

# Glitched Lit: Possibilities for Databending Literature

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## ABSTRACT

As our attitude toward technology has fluctuated between viewing it as either a benevolent aid or a dangerous threat, the arts have responded with various ways of expressing this anxiety. Glitch art confronts this technological anxiety, and continues the modernist and postmodernist fascination with representation and medium. An extension of remix culture, intentional glitching—or databending—presents an interesting new form for combining narrative and visual art.

## Categories and Subject Descriptors

H5.4 [Hypertext/Hypermedia]: Theory. 17.2 [Document

Preparation]: hypertext/hypermedia. J5 [Computer

Applications]: Arts and Humanities. *Literature*.

## General Terms

Experimentation, Human Factors, Theory.

## Keywords

Databending, Glitch, Hypertext Narrative, Literature, Theory.

## 1. ANXIETY AND GLITCHES

The last two centuries have witnessed vacillating and ambiguous attitudes toward technology [25][10][8]. Technological determinists fear that technology will inevitably shape us, while social determinists confidently assert just the opposite, that we shape our own future, mastering the tools at our disposal. Our relationship with technology is wrought with anxiety and ambiguity. The arts have expressed this uncertainty [8][18][2]

A point of tension we can't ever seem to get over within the "arts" (and society at large) is whether technology is inherently good or evil, whether it will augment reality or destroy humanity. [5]

throughout several movements—modernism, postmodernism, Indeterminacy, Dadaism, Minimalism, Cyberpunk, and so on.

As personal computing became ubiquitous, glitch art arose as an expression of technological anxiety by embracing the expressive possibility of malfunctions, or glitches, in computer code.

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The practice of intentional glitching, or databending, offers new expressive possibilities for combining glitch art with literature and narrative expression.

## 2. (RE)PRESENTATION AND RE(PRE)SENT(I)MENT

Modernism and postmodernism have long been obsessed with the oscillation between the representation of things and the means of representation. Ruskin's call for the abandonment of elaborate finish

Always look for invention first, and after that for such execution as will help the invention and as the inventor is capable of without painful effort, *and no more*, Above all demand no refinement of execution where there is no thought for that is slaves work unredeemed [25]

echoes through impressionism and expressionism as our interest divides more equitably between the painted and the paint, the dancer and the dance. These concerns especially haunt photography and, indeed, all technologically-mediated art and architecture, since the mass-produced surfaces are at once perfectly polished and perfectly banal. Apparent flaws in the medium, the subject, the execution, or the presentation serve to change the viewer's understanding of the subject.

These problems are even stronger in new media. The exhibited photograph hangs on a wall, usually in the white cube [23]; the computer's proscenium is so familiar an entree to distant and imagined worlds [17] that extraordinary effort is ordinarily required to render it visible. One path to rupture that surface is to stimulate (or simulate) errors or *glitches* in the generation of the image.

## 3. JODI: CONFRONTING ANXIETIES

In the early 1990s, the artist duo JODI began creating digital art for the World Wide Web that showcases glitches and simulates machine malfunctions. [15] Often deliberately disorienting, JODI's work forces viewers to confront malfunctions and examine their relationship with technology and control (or lack thereof) over its performance.

Where technology attempts to be transparent and nonintrusive, JODI makes it obvious, abrupt, unsettling, confusing. When you experience a work by JODI (especially for the first time) you're forced into a Heideggerian mindfulness, forcefully aware of the role technology is playing in your relationship to the world. [5]

Technology is no longer our faithful and invisible servant. JODI aestheticizes glitches, constantly reminding us of the technology

that stands between us and our subject, and forcing us to confront our anxiety over our mastery of the system.

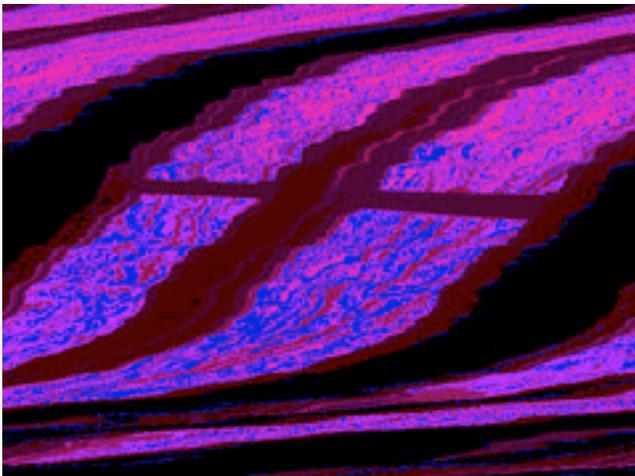
In the literary hypertext world, this technological anxiety has influenced interactive fiction [26] and generative poetry [22], both forms that draw attention to the machine intermediary. In both cases, the intermediary forces a confrontation with the uncanny—the machine that is not quite human—and the reader is constantly reminded that the canvas is very much part of the painting.

#### 4. GLITCH AS REMIX

Intentional glitching as we see in the work of JODI has the capacity to explore our relationship to technology, but how do we situate it in a context beyond the gallery space? Deliberately corrupting a file is an interesting instantiation of remix, and remix aesthetics provide insight into how we might approach this work.

Remix culture is prevalent in digital spaces, evident in the perpetuation of cultural memes, parodies of viral videos, and creative appropriation of popular media [11].

Much of the aesthetic value of remix relies on implicit linking. Pleasure, in these cases, comes from understanding the source material—both in making connections to and understanding departures from the original work. To fully appreciate the value of the remixed work, we must understand the changes that the source underwent to produce the new remixed piece.



**Figure 1: Image Glitched through Wordpad [21]**

For example, consider Figure 1, a glitched piece created using Wordpad's automatic ASCII character formatting and replacement. One can argue the visual aesthetics of the work—the lines, color, apparent texture—but additional value is added to the work when placed in the context of Figure 2, the original, unglitched image.



**Figure 2: Untitled Photograph. unglitched version of Figure 1 [20]**

Now the viewer is able to make connections between the two images and see how the glitched version is skewed and altered. Figure 2's bright colors and interesting lines become more impressive in contrast to the mundane framing and blander color palette of the original.

#### 5. DATABENDING

Figures 1 and 2 are examples of a process of intentional glitching called databending. Databending differs from the broader category of glitch art in that glitches are purposefully introduced into media files, rather than unintentionally encountered and aestheticized [7], or merely simulated. Databending occurs in many forms, from altering image, sound, or video files in incompatible programs to create glitches, to painstakingly editing files at the bit level [7].

One particularly promising type of databending involves producing glitches in image files through direct manipulation of the ASCII representation of the image. This is usually done in a text editor. From here, an artist can directly alter the display instructions for the image: RGB values for each pixel, instructions for the line that should display each pixel, etc.

Each file type handles this information differently. JPEG files, for example encode a header section followed by line-by-line scan instructions on displaying the image [14]. In practice, altering the header will usually make the file unreadable, but an artist can alter the scan data after the header, which results in varying degrees of image glitching. The artist may add or delete ASCII characters, a method that allows for expressive changes, insertions, or deletions.

Figure 3 is an image of a bank taken by the Rainforest Action Network.



Figure 3: “Bank of America ATM Closure 4” [24]

To glitch the image, I opened the image in a text editor and replaced the ASCII characters with lines from T.S. Elliot’s “The Hollow Men” [6] as follows:

“\$” replaced by “THIS IS THE WAY”

“ç” replaced by “THE WORLD ENDS”

“®” replaced by “NOT WITH A BANG”

“©” replaced by “BUT A WHIMPER”

The result is code that is largely unreadable by humans except for the peppering of repeated phrases from the poetry. Overall, the largely illegible code reads like Cayley’s experimentations with generative sound poetry [3], but it also adheres to concepts from literary theory, including repetition as a means of illustrating empty signifiers [16].

Figure 4 shows the resulting glitched image.



Figure 4: “BoA”. Glitched version of Figure 3 [19]

## 6.LITERATURE IN THE LINES

Inserting lines of human language into the ASCII representation of the image makes apparent new possibilities for artistic expressions. We are free to insert poetry, prose, or other expressive text into the code. Suppose we add lines from Little Red Riding hood at the start of each line of code, or insert narrative poetry?

One can easily imagine the narrative possibilities of such works, integrating written stories into images in a way that combines literary theory with visual art and remix aesthetics.

Databent literature might also pave the way for deeper, more complex narrative hypertexts. One can imagine myriad possibilities for employing this technique to tell a story through a series of (linked) images or to augment digital narratives. Many of the early hypertexts were deeply concerned with the idea of piecing together—of bits of meaning contributing to the whole—and of technology’s role in our collective consciousness [12] [13] [1] . To these ends, databending is a powerful tool for hypertext artists, who might use a glitched image, ripe with expository text or dialog to change the mood or visual aesthetic while drawing the reader’s attention to the digitalness of the piece, a postmodern concern that will be familiar to many hypertext readers and writers.

Writing in this form may impose considerable constraint upon authors, since the more the author alters the original ASCII code, the more distorted the glitched image will become. Eventually the file may become so corrupt that no image is left at all. Text must not be verbose, and bits of the original ASCII code must necessarily remain to keep the image intact. Composing databent literature will require a careful balance between deep, engaging text and deliberate mastery of altering the image data through that text.

## 7.COMBINING AESTHETICS

In understanding the implications of how databent images might change the aesthetics of a piece, we must strive to understand how each component contributes to the overall aesthetic [27]. Visually, glitch art recalls Cubism and Dadaism in its fascination with collage and repurposed combination. There are also obvious hints of post-structuralism, particularly deconstructivism, in the fragmentation caused by disrupting the unified whole of the unbroken image data.

Remix aesthetics are also important; we must understand how a work changes from the original. In some cases, the replacement of certain characters might have more meaning than the code appears to at first glance (as we saw in the change from Figures 1 to 2). Here the true value is not in the finished image or text, but in the combined understanding of how the piece was changed from its original. The art is in the process.

The very idea of embedded literary work suggests a modernist awareness of form as an additional conveyor of meaning beyond that which is imparted by text, but post-structuralist theories are also at work. Though databent literature is arguably an example of “expressive code,” which tempts us to liken its text to Codewerk [9], the machine does not understand the code in the sense that we do. We are not giving the machine input which will, even at an abstracted level, cause it to perform an intentional instruction and give us an expected output. Instead, we are experiencing Lacan’s empty signifiers, the Purloined Letter whose significance changes for each character that seeks it [16].

Detachment of meaning is a familiar theme to Joyce's "Everything can be read" [13] or Cayley's musical, if nonsensical, Reader's Project [3]. For Cayley, the words are being stripped of meaning and used in a purely musical or visually aesthetic way. The computer, similarly, is not interpreting the words directly as code, but rather understanding each character as an ASCII representation of the bit-level instructions for displaying the image.

The combination of visual and literary theories is complex, but reconcilable. When considering aesthetic implications of databent literature, like any hypertext, each disparate part combines to create a coherent whole [5].

## 8. LIMITATIONS OF FORM

Though glitch art is valuable for inviting the reader to examine our relationship to technology, the use of databending assumes ideological alliance with theories of code mediation [9]. Visual aesthetics of glitch art will always conjure thoughts of technology and the digital, which for many works—even ones that comment on their digital form—will not be preferable, especially on themes in which established philosophies question our relationship to the machine, such as feminism and the cyborg.

Patchwork Girl [12], for example, handles themes of stitched pieces and interconnectedness in ways that clearly explore the structures of hypertext., however this is done with a careful avoidance of conjuring the digital. Had Jackson's image of the rearranged Patchwork Girl instead been a carefully crafted glitch arrangement, we would see this as an invocation of cyborg feminism, an aesthetic that Jackson nods toward, but carefully avoids for herself.

Additional limitations include previously discussed length constraints, though file corruption concerns are lessened by exploring different image types, since each type stores graphic information differently. In a world increasingly interested in combinations of small bits of information, length constraints might actually be aesthetically favorable.

Even with these limitations, databending affords new expressive possibilities as digital literature facilitates greater media convergence than ever before. As literature moves into the code itself, we open the possibilities for new and interesting aesthetic approaches to hypertext.

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