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When Cylons in Slash Goggles Ogle AnnaKournikova

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ABSTRACT

In this paper, I outline the heteronormative characteristics of computer code using a Critical Code Studies approach. First, I introduce Zach Blas' transCoder: Queer Programming Anti-language. With this scripting bible, I interpret Julie Levin Russo's Slash Goggles algorithm, fictional software for exploring variant romantic pair possibilities and sexual subtexts (or *slashtexts*) on the remake of the television program "Battlestar Gallactica." Out of these tools, I develop a framework for viewing the heteronormative code in other functioning algorithms. Applying the tools to 2000-2001 AnnaKournikova Visual Basic Script worm, I interrogate the viral qualities of heterosocial norms. This paper also includes discussions of encryption, fan culture, and Cylons.

Categories and Subject Descriptors

D.2.0 Coding Tools and Techniques, J.m Computer Applications Miscellaneous

General Terms

Algorithms, Design, Experimentation, Security, Human Factors, Theory, Legal Aspects.

Keywords

Critical Code Studies, Software Studies, Worms, Heteronormative, Queer, Theory, Viruses, Battlestar Gallactica, Fanfiction, Codework.

1. INTRODUCTION

Can we identify the ideology at work in a piece of software? Do coding practices reflect the dominant cultural paradigms out of which the programs and programmers emerge? The latter question seems easy enough to answer. If it were possible to discern cultural biases in a piece of source code then, yes, presumably the results of such interpretation should find in code traces of the major assumptions of the programmers and their cultures. But such a broad claim could summarize most if not all interpretation, seeming to obviate all cultural studies. The work of identifying ideology at play in source code is the subject of the field of Critical Code Studies. [1]

One such ideology, or cultural superstructure, is heteronormativity, the way in which heterosexual culture naturalizes itself and reproduces itself in culture. Code artist Zach Blas claims his art piece "transCoder" is "devoted to rupturing the heteronormative superstructure that has infiltrated coding and software historically, discursively, and culturally" [2]. Yet he does not go so far as to spell out this hetronormativity. Where does it appear in code? Is it something in the way functions are called? Is it in the names of variables? Is it an object-oriented structure?

This kind of literalism may seem like a very obstinate way to go about receiving the artist's statement, but as one who is trying to map out critical approaches to code, it is important for me to see the evidence for such large-scale claims in source code.

Blas' creation, like many code art pieces, is fragmentary, and the software written in it by Julie Levin Russo is more conceptual art than compilable code. But that does not mean that these pieces are insufficient to commentary on code. Quite the opposite. These critical code works of art offer insights into how codes, both computational and cultural, control behavior. Reading source code through these critical goggles should reveal the hegemonic cultural paradigms at play in the code.

Upon reflecting on the nature of cultural norms and Blas and Russo's shared critical grounding, based on a critique of pervasive and hegemonic heterosexuality, I sought out a computer program that might be imbricated in a heterosexual, computational, superstructure. To that end, my eye was caught by the AnnaKournikova worm.

By turning to an infamous worm, AnnaKournikova, I discover an example of the heteronormative superstructure and demonstrate how this particular malware becomes the epitome of the pervasive cultural logics at work. The virus operationalizes vulnerabilities in the system and the receiver, while the imaginary goggles become x-ray specs with which to examine sexual sublimation and hidden slashtexts. For a code system to normalize, the receiver must behave as a system, as expected even when "misbehaving," without interruption or active interpretation of the codes that seek to process him, her, or it.

2. ZACH BLAS' QUEER TECHNOLOGY
2.1 Transcoder

Zach Blas is a sexuality hacker. With his own toolkit of queer theory, Blas sets out on libratory raids on the establishment. His art exhibit at UCLA featured a parody of Apple's Genius Bar. At the Disingenuous Bar, visitors could receive "non-technical support for 'technical problems' from a staff of trained un-geniuses. [3] Blas' work is loosely collected by the incorporated "Queer Technologies."

Transcoder comes on a DVD. Purple lettering on a black background spells out tC. The C plays off a standard language, such as C. The texts themselves are stored on the disk in a DMG file, much as software might. Unpackaging that volume brings a pink hard drive icon to the Finder menu, again with the tC logo. According to Blas' "about" statement in transCoder, this logo is a visual play on Apple Computer's logo, which for him, calls forth another apple, the poison apple in the suicide of Turing, after his own sexuality was the source of his persecution. Technology, sexuality, repression, and forbidden knowledge ripen the significance of the transCoder apple.

On the disk comes a fictional software development kit (SDK) called transCoder, called a "Queer Programming Anti-Language." "Fictional" is perhaps a misnomer. "Pseudo" fits it better, as in pseudo-code, or mock ups of source code written to sketch out programs for human consideration rather than to execute them on electronic computational systems. The code is not illegitimate because it is "pseudo" but not complete for machine execution or, to put it another way, theoretical. Indeed transCoder is a theoretical software development kit.

In his "about" document, Blas explains that transCoder is "a play on transgender and Lev Manovich's fifth principle of new media." Blas sites Manovich: "To 'transcode' something is to translate it into another format," a format which is often obsolete. In Manovich's transcoding, Blas finds a description of how computational paradigms take the place of cultural paradigms. However, in many ways Blas' provocative kit, uploads countercultural ontologies (or anti-ontologies) into the normalized logic of software. He is transcoding theory into a programming language.

As a partial language or SDK, transCoder offers a set of functions. Each function is described in natural language rather than in code (another sign of the pseudo code). The Libraries include:

> Haraway's Taxonomies for a Genderless Future
> Sadie Plant's 0 as 1 (Fuck Lacan)
> Halberstam's Technotopic Topologies

The library titles reference the theorist off whose work Blas is riffing. Included in the group are critical theorists such as Foucault, cyber theorists such as Donna Haraway, and queer theorists such as Judith Butler and Judith Halberstam. (Incidentally, Halberstam taught Blas in a graduate seminar on critical theory and technology). The lines of pseudo code read like one-liners for those who are deeply immersed in these theorists – but in other ways they operationalize the theory or at least create code-like manifestations or implementations of the theories.

A representative function in this code is Butler's Destabilization Loop (Citing the Other) which "breaks apart any process that acts as a continuously iterating power." This function transcodes Butler's notion of citationality and performativity into a loop function – of course further playing on her critiques of iteration. In *Body's That Matter*, Butler outlines the way iterated acts reify themselves and therefore materialize. A person's gender, by this reading, is created by the total shifting sum of those repeated actions, everything from scratching oneself in public to speaking in a particular pitch create that sense of gender. [4] By transcoding such a concept into a loop, Blas touches on how that theoretical concept itself disrupts the naturalization and essentialization of social constructions such as gender. Disruption is perhaps the chief development paradigm that Blas builds into this provocative Queer Technology.

3. SLASH GOGGLES
3.1 Queering Battlestar Gallactica

Reading the SDK is a bit like reading a dictionary, albeit an entertaining countercultural dictionary like *The Devil's Dictionary* or *The Devil's DP Dictionary*. It is all potential, vocabulary without sentences. To get a better sense of how these functions operate, Blas has included in the *User Manual* an implementation of transCoder in Julie Levin Russo's (a.k.a., cyborganize) Slash Goggles algorithm. This algorithm is an excerpt from an imaginary text entitled *BioCylon User Manual*. [5]

In certain circles "Cylon" immediately calls to mind the infinitely resurrecting cyborgs of the remake of the "Battlestar Gallactica" (BSG) television series. It is not "spoiling" to say that some of these Cylons are portrayed by women who also bare all or most for magazine spreads and ad campaigns. Even when a Cylon is not played by a model, it still faces the existential quandaries of Philip K. Dick's Replicants in *Do Androids Dream of Electric Sheep* [6] and its onscreen adaptation, *Blade Runner*. The series liked to toy with questions of authenticity and identity. Crewmembers struggled to determine who was a Cylon and, at times, found themselves looking in the mirror. The insufferably vain Dr. Gaius Baltar, in the few moments when he is not looking in his own mirror, develops a Cylon detector of his own, roiling the philosophical tumult of the Voight-Kampff and the Turing Test (though his is a chemical test, not a conversational one).

Outing identity groups, using special detection to determine someone's identity, hidden and revealed. Suffice it to say, the series raises questions of racial passing and, in the age of "Don't Ask, Don't Tell" sexual identity. The show featured openly gay characters but also drew attention for its homoerotic undertones. Shira Chess has taken up some of this analysis in her chapter "The C-Word: Queering the Cylons." [7] Russo also pursues the question in detail in her dissertation. However, as with most pop culture phenomenon, the debate rages over whether the show disrupts or reinforces traditional gender roles in the final analysis, especially since the narrative of the episodes focused more on heterosexual (though interspecies) couplings despite homoerotic imagery in its footage.

Russo's piece certainly plays off and builds upon this productive fandom, and as the SDK offers in-jokes for theory-heads, Slash Goggles offer some play and subversion to BSG fans. Consider the BSG Slash group on LiveJournal (http://community.livejournal.com/ bsg_slash).

The goggles take their name from a queer countercultural practice of viewing mass media objects against their overt narratives (typically, heteronormative) for their covert narratives (queer).

"Slash" denotes a practice of creating fictions, or fan fiction, involving same-sex characters. (The term is derived from the "/" in the first example of Slash fiction, Kirk/Spock) [8]. Fanfictions are written not by the paid authors of a television series but, as the name says, by the fans themselves. The practice of vidding, creating alternative video mixes of broadcast content, in turn creating alternate narratives, also falls under this category. The homoerotic undertones (and overtones) of BSG find their way into these vids across YouTube, and Russo's dissertation captures this very productive fan participation.

3.2 Seeing the Battlestar Through Rainbow Colored Glasses

Russo contributes to this conversation in the form of a kind of BSG mod, an imaginary piece of software that allows Cylons to see the sexual subtext of various moments aboard the Battlestar -- one that offers a kind of queer vision, subliminal counter-spectator specs.

In her LiveJournal post, partially reprinted in the User's Manual, Russo presents the Goggles as though they were a genuine modification script for BioCylons. Russo creates her own fictional user manual, independent of Blas'. In this fragment from it, she offers an introduction, the code itself, and a demonstration of their effects. To illustrate, Russo presents the results in the form of screenshots from the series in which she's added Mad Magazine-style speech and thought bubbles to make explicit the content that is being suppressed. By providing the code and the coding language (which can also be found online), Russo invites readers to interpret the code themselves.

Although these are software-based goggles, in a video blog entry, Russo dons her own pair of GirlSlash Goggles as she calls them, and they could almost be mistaken for bright pink sunglasses.

3.3 The Code

Below is the code of the Slash Goggles algorithm:

```
function slash_goggles($desire) {

 global $humanform;

 // check activation status

 if (theCloset('null')) {

   qTime('image' => finger("toggle_$body->type") ? q($body->created))

 }
 // define subjects

 foreach ($humanform as $body => $desire) {

   $humanform->template->assign($body == 'identity' ? 'gender' : $body, $desire);

 }
 // identify data

 if (destabilizationLoop('image')) {

   $desire = array(noTax('identity', 'gender'));

 }
```

```
 else {

   $desire = array(mutMutate('identity', 'gender'));

 }
 // parse visual array

 $humanform->template->assign(array(

   'characterization' => $TPTB['subtext'],

   'mise-en-scene' => leaky('subtext', 'image'),

   'performance' => nonteleo($body),

   'narrative' => schizoA(exe($TPTB)),

   'metatext' => buggery('queer', vBody()),

 ));
 // execute function

 $humanform->template->parse('queer');

 $slash = $body->$body->text('queer');

 $desire->$body->reset('queer');

 return $slash;

}
```

3.4 Stepping through the Code

Since there is no O'Reilly book on transCoder, to read this code is to create an imaginary syntax. The reader must fill in a few gaps, such as the use of mathematical symbols. => seems to indicate variously execute, evaluate, assign, or "is associated with." This Anti-Language is in need of some serious documentation, or perhaps that is also a strategy.

The code begins by defining the function "slash_goggles," assigning that function the parameter "$desire." After an if-clause that establishes whether or not this desire is closeted (i.e. the call of function theCloset('null')), the function activates qTime. This call to qTime initiates the function from the sdk:

> qTime ()
> permits the executions of a program to run outside of conventional computational narratives.

The program is taking itself off a conventional clock here, invoking an alternative processing environment. Here is one of the moves Russo that takes her codework beyond the literal play on existing programming languages. When she writes qTime into her code, she indicates that this software will operate in the computer in some outside or alternative conceptual space. Of course, such a move represents an impossibility (since the alternative conceptual space is never offered or systematized). The code defies the very environment or platform on which it runs. Yet, Russo savors this paradox which no doubt would crash anyone, human or Cylon, who attempted to parse this code literally. This piece demands creative processing.

Russo continues, as her comments indicate, to "define subjects."

> $humanform->template->assign($body == 'identity' ? 'gender' : $body, $desire)

This code assigns $body gender if identity is true, if not it reverts back to body. Here the function seems to be authenticating the identity and presumably, given the social construction implied by performativity and the overall provocations of BSG, identity would never be authenticated off-hand thus the $body is still in play.

The body here is a variable, as a container of information, assigned by external processes. It has an attribute desire, another variable, driven by an array of gender and identity. To make bodies and desires variable at once places identity and sexuality at play and suggests that these are merely conceptual containers, filled and evaluated here by computational processes. And it is hard not to notice the dollar sign before humanforms, bodies, and desires, especially in the context of a television series about the technological desires unbound, about self-destructive races toward technology, around pin-up models and highest-tech special effects sold and packaged on DVD in half-season increments or complete box sets.

Russo evaluates the image along two alternative paradigms in the functions noTax and mutMutate. In the development kit, Blas defines NoTax as "collapses an epistemological interpretation of syntax to incite deviation from official notions of a processual experience of computation." She places this under Haraway's Taxonomies for a Genderless Future. In this case, noTax, is an ontology without taxonomies. The MutMutate function belongs to the library "Halberstam's Technotopic Topologies." This function "can connect any number of items to generate hybrid functions, operators, variables, etc.". At this point, the code makes use of conceptual frameworks beyond traditional categories and binaries, either because they disbelieve them (noTax) or all for hybridization (mutMutate).

It is notable that there are slashes in the Slash Goggles algorithm. They appear in the commented out sections of the code, akin to comments in C, JavaScript, and other languages. Just as the comments document and anchor the code, the Slash Goggles algorithm serves as a kind of commentary not just on BSG but heteronormativity and ideology in culture as well.

Russo parses the visual array by applying a series of functions to elements of cinematic image analysis: characterization, mise-en-scène, performance, narrative, and metatext.

```
'characterization' => $TPTB['subtext'],

'mise-en-scene' => leaky('subtext', 'image'),

'performance' => nonteleo($body),

'narrative' => schizoA(exe($TPTB)),

'metatext' => buggery('queer', vBody()),
```

Each element in the array is filled through calls to functions that operate away from conventional viewing approaches. Characterization is set to the subtext of the variable $TPTB, or The Powers That Be, the dominant culture. Again, since TPTB is a variable, this hegemonic entity becomes an empty signifier, a place holder, to be assigned, filled, and manipulated. The functions include plays on leaky, permeable, hybrid identities and nonteleological epistemes. SchizoA is a function from the Deleuze and Guattari-inspired "Planes of Queer Consistency | Bodies with New Organs" library. The function processes the narrative by "replicat[ing] exponentially and erratically" the

semantic meaning of the subtext. Buggery "acts upon a function or data set and generates an array of monstrous non-logic mutations." It is oversimplifying to say that Slash Goggles queers the scene; Slash Goggles renders the meaning of the image in an unstable and uncontrollable realm of possibility

All these calls to "anti-logic" and "erratic" behaviors create a code that cannot be translated but is already, as its name indicates, transcoded. It is already a hybrid form of ideas ported from one realm into another. At the same time, as a codework that challenges norms, or more specifically heteronormative superstructures, it still seems to leave unanswered the question of "What is so heteronormative about code?" Is it merely what this queer code is not? Blas and Russo's critique becomes clearer by placing this codework beside less theoretically tactical code. One that seeks to invade computational as opposed to cultural systems; code that operates in realm of existing languages and paradigms, code that plays by the rules. Here, I take up the example of a computer worm, to examine code that even while it misbehaves (can be all-to-easily compiled), replicates and promotes existing paradigms of computational and human-social behavior.

4. ANNAKOURNIKOVA

The AnnaKournikova worm hit February 12, 2001, and ultimately infected hundreds of thousands of computers. [11] However, the worm was first discovered in August 2000. [12] AnnaKournikova (alias VBS/Anna, VBS/OnTheFly@MM, VBS_KAlamar.a, et. al.) appears as an attachment in an email that seems to offer elicit pictures of the famed tennis star. The subject line reads:

Subject: Here you have, ;o)

Hi:

Check This!

The message "Check this!" lacks a bit of English language fluency but passes for native speaking in the shorthand of electronic communication. Again, it is easy enough to imagine this as a hastily composed email by someone who cannot resist sharing these hot pictures.

The payload appears to be an attached .jpg file called AnnaKournikova.jpg, but this file was actually a piece of machine-encrypted source code, the worm itself. The full extension, .jpg.vbs, would even be hidden on some browsers. VBS stands for Visual Basic Script, the language used to code the virus. It is also, the language that runs on Windows operating systems and controls file transfers, which adds yet another bragging right to the "Hi, I'm a Mac" commercials. Unlike Russo's handwritten code, AnnaKournikova was written by a self-proclaimed non-programmer Jan De Wit (alias, OnTheFly) using a software development kit, called Visual Basic Worm Generator. [13]

Computer worms are subsets of viruses that can spread without any action by the user. Nonetheless, a recipient of this worm had to try to download the decoy image, the false .jpg to launch the worm. In that way, this worm was similar to the ILOVEYOU worm, or Love Bug, which hit computer networks in 2000. Other than spamming the address book of the victim with itself, the virus had no other harmful effects. Over the course of several months, the AnnaKournikova virus quickly spread across computer networks and national borders. However, Jan De Wit

was soon caught and received relatively minor punishment and some reward for his misdeed.

4.1 Why Anna?

Since her arrival on the International tennis circuit in 1996 (at the age of 15), Anna Kournikova has been persistent Internet star. Even a brief Google Search of images of her today recovers almost 1 million results. However, Anna Kournikova is not merely a tennis player. Her modeling ambitions include being a spokesmodel for shock absorber sports bras. She has variously posed for Maxim and Sports Illustrated, but has also waged a battle against Penthouse to keep topless photos of her out of circulation. A similar search for Steffi Graf, who has also posed for Sports Illustrated, turns up only 100,000 hits. Despite being a world-class tennis pro, the question remains: is the sexuality of Anna Kournikova the subtext of all of her press coverage or the text itself?

"Anna Kournikova" is a name that gets a lot of hits. 2001 Lycos Sports reported that Kournikova was at the top of the list for the most searched sport celebrities for the second year in a row. [14] Although quite a ways from her peek in 2004 (as far back as Google Trends searches) when she was rumored to be wed to singer Enrique Iglesias and when she faced stalkers, she remains a persistent presence in search engines. More tellingly, in a 2002 study, John Harris and Ben Clayton studied 27 articles or photographs appearing in the British newspaper the Sun to find that not only was she one of the few female athletes to receive coverage but that 67 percent of the stories were "irrelevant to her sport." [15]

In a 1999 interview, she was asked about her Internet fame.

> Question: What are your feelings about Internet sites that are built around you, Anna-mania?
>
> Answer: I'm really probably very bad, but I never use a computer. I don't even go in there, just sometimes in the players' lounge when I have nothing to do, I'll go and do something. I haven't really seen anything, so I can't tell you nothing. I'm terrible at the computer. [16]

In the 21st century, Anna has a professionally developed website complete with photoblogs, photoshoots, videos, and news of her career.

4.2 AnnaKournikova, the code

If Julie Levin Russo's Slash Goggles algorithm delivers queer theory by using the mass media mega-hit BSG, the AnnaKournikova virus spreads itself and its messages by using the tennis-pro-cum-model Kournikova. While both pieces of code carry and circulate ideology, the queer goggles critically engage the person who tries to use (or interpret them), while the worm lays its ideology and then transmits itself at the click of a button.

AnnaKournikova proves a useful case study for Critical Code studies for two reasons. First, the virus code is encrypted, seemingly unreadable to humans. Those who believe code was only meant to be read by machines might find this to be a prime exhibit. Second, this worm was written using a piece of software. How could there be any "meaning" when there is no human author?

On the first count, the objection hits the net. The obfuscation of the code is what is called a simple Caesar shift cipher, where the decoder shifts every character down 2 spaces, with a 3 special exceptions (space, return, and new line). The decryption processor (which is part of the worm's code), also deals with two characters at a time and then reverses their order. Consider the encryption of

> Created <--> rCaeet=11fd
>
> (Note: Space is replaced with =11.)

This obfuscation is 16-bit per word (2 8-bit characters), low order first. The encryption is fairly straightforward, and since (an obfuscated version of) the decoder is in the code itself, the visual basic script can be easily revealed. This is very different from, say, a poem in Spanish that must be translated and much more like a story whose pages are not properly sequenced or that uses an archaic font. The correction can be done systematically.

The second objection also falls short. Literary theory, through Foucault, has already dispensed with obsessions with authors and authorship. The code does not have to be hand made to being meaningful anymore than a photograph has to be developed by the artist in her dark room or a building's walls crafted by the architect's hands. The code's meaning arises more from the way it operates and the cultural relevance of the software. In any event, the author of this code is known, and he has even commented on this project.

AnnaKournikova has a very average game on the clay courts of viruses and security. When the user tries to take a peek at the images, the VBS, Visual Basic Script, executes. The worm writes the string "Worm made with VBswg 1.50b" into the registry HKEY_Current_USER\Software\OnTheFly. After checking if it has already run its course, the worm replicates by sending emails via MAPI (messaging application programming interface). Also, on a particular day (January 26th), the virus opens the web page of a computer store in Holland (http://www.dynambyte.nl).[1]

AnnaKournikova's code does not do anything particularly inventive. It executes the most routine of subroutines, merely opening your address book and sending messages. Its intrusion lies not in its code, but in the way it deceives the user into opening it. It is not the code's offense. It is doing what it's been told. The "victim" told it to operate, and even that victim was deceived. Like all the actions of hegemonic culture, no one is to blame; all is forgiven.

Perhaps the most telling moment, the most wormy moment, comes when the code creates a new copy of AnnaKournikova and writes itself into this file. The lines read:

> Set thisScript =
>
> FileSystemObject.opentextfile (wscript.scriptfullname, a)
>
> thisScriptText = thisScript.readall

followed by

---

[1] The functioning of the code is nicely detailed in the *Hacker's Handbook* by Susan Elizabeth Young and Dave Aitel.

```
Set    newFile    =    FileSystemObject.createtextfile
(wscript.scriptfullname, true)

newFile.write thisScriptText
```

The call "scriptfullname" would return the value "AnnaKournikova.jpg.vbs." Thus, the project first reads itself, then writes itself into a new file. This is the worm's means of replication and where the logic of normative ideologies reemerges. In this way it "replicates exponentially" but systematically, not erratically. (It *is*, remember, carrying the dominant ideology). In normalized notions, the message or cultural imperatives create a space for themselves in our minds and copy those ideas with always already authority so we can pass them on as naturalized knowledge. If a subject in a society accepts the hail into that society, the hail is inscribed with and inscribes its logic in the mind of the subject, it has already been accepted. Consider the example of the young man who buys pornography in the brown paper bag. He has already purchased the pornography, accepting that there is such a thing, that it is desirable (as a consequence of being for sale), and it is a taboo (the brown paper bag). It is part of *naughty capitalism*. The very act of engaging with the system has naturalized the logic of that system.

4.3 AnnaKournikova does not deliver

There is no explicit image of the tennis player. There is no passing of a wink-wink, nod-nod secret file. The worm delivers itself and its replication, like any good virus or social meme.

However, it does deliver a few more messages. It delivers, for example, several advertisements. The first is for its creator, OnTheFly in his Killroy-Was-Here moment. The second is the advertisement for the software that generated the virus. The third is an advertisement for a computer store, delivered annually, or at least whenever the computer's clock is set to January 26.

If there is something below the surface, if there is something worming its way through this particular email virus, it is the processing logic that replicates the virus and these advertisements. The super structure is a logic that capitalizes on sexual desire to promote business, software, and individuals.

One indication of society's judgment on the creation of the worm can be found in De Wit's punishment. The sentence for writing a virus, community service. One hundred and fifty hours to be exact. The Mayor of Sneek, Sieboldt Hartkamp, "was so pleased with the attention which the virus brought the otherwise unknown Dutch Town...that he told the virus writer to come in for a 'serious interview; once he has completed his studies." [17] Sneaking Sneek into the headlines was also a side effect of the virus. This celebration of the Sneeker seems something straight of Dr. Seuss, but it is not unusual or unique. The Filipino author of the Love Bug was also offered positions in IT firms. Clearly, this episode sends a message about the underlying priorities of the Internet. Naughty capitalism strikes again.

4.4 Heteronormativity

To say that the code of AnnaKournikova is heteronormative, or that it is encoded with heteronormativity, is not to say that the deception only takes advantage of heterosexuals. AnnaKournikova takes for its bait the image of a tennis superstar in a sport that has featured powerful lesbian icons, such as Billie Jean King and Martina Navratilova. However, the way those stars'

endorsement stock plummeted after their outing reveals something we don't need Russo's goggles to see, the heteronormative support structure that rewards the sexual exploitation of heterosexual tennis ingénues with capital. One look at the fashion shoot that fronts Anna Kournikova's current website (http://AnnaKournikova.com) demonstrates as much, as K-Swiss shoes produced both the shoot and the site. Anna Kournikova is part of the tennis-sex industry and even has an uncanny brand knock-off in the younger Maria Sharapova.

Heteronormativity is about dominant narratives and implicit, naturalized rules of behavior. Such systems enable and promote those who behave according to the rules, even when the behavior (such as ogling pictures of half-naked tennis stars, disproportionately publicizing the sexy sports players) seems to be breaking other rules (respect of Other, rewarding athletic excellence over superfluous attributes). The allowance and promotion of such venial behaviors is part of what makes a superstructure like heteronormativity so powerful. The viruses and worms, therefore, epitomize and materially instantiate the processes of heteronormativity.

4.5 Oh, Behave!

For these programs to work, the software (Microsoft Windows and Outlook) running the VBS code has to behave the way the program expects. At the same time, the recipient (and transmitter) of the virus or worm must also behave the way the program expects, and yet this behavior could be characterized as a weakness. Similarly, the software's vulnerability presents an inviting security weakness.

Thus, the logic of the virus depends on its assumptions about elicit behavior. The very code depends on predictability. What better example of someone being hailed into a system than for someone to open a booby trap and then to become the means for trapping others.

The vulnerability is an expected behavior. Consider Chris Seper's article in *Plain Dealer* where he promotes a kind of abstinence approach to virus containment. He writes, "Curb your curiosity, play safe or suffer the consequences." More telling is the narrative he imagines that drives the virus' authors:

> I can just see these guys cracking up as burly old men, thinking they lucked into the latest R-rated image of tennis' blonde sex symbol, fall all over their mice to open "AnnaKournikova.jpg.vbs. [19]

The burliness of the men, a curious detail, links this particular behavior to other expected behaviors of what Robert Connell calls hegemonic masculinity [20]. After warning his readers, Seper ends his article, "Meanwhile, I'm going to check out that Christina Aguilera photo a buddy just e-mailed me." Ah, men and their mice. Incorrigible.

De Wit himself, on the announcement he published on his website ads:

> Last thing I'd like to say is that I never wanted to harm the people you opened the attachment. But after all: it's their own fault they got infected with the AnnaKournikova virus, OnTheFly virus or whatever they call it. [21].

The cultural attitude is a collective: Tsk-Tsk, naughty, naughty!

Steve Gottwals of F-Secure was quoted as saying, "It's an old tired virus method with a pretty face and nice legs on it." Subsequent versions put other legs on it, including Britney Spears and Shakira. A symptom of heteronormative culture is the circulated elicit photo of the fem du jour with accompanying disapproval. Though homo-erotic culture has its elicit, shared photos, these alleged images play a particular role of the sanctioned taboo, the permitted offense, pursuing the rationale of a Hooters or Axe body spray.

Nonetheless, the condoned and promoted sexual economy is not just the milieu of AnnaKournikova. "Battlestar Gallactica" enjoyed the popularity of its Cylons and humans removing their clothes. Russo's program also depends on assumptions about underlying behavior or unspoken motivations, about accessing what culture has sublimated. However, rather than reproducing the logic of this sexual shell game, the code itself is designed to draw attention to the possibilities of the creation of multiple desires in an image. AnnaKournikova makes a dupe of the one who opens the email, adding an unpleasant consequence to the victim's desire, while the Slash Goggles enjoy exploring the pleasure of fantasizing about the alternative possibilities within the accepting space of fandom.

Curiously, in the program that reportedly delivers images, none exist. AnnaKournikova does not contain or process images. Russo's software does. In place of the promised, and presumably salacious image, is the virus itself. In Russo's case, the image is everything. It is the container of the bodies as well as that which will be processed. AnnaKournikova promises particular signifiers but uses that as a decoy to deliver the true payload, the logical processes that will spread the virus. The same is true for the cultural logic of the hidden-in-plane sight communication of the sexuality of the tennis star. It is what is delivered when the person opens the message and becomes the vehicle for the worm.

5. BACK TO BLAS

Both the worm and Russo's piece need to be decoded, but neither hides the keys. Blas offers the SDK online and the worm writes its decryption algorithm right into the worm itself. Nonetheless, the process of decoding is not so similar as these statements sound, for the program can be decoded on a very literal level, as described above. The Slash Goggles algorithm calls for interpretation, especially since there are no computational processes for the functions. Unlike beer goggles or swimming goggles, Russo's goggles are neither biochemical psychological distortions nor physical lenses. They are theoretical goggles, a conceptual artwork that requires conscious human activity and reflection. By contrast, AnnaKournikova does not promote human interpretation and reflection. AnnaKournikova merely presents a thin veil over its operations, one that prevents easy recognition but that does not prove a challenge to decryption, matching the theme of the open secret, the accepted indiscretion of its cultural deception.

Also, unlike the worm that contains no image, and hence no image processing, Russo's piece requires engagement with the image, processing the image, seeking out and producing subtext. The image carries a surface narrative written by TPTB (or guided by them). However, the goggles make visible new possibilities of signification. So while the worm delivers only its own self-replication, the goggles deliver more possible lines of meaning,

counter-narratives. The virus plays on conventional roles, the goggle offer alternatives.

If the virus says, "Here, take a look at this?" Russo's code says, "Take another look at this." If AnnaKournikova delivers the logic of shared guilty pleasures, Blas and Russo offer tools for sharing the pleasure of unveiling the sexual drama beneath the narrative. The worm and virus replicate a cultural narrative based on human and computer security gaps, the underlying logic of the Internet. The rule is: if you know how something works, you also know how something could be used to an alternate purpose. Or stated another way, these viruses and worms operationalize the vulnerabilities of digital environments, the very vulnerabilities that permit those environments to operate.

Blas and Russo's code explores the subsumed or repressed desires that also circulate through the Internet and mass culture. Through Russo's Goggles, one sees the Internet as not What You See is What You Get, but What You See is What You Want, whether opening email attachments with expectations of pleasure or remixing a favorite television show to draw out the underlying sexual tensions.

The difference is that one set of code, the malware, uses the receiver as a vehicle, co-opts them into the enterprise of reinforcing a culture of capital-driven desire, while the other offers tools for reconsidering the place of desire in the narratives of TPTB. The viruses give you no images to process. The slash goggles are all an imaginary toolset for looking at mainstream images (even a show on the Syfy channel is mainstream) and critiquing the encoded desire within them.

6. CONCLUSIONS

If the viruses leverage the just-below-the-surface circulation of secret messages and naughty pictures, the Slash Goggles algorithm plays on the unstable multiplicity of counter-ideologies that circulate in (and can be produced from) fictional narratives.

If, therefore, queer software practices are founded on instability or destabilizing and are attempting to maintain those hybrid anti-essentializing paradigms, heteronormative software are founded on exponential propagation through a deft exploitation of the rules.

The malware worm, though in theory attacking computer systems, proves ultimately to be a natural extension of them, in harmony with their processes, feasting on their logic. The worm is not a hack against computers, but thrives by following the rules. The art piece resists by gesturing toward alternative narratives and paradigms and consequently lives in a virtual world that requires conscious human engagement to execute it fully. This partiality, or reliance on human interpretation, does not mean it has less rhetorical power. The power of slash goggles is that even when the wearer takes them off, they can not see the shiny bodies of BSG in the same way.

Thus, while the viruses leave the victim feeling played or even pwned, Russo's goggle script gives the reader a sense of play, of possibility, a pair of powerful goggles for seeing subsumed desire and seeing beyond the dominant narratives of the Cylons who run mass culture.

7. ACKNOWLEDGMENTS

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