Contents

1 flesh

1.1 revision TODOs

1.1.1 TODO SEX: MOVE? critical debate on the question of consent

Burnett says that issue of consent is major, and hardly addressed. He is disturbed by it, and brings up an association to slavery. The lesson here is the need for affirmative consent, not to go back to the days of atrocity. But this misses the point!

The question of consent points to a larger issue of how this book relates to black studies. What is the relation of the novel to problematic themes within black studies, to the remnants of slavery? Is it pessimistic or futuristic?

Mann says it's both pessimistic and futuristic. And that the tension between these two is what allows the novel to trouble questions of consent

1.1.2 TODO FLESH: revise intro posing flesh as problem

1.1.3 TODO FLESH: impose new schema of flesh & abstraction

Flesh strategies: Foreclosure (denial of access) Unmappability (perspective shift) Fugitivity (escape/change through reduction)

Abstraction strategies: Displacement (from Foreclosure) Torque (from Unmappability) Volatility (from Fugitivity)

1.1.4 TODO FLESH: reorganize Snorton section, addin unmap

1.1.5 TODO FLESH: streamline Musser

1.1.6 TODO FLESH: move media archaeology section here

1.2 section overview

1.3 1. the reduction of flesh

The working of flesh not only helps us to understand the inextricability of the material from the mental, but also offers a possibility for developing social relations into toward more ethically equitable forms. To help unpack this inexctricability between registers, I turn to thinkers in Black Feminist Studies whose theorizations of the flesh enables them to parse various racial and gendered processes, the "symbolic order" or "American grammar," in Hortense Spillers words, ascribed to Black bodies over time (68). These theorizations of the flesh, which index a liminal space where meaning is

simultaneously ascribed and obscured, will become the ground for my working through the intersections of physical materiality and symbolic meaning in my next section, *skin*. They will allow me to trace in more detail how the process of reduction to flesh simultaneously creates an opportunity for resisting certain kinds of reading(s) [definitely rephrase].

In the nearly impossible task of the history of transatlantic slavery, thinkers in Black Feminist Studies have redeployed the systematic reduction of the body to flesh into a tool of resistence. The idea of black flesh as a reduction of the black body is first theorized by Hortense Spillers in her influential essay, "Mama's Baby, Papa's Maybe: An American Grammar Book." Here Spillers puts forth the conception of the black body as a stack of "attentuated meanings, made in excess over time, assigned by a particular historical order" (65). These meanings developed from the Black body that had been reduced to flesh, "severing of the captive body from its motive will," that Spillers traces to the middle passage. Spillers enumerates four effects of this violent process (67):

1. the captive body becomes the source of an irresistible, destructive sensuality;
2. at the same time–in stunning contradiction–the captive body reduces to a thing, becoming being for the captor;
3. in this absence from a subject position, the captured sexualities provide a physical and biological expression of "otherness";
4. as a category of "otherness," the captive body translates into a potential for pornotroping and embodies sheer physical powerlessness that slides into a more general "powerlessness," resonating through various centers of human and social meaning. 67

Imposed by the reduction of Black bodies to bare physicality, to a material substance for labor and exchange, there is, in "stunning contradiction," some form of meaning which aheres to the flesh. This process of the reduction to flesh, which Spillers calls "pornotroping," opens a space for the layering of sensuality, objectificaiton, otherness, and powerlessness (Spillers 67).

1.4 2. fungibility -> fugitivity

Following Spillers, who poses flesh as the "zero degree of social conceptualization", thinkers in Black Feminist Studies have drawn from the flesh as a ground for theorizing the intersection of materiality and meaning (Spillers 67). For

example, C. Riley Snorton attends to flesh as a site of resistance against the imposition of racial signification. Snorton explains that that the whittling down of black subjectivity, which enabled chattel slavery, imposes a state of interchangeability, what he calls the "fungible." This fungibility in Black flesh creates a possibility for for "fugitivity," or escape, from the trappings of sex and gender: "Captive and divided flesh functions as malleable matter for mediating and remaking sex and gender as matters of human categorization and personal definition" (20). Snorton describes how the reduction of black female bodies to flesh for experimental purposes enabled the emergence of field of gynecology as a white women's science. While white femininity prevents the inspection of white female genitalia, it is constructed out of the "scopic availability" of black flesh (Snorton 33). Beyond facilitating the study of white bodies, however, Black flesh also creates a "capacitating structure" that enables "fungibility for fugitive movement" (Snorton 53). Here, Snorton interweaves various narratives of fugitivity, such as that of Harriet Jacobs, whose story of escape in 1842 is documented in *Incidents in the Life of a Slave Girl* (1861). While traditional racial "passing" assumes an ambiguity that enables one to pass for white, the reduction to Black flesh, by contrast, endows a "gender indefiniteness" for "cross-gendered modes of escape" (56). In other words, it is the "blackening" of Jacobs that allows her to obtain a level of "fungibility, thingness" that precludes her recognition (Snorton 71). Being suceptible to multiple mappings of meaning here, the Black flesh therefore opens a site for potentiality that paradoxically facilitates escape from signification. The reduction to flesh creates an almost chaotic state where the body can slip in and out of signification.

1.5 3. opacity -> foreclosure

Like Snorton, Musser builds off Spillers' theorization of the Black flesh as a reduced state. For Musser, this means thinking alongside the inherent violence that adheres in the concept of the pornotrope: ""to think with the flesh and to inhabit the pornotrope is to hold violence and possibility in the same frame" (12). Drawing from Alexander G. Weheliye's point that sexual desire cannot be severed from domination, Musser's emphasis on fleshiness brings to the surface other modes of relationality that exist alongside and are in tension with the desire to dominate. One of these modes is hunger, which she reads through a photograph of the artist Lyle Ashton Harris's impersonation of Billie Holiday. Musser's reading of its surface emphasizes a self that is excessive yet inaccessible. Musser notes the details of the Harris's dress, such as the "pearls, eye shadow and lipstick" that capture the light

of the image, as the "Shine [which] plays joyfully with the idea of the body as body while rejecting the demand to present anything other than surface" ("Surface-Becoming" par. 3). Musser explains that Harris's open mouth, for example:

> tells us nothing of Holiday or Harris, but it reveals a sensuality or mode of being and relating that prioritizes openness, vulnerability, and a willingness to ingest without necessarily choosing what one is taking in. This is not the desire born of subjectivity in which subject wishes to possess object, but an embodied hunger that takes joy and pain in this gesture of radical openness toward otherness. 5

While emphasis on the surface here indexes the matter, the material aspects, of the image, it also *forecloses* access to that which we cannot know. In this way, Musser explains, the surface aesthetics of the image exist in tension with the inescapable violence of the pornotrope: "we can understand surface as the underside of the scientific/pornographic drive toward locating knowledge in an 'objective' image" ("Surface-Becoming" par. 2). In foreclosing access to interiority, opacity opens relational possibilities that transcend the boundaries of the possessive subject.

1.6 4. surface -> shifting registers

In another example, Musser moves to a painting by artist Mickalene Thomas entitled *Origin of the Universe 1* (2012), whose depiction of a female vulva evokes French realist painter Gustave Courbet's *Origine du Monde* (1866). Here, the vulva is black, and encrusted with rhinestones, creating an effect of brilliant surface which Musser argues is a "formal strategy of producing opacity" (*Sensual Excess* 48). While this work, like Harris's citation of Billie Holiday, instrumentalizes opacity as a means of foreclosing access to interiority, it does so alongside a more pronounced subtext of objectification that results from the commodification of the black female body. Here, Musser's analysis turns to the rhinestones, which function simultaneously on two registers: first, their flashiness "as a reminder of the long association between black people and the commodity" (*Sensual Excess* 50); and second, as a brilliance that evokes wetness, as a result of sexual pleasure. This dual possibilities exists simultaneously, as Musser explains:

> Thinking the rhinestone as a trace or residue of Thomas's wetness and excitement allows us to hold violence, excess, and possibility

> in the same frame. Even as the source is ambiguous, the idea that rhinestones might offer a record of pleasure—-pleasure that is firmly constituted in and of the flesh—-shows us a form of self-possession. This self is not outside of objectification, but its embellishment and insistence on the trace of excitement speaks to the centrality of pleasure in theorizations of self-love. *Sensual Excess* 63

I want to emphasize the movement between these registers here. While the significatory system that works on the image of the black vulva is inescapable, the effect of objectification exists alongside the projection of pleasure. The surface of the image facilitates this shift in registers. Attention to materiality, to opacity of the brilliant surface, enables one to apprehend this movement from one frame to another, from "violence, [to] excess, [and to] possibility."

[connect this to the notion of "torque" in M. Kirschenbaum]

2 skin

2.1 revision TODOs

2.1.1 TODO SKIN: impose new schema

Foreclosure (displacement) –> hidden or unreadable code, Flash Unmappability (torque) –> playing with haptics, de-coding haptics Fugitivity (volatility) –> race, the black body reduced

2.1.2 TODO SKIN: racialization

Something that Amber said about addressing the ways that racialization emerges in this text. I believe it will emerge in the ways that I talk about reduction, the black body as reduced.

Here we see the layers of flesh as "surface effects."

- Hayles and Kirschenbaum enable us to deconstruct how what we think is immaterial is actually embodied/inscripted.
- First, to understand, as Hayles explains, that "information loses its body" and see how this perpetuates liberal humanist reductions of the subject. Hayles frames this within a discussion of the posthuman.
- Second, to examine K's concept of formal materiality, where abstraction engages manipulation and sensuality, the shifting of registers.

- K's torque enables us to read sensuality into Hayles's concept of flickering signifiers.

-> Bringing back the flesh: pattern as material in the form of opacity, surface, torque. -> deep reading of different technologies in *skin*.

2.2 Media Archaeology overview

New Media studies poses an understanding of digital media as alternately undifferentiated or immaterial, or then as durable and particular inscription. Media theorist Friedrich Kittler, who famously conceives digital media as undifferentiated, argues that:

> The general digitization of channels and information erases the differences among individual media. Sound and image, voice and text are reduced to surface effects, known to consumers as interface. Sense and the senses turn into eyewash. Inside the computers themselves everything becomes a number: quantity without image, sound or voice. *Grammophone* 1

From Walter Benjamin's seminal "The Work of Art in the Age of Mechanical Reproduction," Kittler bring media theory to consider the effects of the digital in conversation with recent theoretical developments, like discourse analysis and structuralist psychoanalysis. Kittler imposes Lacan's concepts of the symbolic, imaginary, and real to give detailed accounts of the specificities brought about by differentiation of communication technologies in writing, sound, and visual media. Writing, for example, as a "symbolic" medium with letters and words operating within a significatory system, constrasts with the phonograph, which etches acoustic effects of the "real" into vinyl material, and with film, whose projection evokes the imaginary. Kittler's essential proposition is that media do not simply reflect our thought: rather, they shape thought. It is not that the film mimics our unconscious, but that our unconscious mimics film. Film projects the effect of light waves at speeds fast enough to sustain an illusion of movement. For Kittler, the digital computer is the medium to end all media: "What will soon end in the monopoly of bits and fiber optics began with the monopoly of writing" (*Grammophone* 4). He presents a reintegration of all differentiated materialities into the stream of zeros and ones:

> Our media systems merely distribute the words, noises, and images people can transmit and receive. But they do not compute these data. They do not produce an output that, under computer

> control, transforms any algorithm into any interface effect, to the point where people take leave of our senses. *Grammophone* 2

Kittler argues that the effect of the computerization is to flatten the material specificity of various media, which corresponded to various sense perceptions. By "computing these data," the digital medium does the feeling in place of the human senses.

2.3 how information lost its body

Working to unflatten the zeroes and ones, scholars influenced by literary studies, like N. Katherine Hayles and Matthew Kirschenbaum, emphasize the *materiality* in digital media. According to Hayles, the disarticulation of digitality from materiality has been in production since the emergence of computing technologies in the mid-20th century. Hayles's influential text, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (2000), lays out the "waves of cybernetic development," that is, the development of systems theory among prominant information and communication theorists like Norbert Wiener, John von Neumann, Claude Shannon, and Warren McCulloch (2). Hayles traces the first of these waves, "how information lost its body," to bring to the surface the conceptual moves that, throughout cybernetic developement, reduced intelligence to information processing, the calculation and manipulation of symbols. To re-materialize the conceptual moves that evacuate embodiment, Hayles offers a dialectic of "pattern/randomness," in which information is as a formal organization of symbols (pattern) against arbitrary or chaotic "noise" (randomness). This privileging of intelligence in the human congeals an imaginary for developing increasingly sophisticated machines that can compute streams of seemingly weightless, massless numbers. The body and the experience of embodiment becomes more and more displaced in favor of a conception of humanity as primarily information processing entities.

This development, according to Hayles, extends reductive ideologies in the liberal human into the "posthuman." Specifically, the displacement of embodiment in favor of information processing perpetuates liberal humanist conceptions that privilege a dominant, unmarked rationality over embodied experience and especially, embodied difference. As Hayles explains, "Information, like humaninity, cannot exist apart from embodiment that brings it into being as a material entity in the world; and embodiment is always instantiated, local, and specific" ("Virtual Bodies and Flickering Signifiers", 1993, 91).

The liberal humanist subject is characterized by classical mind/body divisions and hierarchies that posit embodiment as separate from and subordinate to intelligence, in which the rational mind *possesses* a body. Extending this framework, the postuman is characterized by an intelligence consisting of informational patters that *inhabit*. This progression from possession to inhabitation suggests that the next move will be to transcend the material realm altogether, as consciousness can be uploaded to a virtual space where life itself is infinite.

2.4 turing test

Hayles inaugurates the story of "how information lost its body" with a Alan Turing's famous thought experiment, the "Turing Test." In a 1950 paper, "Computing Machinery and Intelligence," Turing outlines criteria for evaluating whether or not machines can "think" in a way comparable to human thinking. The resulting Turing Test, or "imitation game," as it's also known, poses a strategically simplified definition for computer intelligence. The question is not whether a computer can intrinsically display intelligent or conscious thought which, Turing points out, is difficult enough to guage in a human. Rather, the question is whether a computer can adequately *impersonate* a human to feign intelligence. Turing therefore sets up the test to include one human and two interlocutors, a human and a machine. The test consists of the first human typing questions to the two interlocuters whose answers will enable the human to guess which one is a human and which a machine. Because all communication occurs is routed through a keyboard and screen, the game relies on how well each interlocutor can respond in verbal form to questions posed by the first human.

Hayles points out that this first step toward Artificial Intelligence crucially *sidesteps* the role of the body in thinking. By distinguishing *embodied* experience from verbal representation, the test poses a concept of intelligence which is detachable from its material instantiation. Hayles drives this point home with the comparison to gender that Turing makes prior to his explanation of the Turing Test, as a way of introducing the idea and structure of a guessing game based on verbal questioning and responses. Here, rather than intelligence, the person taking the test must guage which of the two interlocutors is male and which is female. By sequestering the body into another room, Hayle explains, the test effectively severs gender into two components: the embodied component, and the represented component. If the person taking the test guesses correctly which is the man and which the woman, then gender is reconsolidated into a single identity; However,

as Hayles points out, "The very existence of the text... implies that you might also make the wrong choice" (*Posthuman* xiii). That gender can be represented *discursively*, as a formal or symbolic phenomenon, bifurcates gender into embodiment and representation. As Hayles explains, "the overlay between the enacted and represented bodies is no longer a natural inevitability but a contingent production, mediated by a technology that has become so entwined with the production of identity that it can no longer meaningfully be separated from the human subject" (*Posthuman* xiii).

My first chapter explores how gender has been characterized within discursive frame, in terms of performativity. In that chapter, I examined how coding structures (the for loop, for example) create iterative forms which can be reworked toward evoking iterativity in gender performativity. Here, I want to take a different approach. I want to examine how Hayles' reading of information as represented on the computer screen, which she frames as an evacuation of embodiment, might actually be reframed as a *distinctly material* and *sensual* process. I want to consider the ways in which the language on the computer's screen is only the topmost in a layer of various software stacks that contain their own materialities.

In my view, the test's most interesting move isn't that it evacuates embodiment, but that it speculates the terms under which embodiment can be *performed*. Turing, who spends a significant portion of his argument clearing the ground for what he means by "thinking" in the context of computation, which is decidedly not thinking as humans experience it, explains that it is necessary to elide questions of embodiment and consciousness when it comes to assessing intelligence. The inclusion of typing purposefully evacuates body/feeling from the test, as Turing explains,

> In order that tones of voice may not help the interrogator the answers should be written, or better still, typewritten. The ideal arrangement is to have a teleprinter communicating between the two rooms. Alternatively the question and answers can be repeated by an intermediary. The object of the game for the third player (B) is to help the interrogator. The best strategy for her is probably to give truthful answers. She can add such things as "I am the woman, don't listen to him!" to her answers, but it will avail nothing as the man can make similar remarks. 434

Turing is careful to construct the components of the test in a way that deliberately reflects an anthropocentric frame. The question, for Turing, is not whether a machine can "think," but whether a machine can act indistinguishably from the way a thinker acts. Avoiding the difficult philosophical

problem of defining what it means "to think," Turing can instead focus on how a formal system of symbol manipulation might generate a performance of intelligence. From this perspective, the Turing test deliberately offers up gender and cognition as a simulation. Another way of putting it is that cognition and gender become features of a certain type of formal performance.

2.5 formal materiality

In what follows, I explore the *formal* aspects of this kind of symbol manipulation. Here, I draw from Hayles and Matthew Kirschenbaum to tease out the sensual aspects of digital media. As Kirschenbaum points out, the effects of the screen, where objects appear, disappear, and move with apparent fluidity that seems to defy matter (have you ever wiggled a window?), reinforce a common misconception that digital media is "immaterial"–that it isn't based on physical objects, in this case, the physical level of digital inscription on computer hardware. To counter this misconception, which Kirschenbaum calls "screen essentialism," Kirschenbaum offers a dual framework of "formal" and "forensic" materiality. Together, these levels of materiality produce what Kirschenbaum calls "the illusion of immaterial behavior" on the screen (11). Forensic materiality examines the physical level of digital inscription, that is, the magnetic encoding at the level of computer hardware, and it how it bubbles up the software stack through the levels of programming languages toward specific interface effects on the screen. Kirschenbaum demonstrates how a reading of physical materiality of digital media, such as file formats or software specifications below the level of human senses and awareness, might influence the "close-reading" of textual material in electronic formats to challenge widespread theorizations about electronic formats manifesting post-structural aesthetics like fluidity and ephemerality. For example, his reading of an early story authoring software called *Storyspace* points out that the physical realities of software create idiosyncratic reading experiences of the same story.

If forensic materiality denotes the physical level of computer hardware, such as the magnetic polarities inscribed on hard drives, which are invisible to the naked eye, formal materiality consists of visual and conceptual phenomena such as display and appearance on the screen, as well as underlying software logics and structures, such as programming languages and data formats. Kirschenbaum asserts that the effects of the screen, which suggest that digital objects are easily manipulated, is a deliberate result from a long process of normalization as data moves up the software stack. Just as older technologies like the telegraph employ relay systems to reinforce signals over

long stretches of transmission, so software employs signal "reinvigoration" that refreshes data as it travels through software environments. Contrary to the misconception that digital processes enable "transmission without loss, repetition without originality," electronic data is continually reproduced and refreshed to fix errors and idiosynracies that occur during transmission. Kirschenbaum describes this process as "allographic reproduction" in which information systems standardize data through *approximation* rather than exact copying (136). As a result, Kirschenbaum argues, formal materiality, the effect on the screen, is a "built" and "manufactured" phenomenon, "existing as the end product of long traditions and trajectories of engineering that werer deliberately undertaken to achieve and implement it (137).

2.6 abstraction -> tangibility of data

Although formal materiality acts as a buffer between the user and the digital inscription, there is an inverse relationship between digital abstraction and tactile manipulation. At the most basic level, electronic data consists of one of two possible ("binary") marks on a magnetized surface, a north polarity signifying "1", or a south polarity signifying "0". As data moves up the stack, this binary digits, or "bits," abstract into informational patterns, which take the form of shapes on the screen. More specifically, these binary digits are compiled into low machine languages such Assembly language, then into higher order programming languages like Java and Python. Kirschenbaum points out that the higher that data climbs up the levels of abstraction, the more malleable and manipulatable digital objects become, a state which he calls "digital volitality" (140). By manipulating the graphical user interface, for example, by dragging and right clicking on items, users can move, duplicate, or delete large quantities of data. Kirschenbaum explains this "dynamic tension... between inscription and abstraction, digitality and volitality" makes formal materiality more susceptible to movement and change than physical inscription, which remains inaccessible. Moving away from the inscription, is a move toward something that users can handle and "touch," so to speak.

2.7 torque -> materializes the shift of software registers

The concept of formal materiality not only applies to conceptual objects on the screen, such as windows and icons, but also to the ways that data is transformed as it moves up the stack. Kirschenbaum explains that formal materiality, as a term, "tries to capture something of the procedural friction

or perceived difference–the torque–as a user shifts from one set of software logics to another" (13). Kirschenbaum's choice of *torque*, a concept from physics and mechanics, is significant. Torque signifies a force that results in a rotational movement, and can be represented with the formula t = f * d, where f denotes an external force, and d denotes distance from the object's pivot point. This force combines energy from two directions, first, from the external force acting upon the object, and second, from the relation between the exact point of contact on the object and the objects own weight. Typically, objects rotate along their "center of mass," or pivot point, the point along the object where it can be balanced, where its distributional weight is zero. For example, one could balance a twelve-inch ruler by placing a finger under the sixth inch. By applying some force to the center of mass, the object would not pivot, but move in a linear direction, either up or down, or sideways, depending on the direction of the force. However, if external force was applied along either side of the center, say at the second or ninth inch, the object would pivot. Its direction would then be determined by its pivot point, whether that be its center of mass or the point where the object is affixed to another object, if the ruler were nailed to the wall, for example. In this case, the ruler would pivot around this point of attachment, and the force and direction of its pivot would be measured as "torque." Torque, therefore, is a measure of a force that relies on *distance* between the point of contact the object's center.

The concept of torque is useful for materializing the shift from one code to another. The distance between the point of contact and the center of weight, which with force determines *torque*, can be understood as the gap between one sign and another. Or at a larger scale, the shift from one significatory system to another as data travels up the software stack.

2.8 flickering signifiers

Hayles wonders, "Why do we talk and write incessantly about the 'text,' a term that obscures differences between technologies of production and implicitly promotes the work as an immaterial construct?" ("Flickering connectivities in Shelley Jackson's Patchwork Girl: the Importance of Media-Specific Analysis," 2000, par. 57). Hayles offers the concept of the "flickering signifer" to tease out the cultural assumptions behind digital immateriality. The flickering signifier consists of words and objects on the screen that appear immaterial, "characterized by their tendency toward unexpected metamorphoses, attenuations, and dispersions" ("Virtual Bodies and Flickering Signifiers", 1993, 76). Due to this appearance, the flickering signifier perpetuates a liberal humanist

ideology about the body/mind separation into the posthuman one of hardware/code. Just as the mind rules the fleshy body, so the *code* represents a an insubstantial standard that drives computation. Hayles frames the flickering signifier within a poststructuralist critique that work to destabilize meaning and truth within classical knowledge paradigms. Evoking Jacques Lacan's "floating signifier," the idea that a word has no referent, but "floats" above a text, attaining whatever meaning it can by a play of differentials within other floating signifiers, the "flickering" refers to the ways that electrical signals, which represent words, travel up the software stack. Hayles explains that the floating signifier belies an immateriality:

> As I write these words on my computer, I see the lights on the video screen, but for the computer the relevant signifiers are magnetic tracks on disks. Intervening between what I see and what the computer reads are the machine code that correlates alphanumeric symbols with binary digits, the compiler language that correlates these symbols with higher-level instructions determining how the symbols are to be manipulated, the processing program that mediates between these instructions and the commands I give the computer, and so forth. A signifier on one level becomes a signified on the next higher level. Precisely because the relation between signifier and signified at each of these levels is arbitrary, it can be changed with a single global command. Virtual Bodies and Flickering Signifiers", 1993, 77

Hayles's description of the flickering signifier, what she calls a "flexible chain of markers," materializes the various levels of transformation that digitized inscription must undergo in order to reach the level of the screen. The process begins at the level of physical inscription, where binary markings on disks are translated to machine code and other lower level programming languages, when are then fed into a compiler procedure that rewrites these codes into more readable programming languages (also known as "higher order" languages), at which point they are composed into applications and files that humans can engage directly via a graphical user interface. In this movement up the stack, data shifts between registers and becomes more tangible, a process that is belied by the fleeting and diaphanous forms that finally emerge on the computer screen.

2.9 Hayles perhaps underestimating materiality of flicking sig

Flickering signifiers bring consideration of "transformations" into view. though I do think she is underestimating the "matter," "energy" which goes into it.

> When a text presents itself as a constantly refreshed image rather than durable inscription, transformations would occur that would be unthinkable if matter or energy, rather than informational patterns, formed the primary basis for the systemic exchanges. This textual fluidity, which humans learn in their bodies as they interact with the system, imply that signifiers flicker rather than float. 30

2.10 *skinonskinonskin*

In what follows, I read the flickering signifiers, this "flexible chain of markers bound together by the arbitrary relations specified by the relevant codes" ("Virtual" 77). They are productions, they are manipulable, they are shifting.

skinonskinonskin is a work of "net art" created in collaboration between Auriea Harvey and Michael Samyn, who go by the name Entropy8Zuper!. *skin* documents the inception of their love affair, which began in an internet chat room in 1999, in the form of a digital correspondence of web pages, or "digital love letters". ("*skinonskinonskin*" *Net Art Anthology*).

By today's technological standards, the net artwork is inaccessible to modern browsers. The work consists of HTML (HyperText Markup Language) pages animated by now obsolete web browser code (HTML and JavaScript) and Flash software. Due to modernization, the browser languages HTML and JavaScript use now depreciated elements like `<layers>` and `<area>` to add animation. Additionally, since Flash technology, a compiled software that is not "human-readable", has been discontinued, it is very difficult to find solutions for editing and viewing Flash elements. Besides the difficulty with authoring languages, it was created to run on the Netscape 4 browser which offered, for the time, a platform agnostic solution that would render on both Harvey's Mac and Samyn's PC. *skin* takes part in a body electronic work called "Electronic Literature," which is now practically inaccessible. Electronic Literature, which spans several subgenres, like hypertext fiction, network literature, interactive fiction, and generative text share a common interest in exploring aesthetics that draw from the digitality of the medium.

In what follows, I am going to discuss this work according to three key ideas from black feminist studies: [force], foreclosure, and fugitivity.

2.10.1 haptics -> movement engages source code's "shifts" (torque)

The hypertext work plays with haptic engagement (the hand on the mouse) in ways that point to *shifts* that occur in the underlying program code.

-> These shifts can be what? What is a "shift" – a piece of code that executes?

-> What is the significance of these shifts? That they are rooted in constraints, conditional statements, static images, to engage motion?

The pages by Samyn, in particular, deploy animation techniques that engage the user's physical movement. One page, "air.html," challenges the user's tactile ability, requiring precise mouse manipulations in order to "move" elements across the page. On this page, the user controls two small bodies in horizontal, flying position, as they float over a field of a field of rotating lines, which evoke a rolling, cyber-landcape. The animations operate like magnets, always moving toward the mouse, but the strength of their attraction depends on the mouse's speed. By slowing down the speed, the individual bodies can touch, but they can never cross each other. Even with the most precise movements, Samyn's body remains on the left, while Harvey's is on the right. [SEE GIF] The illusion of freedom in floating, therefore, has constraints.

[include gif of air.html]

The animation is defined in the JavaScript, in the page's source code. Observe the if/else statement for the JavaScript function, `flyMouse()`.

if (mouseX < halfW) { var mFactor = 0.1; var aFactor = 0.01; } else { var mFactor = 0.01; var aFactor = 0.1; }; ... dMove('flyingmL','document.',mLeft + thisXDiff*mFactor,mTop + thisYDiff*mFactor); ... dMove('flyingaL','document.',aLeft + thisXDiff*aFactor,aTop + thisYDiff*aFactor); moveGround();

Though the full workings of the source code remain fuzzy (at least to me), it is clear that the basics of the animation element relies on an if/else statement. Here, the movement of the bodies is conditional on their distance between the mouse and the original positioning of the bodies on either side of the screen. Depending on this distance, the magnetic force for each of the bodies is multiplied against a factor of .1 or .01. This results in a stronger movement from Samyn's body when the mouse is on the left side of the screen (Samyn's original position), and a stronger movement from Harvey's body when the mouse is on the right half of the screen. The binary nature of this conditional statement–it can be true or it can be false, and will execute the associated code–accords with an animation that is, at its core, about dual movement. Here, the movement by the hand and the oppsitional constraints which the user comes up against, engage the transformations that take place

in the code, "under the hood" of the work, so to speak.

Throughout this work, the user engages with HTML and JavaScript code via haptics on the browser. The source code endows digital "objects" with properties and methods so that they can become manipulable at the level of surface. These constructs, which are defined under the hood of the browser, enable sensual experiences for the user.

One example occurs on "obsessed.html," which contains a view of a concentric circles, in green, that move against the cursor in a circular motion. The motion of the circles, which are rooted in the ummoving center circle, and whose outer layers increase in mobility, recall a spring mechanism, flexible yet taut. If "air.html" play with magnetic forces, this plays with the opposite, with opposing foce. Moving the mouse across the screen pushes the circles away. If one, however, moves the mouse to the center of the circle, they settle back into a neutral position.

The center circle, when clicked, leads to a new page, "control.html." While the source code for most pages include a title, author, and date, this page only contains a title, "you:controlMe." It consists of a monochrome green image of Harvey, whose head rolls from side to side in the direction of the user's cursor. The effect, which is reinforced by the cursor appearing as a pointing hand, as it does when something becomes "clickable," is that the user manually turns Havery's head from one side to the other by pressure of the cursor-as-hand. Additionally, when the user moves Harvey's head from side to side, they not only see more or less of her face, but also peices of "alt-text" with words like "go" "believe" "ocean" and "mind". The [SEE GIF].

[INSERT GIF]

There are two interesting things here. The first is the way the animation engages directly the sensuality of the human user. Not only does the cursor implicate hand movement, in that the user *moves* Harvey's face by passing the mouse over it, but the animation itself lends an aura of super-reality. Rather than represent a smooth movement from side to side, Harvey's head takes little jumps from one position to another. A look into the source code reveals that the animation consists of 23 images that loop according to the position of the user's mouse. The effect is a slight lag, a series of fleeting pauses that intensify Harvey's direct gaze into the camera.

2.10.2 foreclosure - > language & code

Although the user has full access to Harvey's image, they have only partial access to the alt-text that appears when they pan over certain parts of the

animation." Alt-text is one of several attributes tied to each of the 23 images used to animate the movement of Harvey's head, including coordinates for the mouse to activate the relevant image and conditional statements that define visibility. The code for a single image of the 23, for example, consists of the following: ~<AREA SHAPE=RECT ALT="i" HREF="#" COORDS="0,0,8,142" onMouseOver="strokeimage.src=stroke1.src ; window.status='i' ; return true">~. Alt-text," short for "alternative text," triggers the displays descriptive text meant to stand in place of the image, for accessibility reasons and in the case that the image fails to load. Without knowledge of the precise location of each alt-text coordinate, accessing all of the alt-text embedded within the images requires a peak at the source code, which lists the alt-text for each of the 23 images one by one: <AREA SHAPE=RECT ALT="i" ..> <AREA SHAPE=RECT ALT="believe" ...> <AREA SHAPE=RECT ALT="in" ...> <AREA SHAPE=RECT ALT="it" ...> <AREA SHAPE=RECT ALT="you" ...> <AREA SHAPE=RECT ALT="created" ...> <AREA SHAPE=RECT ALT="it" ...> <AREA SHAPE=RECT ALT="in" ...> <AREA SHAPE=RECT ALT="my" ...> <AREA SHAPE=RECT ALT="mind" ...> <AREA SHAPE=RECT ALT="my" ...> <AREA SHAPE=RECT ALT="mind" ...> <AREA SHAPE=RECT ALT="cannot" ...> <AREA SHAPE=RECT ALT="let" ...> <AREA SHAPE=RECT ALT="it" ...> <AREA SHAPE=RECT ALT="go" ...> <AREA SHAPE=RECT ALT="the" ...> <AREA SHAPE=RECT ALT="ocean" ...> <AREA SHAPE=RECT ALT="the" ...> <AREA SHAPE=RECT ALT="waves" ...> <AREA SHAPE=RECT ALT="its" ...» <AREA SHAPE=RECT ALT="a" ...> <AREA SHAPE=RECT ALT="vision" ...> While the user may experience a number of these phrases as they pan over the image, here the ordering creates a sense of coherence. When viewed in this way, from the top-down, the words string together into intelligible thoughts like "i believe in it," and "my mind cannot let it go." What appears on the surface of the work, then, is only a particle of the full description occuring below.

Below the overt narrative of surface effects, lies another narrative within the source code. Here, within the HTML and JavaScript that define the content, presentation, and animations on the page, lie secret messages meant for human eyes. While most of the work is visual and haptic in nature, these hidden messages combine natural language with code to make verbal exhortations of love. For example, on the first page, "breath.html," an array of romantic protestations are assigned to the value, "whispers." These "whispers," which include phrases like "i will love you forever," "i want to breath you," among others included below, do not manifest directly on the browser, which only shows a moving image of a bared chest accompanied

by breathing sounds. Rather, the messages are hidden within the source code, waiting only for the curious and experienced user to come and find them. whispers = new Array(); whispers[0] = "breath me"; whispers[1] = "i will love you forever"; whispers[2] = "skin"; whispers[3] = "skin on skin"; whispers[4] = "skin on skin on skin"; whispers[5] = "implode"; whispers[6] = "soft"; whispers[7] = "slow"; whispers[8] = "can you feel me?"; whispers[9] = "touch me"; whispers[10] = "one more cigarette"; whispers[11] = "i am so open"; whispers[12] = "i want to feel you inside of me"; whispers[13] = "smoke"; whispers[14] = "i want to breathe you"; whispers[15] = "we are smoke"; whispers[16] = "yesss"; whispers[17] = "deeper"; whispers[18] = "i am disappearing"; whispers[19] = "warm";

Musser describes foreclosure as an overflow of surface effects that preclude understanding beyond them. Foreclosure is strategy of resistance against attempts at incorporation. Something is always withheld. Similarly, I want to suggest that computer code creates a level of foreclosure by making elements always partially inaccessible. The surface effects of the screen engage elements within the code, sometimes in code from other pages, which are inaccessible to the general user, to surface additional layers of foreclosure. For example, the page, "close.html," takes a series of filenames from "smoke.html" to overlay the image of the chest from "breath.html" (SEE IMAGE). Rather than take the content of the files directly, this new page takes the *filenames* of the words, such as "$\text{ccy}_{01\text{Over.jpg}}$." The move creates a double foreclosure: first, in the original image, which requires precise activation by the user's mouse; and second, in the filename, which gives no indication of the image's content and cannot be found (as far as I can tell) for further examination on the server. In other words, the filenames on the chest stand for images which the user cannot see directly. This effect surfaces a displacement inherent in all significatory systems but particularly in machine language systems, which rely on levels of abstraction in its software stack.

[IMAGE OF CLOSE.HTML]

2.10.3 flash foreclosure

In "words.html," view-source:`http://entropy8zuper.org/skinonskinonskin/rhizome/words.html` By Samyn on valentines day, 1999.

Samyn animates a beating heart, overlaid with words and phrases that move in various arcs from its center. [SEE IMAGE/GIF]

The code for this page does various things: first, it defines the list of strings, or words/phrases, which will arc over and around the heart. Then, it includes a series of JavaScript functions that selects words, calculates their

trajectory and timing, and resets their position to restart the loop. unction startMove() { floatWords(0,Math.round(words.length/4)); setTimeout("floatWords(Math.round(words.
setTimeout("floatWords(Math.round(words.length/2),Math.round(words.length/4*3));",10000);
setTimeout("floatWords(Math.round(words.length/4*3),Math.round(words.length));",15000);
};

function floatWords(startNumber,endNumber) { for (i = startNumber ; i < endNumber ; i++) { floatWord(i); }; };

function rePos(thisNumber) { dMove('wordL'+thisNumber,'document.',halfW-rand(50),halfH-rand(50)); floatWord(thisNumber); };

function floatWord(thisNumber) { var randTime = (rand(15) + 5)*1000; var thisRand = rand(4); if (thisRand = 1) { dMoveStraight('wordL'+thisNumber,'document.',-1 + thisNumber + ');',''); } else if (thisRand = 2) { dMoveStraight('wordL'+thisNumber,'docu 20-rand(100),randTime,'wordVal'+thisNumber,''); } else if (thisRand = 3) { dMoveStraight('wordL'+thisNumber,'document.',stageW + rand(100),rand(stageH),randT + thisNumber + ');',''); } else if (thisRand = 4) { dMoveStraight('wordL'+thisNumber,'docu + rand(100),randTime,'wordVal'+thisNumber,''); } if (rand(4) == 1) { dShow('wordL'+thisNumber,'document.','visible'); }; }; "words.html" I'm going to give a brief overview of each function. The first function, `startMove()`, sets a series of timers that initiate and perpetuate the animation. The second function, `floadWords()`, loops through the list of words and phrases and passes individual selections from this list to the next function, `floatWord()`, which sets the trajectory and timing for their movement. Within this function, a call to `rePos()` repositions the word in a new location, to begin the cycle anew.

On line 98: "$we are disembodied arms and mouths "

Let us look more closely into the flash animation, which contains its own foreclosures. Flash is a standalone application and web browser plugin for authoring and viewing animations. It began development in the mid-1990s and gained popularity for its ability to deliver relatively advanced graphics (such as video and sound, primarily) at a time when media-rich content traveled slowly over the web. However, with the development of newer, more efficient and secure animation technologies in the last 10 years, Flash began to fall out of popularity and was officially discontinued on December 31st, 2020. Although the general internet user will not feel the difference, since newer technologies like HTML5 and Javascript have stepped up to deliver what Flash had initially offered in much more flexible, portable, and efficient ways, this development has cast a generation of internet games, net art, and electronic literature into obsolesence. Today, the only way to view Flash content is through plugins, emulators (like the one for *skin*), or "decompiler" programs (discussed below).

The elements of foreclosure emerge most starkly with non-plain-text content like Flash files. This is due to Flash code, unlike plain-text, being a binary code format. If opened in a text editor, for example, Flash files (which usually have an ".swf" or ".fla" extention) would appear to be made of incomprehensible characters and symbols, some of which the text editor may recognize, and others which it would display as a question mark. For example, here is a plain text rendition of the file that contains the sound animation of of the heatbeat on "breath.html":

[IMAGE OF TEXT EDITOR OF OF HEARTBEAT.SWF]

Because binary code is unreadable to the human eye, it requires specific authoring software to work with it. A "Flash decompiler" program, for example, offers an interface for seeing the components of a Flash file without having to deal with the machine code layer. The file is separated into components. The above file, for example, contains components like "sounds," "frames," and "scripts." So the file becomes abstracted in a way that humans can make sense of it. Below is an image of the flash decompiler interface, with all of the components of the image on the left sidebar. Interestingly, when examining the frames, one can distort the sound of the heartbeat.

[IMAGE OF FLASH DECOMPILER INTERFACE ON "HEARTBEAT.SWF"]

What I want to emphasize here is that this code cannot be edited directly.

How does an emulator work? Does emulation add another layer of sensuality to the peice?]

The final aspect of this text I want to discuss is reduction. The love affair is reduced to digital objects which can pass over the wires. The couple make this point in a chat between the two of them, discussing how constraints constitute the relationship:

> womanonfire: the sound is a bit distorted with these things zuper: (private) yes womanonfire: if no one was around me here zuper: (private) the image is distorted too womanonfire: i would speak to you zuper: (private) but that's ok womanonfire: yes! womanonfire: these are all part of our relationship womanonfire: these limitations womanonfire: we must zuper: (private) 26 letters, no sound, no image womanonfire: learn new ways zuper: (private) make DHTMLove to me... `http://entropy8zuper.org/`

The way that digital objects play with reductions of complexity here evokes what Snorton says about the reduction of black bodies to flesh. Such a reduction enables flesh to harness the chaos of significatory possibility. I want to argue that digital objects, as distillations of real world referents, are imbued with expressive potential.

In what follows, I'm going to examine the ways that Harvey's (black) body has been reduced with this effect. The question of Harvey's race emerges in a chat between Harvey and Samyn, though it is buffeted by questions of physicality more generally. To get a sense of the conversation, I quote the chat at some length:

> womanonfire: i wonder wht your voice is like zuper: my voice? zuper: let's try zuper: it's weird to talk in a silent office at night womanonfire: yes womanonfire: i can just barely make you out womanonfire: how fitting womanonfire: it sounds so far away but you feel so close zuper: yes zuper: i am close zuper: i don't understand myself womanonfire: i will write you a very long letter tonight zuper: I'm falling in love with a 160x120 pixel video... zuper: Yes please write me a long letter womanonfire: it is dificult for me here right now zuper: why is it difficult? womanonfire: i was just about to write one about this womanonfire: because i love you zuper: ... womanonfire: seems so womanonfire: strange womanonfire: maybe it is lust womanonfire: i cant tell anymore zuper: pixellust? womanonfire: right zuper: I my case only ASCIIlust... womanonfire: but i want to make a home for us womanonfire: in the network zuper: Have you read Sterlings 'Holy Fire'? womanonfire: no zuper: They have places called 'Memory Palaces' on the net zuper: where they keep all their souvenirs and where people can meet womanonfire: i just heard you that time womanonfire: ! zuper: in dutch! womanonfire: yes! zuper: (private) I realised today that I have never been in love with somebody who doesn't speak Dutch before. womanonfire -> zuper: i have never been in love with someone in another country before zuper: (private) I have never been in love with someone with green dreadlocks before zuper: (private) let alone black skin womanonfire -> zuper: yes i hope you wiwll like my skin zuper: (private) I already do. womanonfire -> zuper: :) `http://entropy8zuper.org/`

The question of race becomes one in a list of other physical attributes, is equated to speaking a foreign language, is buffeted by concerns about connectivity and finally, transported and made possible by network technologies.

The reduction of her body to certain attributes, her black skin and green hair, for example, endows her physical being with expressive possiblity. The dark-skinned green-haired floating woman. Here, the less detail an element has, the more meaning the viewer can impose to the elements.

We see this in the black hand which touches our screen. It is a simple shape, but it is expressive.

l materiality hearkening back to black fem theory Sensuality in their shifts and their surface effects, particularly in the way they foreclose *forensic* materiality, refuse depth. Here we draw from black feminist theorizing.