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Orientation: "Man and His Tool, Again?"

The first time that I taught Jamie Skye Bianco's digital essay "Man and His Tool, Again?" a number of my students, frustrated with the tediousness of having to click each part of the text before moving to the next, simply downloaded the PDF file and read it from beginning to end. Others, unsure of the essay's operations, clicked through the quotations without ever removing their mouse from the text. Most of the students had only a vague understanding of how their experience was being algorithmically (algoRythmically, in Bianco's terms) constructed. In the discussion that followed, it became clear that we had not all read the same essay. We were differently oriented to the text's fragmentations, the temporal and spatial arrangement of sentences and quotations, and the computational scripts underlying their delivery. Our embodied reading practices did more than shape our opinions about Bianco's piece, they were integral to the composition of the argument itself.

The orientation of "Man and His Tool, Again?" foregrounds a longstanding observation that texts and technologies are not neutral conduits for meaning, but are actively produced in their readers, viewers, and users. The work uses digital methods to play with text and context, with coherence and fragmentation, and with visibility and invisibility. The HTML version of the project positions the user as an agent in the production of the argument, and, in laying bare the conditions of its operation, confronts her with the contradictions that underlie digital tools. In order to grasp these dynamics, we cannot simply read Bianco's essay at the level of surface text, but must also grapple with the code beneath it.

On the most basic level, the essay is a summary of findings using one of the most simple and pervasive digital humanities methods: the counting of word frequency in a written corpus. It uses exemplary works to stand in for a field, in this case two edited anthologies of digital humanities scholarship, and counts the reoccurrence of a set of key terms. Bianco finds that there are 700 uses of tool#, approximately ~8 per essay, in contrast with approximately ~3.5 uses of rac# (including race, racism, and racial), fem# (feminism, feminist, femme, female, fem, feminine), queer# (queer, queerer), gender# (gender, gendered), and sex# (sexuality, sex, sexual, sexy, sexually) per essay. She also presents a series of observations that focus our attention on the differential emphasis of digital humanities work on tools, compared to race, gender, and sexuality: for example, she observes that 70% of the essays make no mention of rac#, fem#, queer#, gender#, sex# and 70 of these occurrences are in one essay alone. To take a neutral view of word frequency analysis, or to simply read the text in bold on the PDF version of the essay (as many of my students did), one might conclude that the relative frequency of tool# to rac#, fem#, queer#, gender#, and sex# is proof of the marginalization of race, gender, and sexuality in the digital humanities.

The essay, however, does not simply present us with this data, but layers it into an interface that makes visible the problematics of data compilation, interpretation, and presentation. The project is structured such that the analysis of

keywords is separated into fragments, ranging in length from a word to a sentence. When the user moves their mouse over one of these fragments, a quotation including tool#, rac#, fem#, queer#, gender#, and sex# from one of the digital humanities collections appears. Clicking on this text causes another quotation to replace it. To reveal the next fragment of the analysis, the user must move their mouse away from the quotation. What results is a juxtaposition of an argumentative thread that analyzes the meaning of key terms with a quotation thread that reveals the contexts in which they were used. Bianco points out that such contexts are essential for understanding the function of any individual word. Indeed, a citation from her own article in the *Debates in the Digital Humanities* uses the term tool# to focus critical attention on the ideologies embedded in tool-building: "Tools are also about something other than themselves." In turn, even when rac#, fem#, queer#, gender#, and sex# appear, they might align with existing structures of power. Sexy, for example, is used in the phrase "sexy librarian." The terms feminine and masculine are used to reinstate a binary approach to gender. The structuring of the digital essay asks the user to stitch together the fragments of the argumentative thread, all the while being interrupted by the hidden contexts stripped out of the word frequency analysis.

There is a play with visibility here, one that builds on a long history of feminist and queer reading practices. To merely click through the quotations, one would literally fail to see the argument. The piece forces the reader to pause, to move her indexical pointer away from the quotations in order to reveal the feminist analysis. This not only instantiates a particular politics of visibility, in which we must unearth voices hidden beneath, but requires an active and embodied reader to move through the work, clicking each fragment to move the narrative along. This structure draws our attention to the ways in which feminist or queer arguments are not visible in the surface text, but rather in our performance of it. In the PDF version, a read-only text, these kinds of relationalities are written out. Digital technologies in the essay are therefore not merely used to extract data and present it as evidence for an argument about the concerns of the digital humanities, but to undermine the truth-telling status of the data itself, a process that complicates our relationship to the tools that produced it.

To fully understand this intervention, and to critically assess the way that Bianco uses digital technologies, we need to look at the technical construction of the project. To view the scripts that underlie the essay, the user should first view the page source (Figure 1).
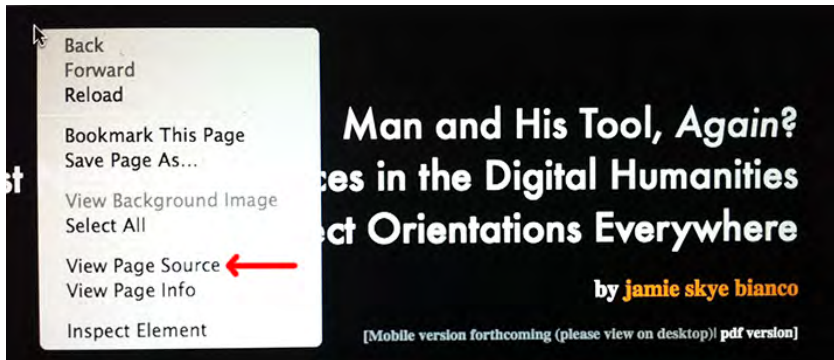
Figure 1. To reveal the menu and view the page source on a Mac, CTRL-click on the screen.

Compared to many websites, the page source of this essay is relatively legible. The project has been built in such a way that, instead of clicking through many separate webpages to access different parts of the text, everything is contained on a single page, with sentence fragments and quotations revealed and hidden via a hide-show script (Figure 2). As a result, almost all of the material, with the exception of the formatting (contained in a separate stylesheet), can be easily accessed. This code could be easily copied and reproduced by other digital humanities scholars.


```
19  <script>
20  $(document).ready(function(){
21
22      $("#title3").click(function(){
23          $("#title3").hide();
24          $("#line1").show();
25      });
26      $("#line1").click(function(){
27          $("#line1").hide();
28          $("#line2").show();
29      });
30      $("#line2").click(function(){
31          $("#line2").hide();
32          $("#line3").show();
33      });
34      $("#line3").click(function(){
35          $("#line3").hide();
36          $("#line4").show();
37      });
38      $("#line4").click(function(){
39          $("#line4").hide();
40          $("#line5").show();
41      });
42      $("#line5").click(function(){
43          $("#line5").hide();
44          $("#line6").show();
45      });
46      $("#line6").click(function(){
47          $("#line6").hide();
48          $("#line7").show();
```

Figure 2. The hide-show script that governs the operations of "Man and His Tool, Again?"

The project's operations are also relatively simple: there are only two scripts that dictate the majority of its functionality. The first is a basic hide-show script, repeated one hundred and one times:

$("#argumentfragment1").click(function(){

```
$("#argumentfragment1").hide();
$("#argumentfragment2").show();
```

This function determines that when an argument fragment is clicked, it is hidden and a second argument fragment is revealed. This instantiates the play of visibility described above at the level of the code. Each click does not allow us to navigate to a different location, but merely replaces what came before it, showing a new piece of information in the same exact spot on the page. We are not moving anywhere. Moreover, these fragments do not accrete, but are lost as we continue to click through the work.

The second set of functions – "onmouseover" and "onmouseout" – replaces each argument fragment with a quotation when the user moves their mouse over it. Thus, in Figure 3, when the user hovers over the text "Inventories run through algorithms…" the quotation "Databases were recognized as valuable tools quickly; so were graphical applications' (Eiteljorg 23)" is revealed. When the user removes their mouse from the text ("onmouseout), "Inventories run through algorithms…" is shown again. Both of these text fragments are referred to as "obj.innerHTML" – they are objects embedded inside the HTML, revealed at select moments in response to user input.

```
519
520    <span id="line6" onmouseover="mOverg(this)" onmouseout="mOutg(this)">Inventories
       run through algorithms.... </span>
521    <script>
522    function mOverg(obj)
523    {
524    obj.innerHTML="'Databases were recognized as valuable tools quickly; so were
       graphical applications' (Eiteljorg 23)."
525    }
526    function mOutg(obj)
527    {
528    obj.innerHTML="Inventories run through algorithms......"
529    }
530    </script>
531
532    <span id="line7" onmouseover="mOverh(this)" onmouseout="mOuth(this)">Details:</span
       >
533    <script>
```

Figure 3. The "onmouseover" and "onmouseout" functions.

These functions could have been set up in drastically different ways. Bianco might have written an iterative script, storing all of these fragments in a database located elsewhere. She might have written the code so that sentence fragments were periodically released on all parts of the screen, eventually mirroring the PDF version. Instead, she constructed the program such that each user would have to click through all one hundred and one fragments (requiring embodied labor) and that these fragments would disappear (perhaps signifying the continual erasure of feminist and queer histories). While the text is difficult to navigate, the code remains accessible, and the project refutes the values that are often circulated in the world of programming, such as efficiency and elegance. It does not presume a high level of expertise. By simply copying and pasting this page source, any user could replicate

the essay using different content. These choices, instantiated in the code, produce a vastly different set of relationalities between readers and machines than the PDF version of the essay – one that orients us as embodied readers, potential hackers, and participants in the silencing and making visible of feminist narratives.

       If one were simply to review the data produced by Bianco's word frequency search, it might be tempting to imagine a tool that could reveal privilege, a program that searches a broader digital humanities corpus for keywords rac#, fem#, queer#, gender# and sex#, and gauging their relative frequency, assigns each text a privilege ranking. It is precisely this imaginary that Bianco seeks to disrupt. Towards the end of the essay, she references a well-known quote from Audre Lorde:

```
1643    <span id="line98">  '<em>For the master's tools will never dismantle the master's
        house</em>. They may allow us temporarily to beat him at his own game, but they
        will never enable us to bring about genuine change. And this fact is only
        threatening to those women [and allies] who still define the master's house as
        their only source of support' (Lorde 112).</span>
1644
1645    <span id="line99">Yes. And I also wonder: if we jettison the 'man and his tool'
        business, what might we hack, make and build?</span>
```

Bianco's essay draws into relief the ways in which the use of digital tools such as word frequency analysis often require the erasure of context and complexity, distilling multi-faceted cultural processes down to modular fragments. If these are the master's tools, indeed they will never dismantle the broader regimes of classification and containment of racial, gendered, and sexual differences. Yet, at the same time she speculates that if we were to "jettison the 'man and his tool' business" we might be able to produce other kinds of digital technologies and experiences. This essay is one such example. It takes into account the questions of embodied engagement and the differential relationships we have to digital systems. Rather than assume a universal set of values such as transparency and coherence, it plays with visibility and fragmentation at the level of text and code.

       In order to recognize the differences that matter, however, whether between HTML and PDF versions of this project or between the markup of "gendered gaze" and "sexy librarian," we must engage in a feminist and queer code studies, one that can discern how the design of the programs and scripts that underlie the construction of digital objects invisibly affect our own orientations.[i] One that can assess systems not simply in terms of the visible traces of race, gender, and sexuality, but the ways that digital systems are always already implicated in the definition of what and how we can know.

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[i] For insightful discussions relating to feminist and queer code, see Arielle Schlesinger, "A Feminist && A Programmer," HASTAC Blog, http://www.hastac.org/blogs/ari-schlesinger/2013/12/13/feminist-programmer; Kara Keeling, "Queer OS," *Cinema Journal* 53, no. 2 (Winter 2014); Zach Blas and Micha Cardenas, "Imaginary Computational Systems: Queer Technologies and Transreal Aesthetics, *AI & Society* 28 (2013): 559-566; Mark Marino, "Disrupting

Heteronormative Codes: When Cylons in Slash Goggles Ogle AnnaKournikova.”
Proceedings of Digital Arts and Culture 2009.