in the production and dissemination of *Nippon*’s textual animation. While the human reader cannot simultaneously read both texts, the computer performs technical translations on both languages without understanding the meaning of the words it processes.^[5] It is neither the computer nor the human (author or reader) alone, but rather the partnership

between them, that produce the work. *Nippon* thus directs discussions away from a rarefied thing called “code” towards an awareness that translation happens across protocols, platforms, and readers. The speeding juxtaposition of languages onscreen in *Nippon* thwarts efforts at translation by the human reader in order to make visible the fact that translation is at the heart of digital computing.

The computer is essentially a translation machine, and the translation of computer code into human language produces electronic literature. At its most basic level, all digital information is translated into binary digits. What one reads onscreen is the result of a series of translations across circuits and systems, programming languages and software; these translations are processed in response to the input of human users – both the programmer, whose instructions drive the operations, and the reader/user/consumer, whose interactions procure them. Thus, translation is not only depicted onscreen in *Nippon* but is enacted in the computing processes that enable the work to perform. Computer scientist and Artificial Intelligence innovator Terry Winograd (1984) explains, ‘[i]n the popular mythology the computer is a mathematics machine; it is designed to do numerical calculations. Yet it is really a language machine; its fundamental power lies in its ability to manipulate linguistic tokens – symbols to which meaning has been assigned’ (131). The ability to ‘manipulate linguistic tokens’, to transform binary code, over a series of machinic operations, into screenic text is translation. Literature is, of course, also made meaningful through acts of translation.

Literature is text that translates one person’s ideas, emotions, and stories into language that can be shared and interpreted by another person. Indeed, one meaning of the verb form of “translate” is ‘to interpret, explain; to expound the significance of ...also to express (one thing) in terms of another’ (*OED* online). Not only is this what literature does, but it is what literature strives to do: to produce interpretation and translation. That is why the definition of “interpretation” in the *OED* includes the following: ‘the action of translating’ [n.p.]. As Steven Mailloux (1990) writes, in his extended definition of “interpretation” in *Critical Terms for Literary Study*, “interpretation” conveys the sense of a translation pointed in two directions simultaneously: *toward* a text to be interpreted and *for* an audience in need of interpretation’ (121, original emphasis). The bi-

directional focus of translation is made evident and manifest in digital literature, which exists and operates through acts of machinic translation which are literally 'pointed in two directions simultaneously': towards the computer and human reader for different acts of translation and interpretation. *Nippon* illuminates how literature and the reading strategies through which we approach it – i.e. interpretative translation – are affected by the role of machinic translation in emergent, digital literature. The work displays and supports Katherine Hayles's (2005) claim that '[l]anguage alone is no longer the distinctive characteristic of technologically developed societies; rather, it is language plus code' (16). The languages in *Nippon* are literally a manifestation of 'language plus code'. Their presentation onscreen promotes an emergent reading strategy necessary for approaching the content of this hybrid form of textuality.

Nippon illuminates the role that translation plays in digital textuality in order to complicate discourse about machine translation and, in particular, the relationship between code and text. Machinic translation has been an essential aspect and central ambition of digital computing since its emergence after World War II. In 'Machine Translation and Global English', Rita Raley (2003) identifies machine translation as a central agenda shared by computing pioneers Warren Weaver and Norbert Wiener, who envisioned a super-computer that would apply cryptographic techniques acquired during WWII to all translation (291). Translation is therefore both a central ambition *for* the computer and a central operating process *of* the computer. Raley reads this ambition for machine translation from a critical position informed by poststructuralist thought and identifies its ideological blind spots: 'machine translation tries to posit a kind of universality and transparency to translation... [that] ...operates around and with English as a pivot language; as the dominant language for computational linguistic and engineering research' (300).^[6] The role of machine translation in computing history prompts Raley to identify translation as 'the very site of such struggles where the guest language is forced to encounter the host language, where the irreducible differences between them are fought out, authorities invoked or challenges, ambiguities dissolved' (294). *Nippon* depicts a 'site of such struggles' onscreen as a crucial location for investigating cultural, technological, and political conflicts related to the digital technology and discourse about code.

3. Reading between the Lines

Nippon's narrative appears worlds away from critical discussions about compilation and computation. The title is the only indication of geographical location given; besides this hint, the narrative could happen anywhere (or, at least, in any urban setting). It is, in a sense, universal. *Nippon* narrates the thoughts, actions, and interactions of a group of businessmen and "working women" in an after-hours brothel-bar, a night amidst the "world's oldest profession." The unnamed characters are archetypes: the domineering madam, the leggy, lust-inspiring singer, the man who flirts with the prostitute while praising his loyal wife. The male characters make excuses for being out rather than at home, and the stories they tell are so common that the female listeners have 'HEARD THIS— KIND — ØF — STØRY— MANY — TIMES.'^[7] *Nippon* creates a microcosm around its archetypal characters. Smoke and music envelop the characters while the reader feels the suffocating effects of the work's bright colors, fast-flashing text, and loud music. The action remains contained in a single room over the temporal scope of a single night. From within these neoclassical perimeters emerges a narrative that is not only archetypal but universal. Through this universal narrative, however, *Nippon* presents a critique that subtly complicates the concept of "world wide" in "World Wide Web" and the effect of such universalizing ideologies on critical discourse about code and text.

Instead of directly addressing such topics, however, *Nippon* portrays a situation that needs little translation but whose subtext, like the computer code enabling it, is only visible by reading between the lines of the narrative. The men in the bar are co-workers but not friends, and although the evening occurs after-hours and in an environment distinct from the office-space that contains their gray-suited, daytime efforts, the activities in the bar are still work. The outing is a result of info-industrialization and what Alan Liu (2004) calls 'knowledge work', (77) from which there is 'no true recreational outside' (77). The workers, both the male customers and the female escorts, labor to listen to their 'HØST', who is also their boss. While he speaks, they 'THINK— FØND— THØUGHTS— ØF— DEATH— AND NØTHINGNESS'. This is a 'HIGH-CLASS CLUB' where the men drink 'FIRST-CLASS WHISKEY', but anxiety lurks beneath the details of financial privilege and deepens with each drink. The narrative alternates between first and third-person points-of-view, shifting between the perspectives of the women, the men, and an omniscient narrator. All of the characters are in the midst of on-the-

job education. An experienced voice prompts the working women to turn the tables and regard their male clients as laborers who 'WØRK FØR YØU, — SWEAT — FØR— YØU'. Instructions follow: 'LEAN— YØUR— HEAD— BACK— AND — LET—THE— SMØKE— ØUT— LIKE— A SIGH, — A— LØSS— REGRET— THAT —HE— CAN SØØTHE'. The men also experience their after-hours entertainment as a form of labor: 'EVERYØNE— MAKES AN EFFØRT— TØ— BE — SØCIABLE'. All of this is under the auspice of working for the 'HØST.' More like a parasitic host than a Christian one, this host supplies his guests (the male and female employees) with drinks and stories about his love for his mother; in turn, he depends upon their laughter and attention. At the end of the night and of *Nippon's* animation, the parasitic sickness is shown to be a symptom of a larger cultural, and decidedly corporate, epidemic: 'THIS— IS — AN — INDUSTRY— LØVING/ YØUR MØM' (emphasis added). *Nippon* ends by showing that the effects of global corporate capitalism are not limited to the confines of the after-hours bar but are evident in the daytime when the streets are filled with 'TØØ MANY MEN IN DARK-GREY SUITS/ HURRY TØ TAXIS,/ AND LØØK HØW MANY— HAVE —CHAUFFERS'. *Nippon* exposes a situation in which 'TØØ MANY MEN', too uniformly dressed, and possessing too much money spill out of bars and brothels and into a morning light laden with *ennui* and isolation. The various industries involved in producing this cultural effect – including the authors, who identify their artistic collaboration as "Heavy Industries"[8] – are indicted in the judgment which *Nippon's* first and last lines reiterate: 'IT'S WRØNG.' Yet, as *Nippon's* last line continues, such conclusions are never so black and white (or red and white): 'IT'S — WRØNG, — ALL WRØNG. — AND — YET IT'S/ ALL SØ RIGHT.'

The cultural situation that *Nippon* depicts is neither 'wrong' nor 'right', but rather in need of interpretation – and, indeed, of translation – on the part of the reader. Consider, for example, when the narrative slips into the interior consciousness of the characters: 'ØUR — HØST' shared 'HIS —DEEPEST — THØUGHTS —ØN — LIFE — — HIS —LIFE, — WHICH RESEMBLE A —LIVE, — UNCUT — ADAPTATION — ØF AN ØLD BLUE/ EYES' FAVØRITE.' Whether the man's 'DEEPEST — THØUGHTS' were actually so shallow as to resemble a sentimental Sinatra song or it is the narrator who is constrained to such descriptions, the presence of Old Blue Eyes in the inner-thoughts of the narrator and/or the host attests to the infiltration of American culture into the deepest reaches of Japanese consciousness. This is not the only hint registering the effects of

Western cultural colonization on the Japanese subject. The narrator assesses the scene at the bar and notices a set of interesting discrepancies: 'THE LIPSTICK, —PEARLY— PINK,— SHØULD— BE— BLØØD—RED' and 'THE— WHITE— LIGHT/SHØULD BE — YELLØW,— A— SLEEPY—YELLØW — — NØT— HARSH— FLØURESCENT.' The observations are those of a director preparing for a cinematic scene, and they express the narrator's possession of a set of preconceived notions, informed by mass media, of what the moment should look and feel like. While such moments might seem to represent a homogenization of cultural influences, *Nippon* complicates this conclusion in its onscreen performance. The split screen, speeding interaction between English and Japanese renders the languages and the cultural powers they represent engaged in a collaborative performance that produces the digital work and its interpretation of a situation that is both 'wrong' and 'right'.

Reading the subtext of *Nippon*'s narrative, as I am doing, is an act of interpretative translation (the second definition of 'to translate' in the *OED*); and, it is a reading strategy that *Nippon* encourages. Following *Nippon* and reading it in this manner means developing a heightened awareness that interpretation is always caught up in translation. To see how YHCHI make visible and aesthetic the central role that interpretation plays in translation – that central aspect of digital computing – consider the following screen capture:

Figure 2: Screenshot from Young-hae Chang Heavy Industries's *Nippon*

The text pauses long enough for the reader to notice a difference across the dividing line: the Japanese sentence ends with a question mark while the English concludes with a period. The typographic dissonance illuminates the fact that even though the languages tell

the same story, the specific linguistic and textual forms in which those stories are told matters. Differences in semantic word order produce differences in textual narrative and, thus, differences in interpretation. This fact has always proven a challenge for translators, but it is exacerbated by the distinctions between alphanumeric and ideogrammic text and their individual relationships to digitization.[9] From Saussure's (1960 [1916]) focus on alphanumeric over ideogrammic languages to contemporary efforts to encode Chinese into computing languages built upon the foundations of alphanumeric linguistics, the dissimilarities between these language systems has proven a decisive challenge for translation and interpretation.[10] It is not within the scope of this paper to elaborate on this issue, but this cultural and conceptual history is crucial to discussions of computer code, machinic translation, and universal language.[11] *Nippon* represents the central challenge of translating between and digitizing across alphanumeric and ideogrammic languages in its central design element – the dividing line at the center of the screen. This visual detail both juxtaposes and separates the languages as it also stimulates and stymies translation between them.

4. Reading across the Line

The presentation of English and Japanese in contrasting colors flashing on opposite sides of a horizontal line produces an optical illusion similar to the anamorphic effect that Rita Raley identifies as essential to electronic literature. In 'Reveal Codes: Hypertext and Performance', Raley (2001) argues that what differentiates electronic literature from print literature is a procedural performance in which one element is necessarily lost in the process of producing another. To illustrate her point, Raley compares the experience of reading Jasper Johns's painting *Flags* (1965), which produces an anamorphic optical illusion in which 'one flag is marked only by losing the other' [n.p], to electronic hypertext. Electronic literature, she argues, operates through 'an-anamorphosis – the digitized version of anamorphosis – [which] paradoxically references the anamorphic but flattens out its volume' [n.p]. *Nippon* is not a hypertext; its narrative structure is not comprised of multiple reading paths or a navigation system for maneuvering through them. It is, in some ways, the opposite of hypertext; it is a single Flash file that contains no options for reader-controlled navigation, no buttons to pause, slow, or stop the animation. Yet, Raley's description of an-anamorphosis is both applicable and instructive for reading *Nippon*. In a hypertext, one lexia replaces another in the production of its an-anamorphic effect; in *Nippon* a word or phrase supplants another. However, both

hypertext and YHCHI's Flash-ing animations highlight the elements lost or replaced in the performance of the digital work. Raley writes that '[t]he operative difference of hypertext' [n.p] which differentiates Johns's analog anamorphosis from digital an-anamorphosis, 'can only be revealed in the performing and *tracing of itself*, in its own instantiation' (emphasis added [n.p]). *Nippon* animates Raley's insight in a performance that not only gestures to the 'trace', as Raley, invoking Derrida, calls it, but includes this trace and the 'tracing of itself' as part of its aesthetic. *Nippon* calls upon the reader to trace its onscreen performance and the reflexive commentary it presents about the translation of its text from digital code. Such a reading process means moving between the digital work's translation of code into text and the reader's heightened awareness that reading digital literature requires multiple acts of translation.

Nippon encourages its reader to approach the work by reading across and through the dividing line it depicts and illuminates: both the visible line separating the languages onscreen and also the metaphorical line dividing onscreen text from hidden, programmable code. This pedagogical exercise begins with *Nippon*'s first line. The opposition between right and wrong that opens ('IT'S — WRØNG') and concludes ('IT'S — WRØNG, — ALL WRØNG. — AND — YET IT'S/ ALL SØ RIGHT') *Nippon*'s narrative identifies the work as revolving around the presentation and deconstruction of binaries. The conceptual dichotomies of English/Japanese, red/white, East/West, work/leisure, male/female, commerce/sex, ideogrammic/alphanumeric, code/language are displayed onscreen. *Nippon* displays these binaries in order to perform an aesthetic act of deconstruction that complicates their divisions and shows their relationships to be symbiotic rather than oppositional. It thus creates a context in which readers learn to read across binaries in order to deconstruct them. The dividing line separating English and Japanese emphasizes this goal, but it also reflexively alludes to the role of the screen itself as a dividing interface between apparently oppositional entities: the invisible, executable programming code and the resulting, screenic text. However, just as *Nippon* shows English and Japanese operating in a symbiotic rather than an oppositional relationship, so too does it expose a similar relationship between code and text.

As *Nippon* continues into its lengthy performance of fast, flashing text, this deconstruction is made manifest not only visually but also

affectively. The reader's tired eyes experience an aesthetic illustration of the Derridean trace through a performance of (an-)anamorphosis: the boundary line separating English and Japanese begins to blur. The interaction between and across the languages bears itself out on the reader's body and, in particular, on her dry, unblinking eyes. The experience supports Mark B.N. Hansen's (2004) claim that the human body is the interface for digital information: 'the body now operates by filtering *information* directly and, though this process, *creating images*' (11, original emphasis). Hansen describes the digital image as having 'become a process and, as such, [it] has become irreducibly bound up with the activity of the body' (10). This bond between the digital image and the human body is felt by *Nippon's* reader, who struggles to physically engage with the processural nature of the flashing an-anamorphosis. Like too many reproductions made from an analog image, *Nippon's* reader experiences a physical and embodied sense of loss: loss of energy, focus, and ability to read across the narrative registers. The effect (and, indeed, the affect) reminds the reader how digital code and its translation are always embodied in and negotiated by their relation to human beings, their bodies, and the embodied contexts in which they exist.

The context for *Nippon's* argument about the relationship between code and text also extends to the role that this particular work plays in YHCHI's *œuvre*. A quick glance at YHCHI's website exposes a table of contents which displays the duo's interest in language and translation. Most of the works are available in multiple languages: English, Korean, Japanese, Spanish, French, and Dutch. Instead of offering one data file with a button to "translate" the text into another language, however, YHCHI provide separate files and links for each language version (see Figure 3 below).

Figure 3: Screenshot from www.ychang.com [Accessed 26 March 2007]

Instead of machinic translation, then, YHCHI offer different versions of the same work, each coded to perform differently depending on the language in which they appear. This illustrates YHCHI's commitment to displaying translation as a context-driven act dependent upon its linguistic system. For example, *Dakota* is available in four languages – English, Spanish, Korean, and Portuguese – and each of the four links activate a different version of the work by opening a different Flash file.^[12] YHCHI are acutely aware of the intricacies of translation and their effort to represent these challenges. Despite the option to view YHCHI's works in a variety of languages, as of this writing (March 2007), *Nippon* is one of the only works on YHCHI's site that is available in only one version. *Nippon* is also the only work in YHCHI's *œuvre* that contains two languages interacting across a split-screen. There are a few other works that display two languages onscreen simultaneously, English paired with either Japanese or Korean, but the interaction between the languages produces a distinctly different aesthetic result than *Nippon*. For example, in *Bust Down the Doors Again!* English is the main text, and it is displayed in a font larger than the accompanying Korean; English is also centered on the screen while the Korean appears in the guise of a subtitle.^[13] *Aomori Amori* is an interesting exception, for it uses a combination of English and Japanese displayed onscreen in equal sizes; but in this piece, the languages appear together without a dividing visual line or oppositional colors to demarcate their juxtaposition or establish a relationship of binary

interaction. Only *Nippon* uses two languages onscreen to construct an encounter that is not just about dual languages but, in some ways, about dueling languages. The presentation of these languages in this particular work in YHCHI's *œuvre* prompts readers to recognize *Nippon*'s agenda: to illuminate the fact that something is always lost in translation, even when that translation happens on a computer. It also encourages us to approach electronic literature with attentiveness to the processes of translation and compilation which both enable and affect our reading of it.

5. Conclusion: Translation and/as Transcoding

YHCHI call attention to how we read and discuss code by making visible the fact that reading code – by human and computer readers – is always an act of translation. Media critic Lev Manovich (2001) defines new media as a process of translation: 'the translation of all existing media into numerical data accessible through computers. The result is new media' (20). Manovich identifies "transcoding" as one of the four tenets and trends he uses to define "new media", and he describes it as the translation of media between formats. But transcoding is not limited to media formats; it is not a one-way road that stops at the level of binary code or the perimeters of computing technology. Instead, as Manovich argues, transcoding is a bi-directional relationship between the computer and the cultural layer, a process whose effects are evident not only within the computer but also in the culture at large. In other words, the translation of information into digital code not only alters the text at hand but also affects the culture reading it. As Manovich writes, 'The computerization of culture gradually accomplishes similar transcoding in relation to all cultural categories and concepts' (47). The distinction between the computer layer and the cultural layer, like that between code and text, is not only permeable but inseparable.

The concept of transcoding is central to reading electronic literature because it promotes investigation into the relationship between form, content, and code while also encouraging examination into how these aesthetic and technical aspects affect the relationship between the computer-based work and the culture in which it circulates. As I have been arguing, *Nippon* provides a clear case study for such a reading practice. It is a work that engages with its own materiality and processual performance by focusing on how text and translation are processed within the computer layer – both on and beneath the

screen – and also in relation to human beings and their cultural contexts. Its narrative is very much about the desires and conflicts of physical and social bodies, and its aesthetic produces a discernible affect on the reader's own body. It also operates in a specific context in YHCHI's body of work. In this way *Nippon* strives to reference and represent the cultural and political contexts engaged in its acts of translation. It presents a performance of transcoding that makes visible and aesthetic the larger cultural, political, and critical contexts in which its machinic processes operate.

When John Cayley (2002) titled his essay on codework 'The Code is not the Text (Unless it is the Text)', the digital poet and critic articulated a demand for a focus on onscreen text and its aesthetics. *Nippon* supports Cayley's argument and expands upon it. We need not view the separation between text and code as an impenetrable wall but, instead, should look for traces of their intertwined relationship. *Nippon* provides an opportunity for such critical practices. Its depiction of the interaction between onscreen languages serves as both a metaphor and a materialization of the interaction between languages happening beneath the screen. It stages a scene of translation onscreen in order to promote a reading practice that moves between human languages in order to stimulate recognition that reading digital text cannot be limited to one language or one textual output but must examine the acts of translation between them. *Nippon* thus depicts an aesthetic exchange between machine and human translation as a means of challenging the ways in which we think, write, and talk about the relationship between code and text. We cannot read *Nippon*'s code, but we can read the code between the words. Doing so opens our readings beyond binaries of text and code to investigations of the larger contexts and constellations in which humans and machines communicate across and through acts of translation.

Note: *I would like to thank Melissa Sodeman for her helpful suggestions on this essay. All screenshots from Young-hae Chang Heavy Industries's works and website are used with permission, and I thank the artists for their generosity.*

Notes

1. Interest in reading code as cultural object and linguist text is evident in the forthcoming series announced by MIT Press titled Platform Studies, edited by Ian Bogost and Nick Montfort. For more details, see <http://platformstudies.com> [cited 27 March 2007].
2. Codework is the genre of electronic literature that has propelled critical discussions about reading computer code as part of literary analysis, including in the above citations from writings by John Cayley (2002). Rita Raley (2002) describes 'codework' as a literary genre that engages with the binary between interface and programming code in order to 'to move beyond this schism' [n.p]. In the following essay, I will try to show that the goals Raley identifies as constitutive of codework are not limited to that genre and neither should Raley's astute method of literary analysis.
3. In *Of Grammatology*, Derrida describes the Western philosophical project of viewing 'Chinese script [as] a model of the philosophical language thus removed from history' (1998: 76) – i.e. as a universal language – as a 'European hallucination': 'The concept of Chinese writing thus functioned as a sort of European hallucination' (80).
4. In this essay, Raley describes the genre of codework as one which 'refers to the use of contemporary idiolect of the computer and computing processes in digital media experimental writing' [n.p.] and whose 'general result is a text-object or text-event that emphasizes its own programming, mechanism, and materiality' [n.p.]. She provides a critical context for reading codework within a tradition of experimental literary writing.
5. As some critics have persuasively argued, the computer's ability to execute said operations does not mean that the machine understands either the languages or the process of translation. For a forceful, creative, and relevant critique, consider John Searle's Chinese Room experiment. In 'Minds, Brains and Programs' (1980), Searle puts forth a challenge of the Turing Test by altering the situation of the test to present the idea of computer program that processes Chinese without understanding the content of the text being processed.
6. The quote continues by stating that such a view of translation 'has come under critique by theorists such as Lawrence Venuti, Gayatri Spivack, and Lydia Liu' (293). The second quote presents Raley's

investigation into how a system of universal translation founded upon a dominant language paradigm – English, or “Global English” – ascribes to the system of translation an ideological imbalance, i.e., that of Western culture (300).

7. Of course it is impossible to describe and transcribe *Nippon* into print. For the sake of differentiating between consecutively flashing screens and line-breaks contained on a single screen, I use the conventional backslash (/) to denote a line-break and thick dashes (—) to designate movement, in this case the flashing replacement of text on screen. Also, throughout *Dakota*, YHCHI use Monaco font and substitute the zero sign for the capital “O”; I follow them on the latter.

8. Young-hae Chang is the name of one of the artists; the other is Mark Voge. In an interview with Hyun-Joo Yoo for *dichtung-digital* (2005), the duo responds to a question about their title in typical tongue-in-cheek manner: ‘It’s pretty evident. YHC for Young-Hae and HI for Marc. We changed Marc into “HEAVY INDUSTRIES”, because Koreans love big companies and Marc doesn’t mind being objectified and capitalized on’ [n.p].

9. Encoding Chinese characters to digital code is difficult due to the sheer number of characters (Chinese contains more than 71,000 characters and over 4,000 syllables in standard Chinese pronunciation) as well as the numerous possible phonetic effects that alter meaning. The scale of transcription poses a stark contrast and challenge to the limited character set of the English alphabet, upon which digital programming is based. The vast number of characters obviously cannot fit in the 256-character code space of English-based 8-bit encodings. The first code for networked computing technology was American Standard Code for Information Interchange (ASCII), adopted in 1968, which represented English characters as numbers by assigning each letter a number from 0 to 128. As ASCII was based on English, it fell short of being able to translate such languages as Arabic, with its multiple vowels and diacritical signs, and, of course, Chinese. Projects to rectify this situation include Unicode, which uses 16 bits for each character instead of ASCII’s 7 bits and can thus over 65,000 unique characters. Unicode is produced by The Unicode Consortium, a non-profit organization founded in 1991, and its motto is ‘Unicode provides a unique number for every character, no matter what the platform, no matter what the program, no matter what the language’. [online] Available from: www.unicode.org/standard/WhatIsUnicode.html [cited March 2007].

But, as critics ranging from Gayatri Chakravorty Spivak to Joe Lockard point out, the situation is not so much a problem to be solved technically as an ideological challenge in need of appropriate critique.

10. In *Course in General Linguistics* (1960 [1916]), Ferdinand de Saussure explains that there are two types of writing systems, ideographic and phonetic, and that his linguistic theory would 'limit discussion to the phonetic system, and especially to the one used today, the system that stems from the Greek alphabet' (26).

11. I write in more depth about the relationship between alphanumeric and ideogrammic text in relation to computer code in my dissertation, *Digital Modernism: Making it New in New Media*. In particular, see Chapter Three, 'Lost in Translation: Computer Code, Chinese, and the "Hallucination" of Universal Language in Cyberspace' wherein I present the nexus between these language systems as a place for examining the development of the ambition to enable universal language through the computer.

12. YHCHI often add new languages versions of their work. The four languages listed above were available on the website (www.yhchang.com) as of March 6, 2007.

13. There is also no dividing line splitting the screen into equal portions or opposing colors for interaction between and across the languages. *Traveling to Utopia* also uses English and Korean, but again, English is the central and centered language.

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