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Chroma key dreams: Algorithmic visibility, fleshy images and scenes of recognition

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Abstract

The increasing pervasiveness of datafication across social life is significantly challenging the scope and meanings of visibility. How do new modes of data capture compel us to rethink the notion of visibility, no longer understood as an ocular-based perceptual field, but as a multifaceted site of power? Focusing in particular on technologies of algorithmic recognition, the article argues that in order to understand the broad stakes of visibility under algorithmic life, the intersection between algorithmic recognition and the notion of social recognizability needs to be further theorized. In dialogue with the work of Sondra Perry, and drawing on contributions from feminist and critical race theories, the article revisits theoretical debates on racialized visibility within photography and film to show how racializing processes are inscribed in digital and algorithmic technologies. In reading through these debates, the article suggests that visibility, as a racial formation, is always already subjected to an algorithmic logic. Through the analysis of Sondra Perry's work, the article

sketches out a political ontology of the image premised on the intersection between computation and the markings of the flesh as a possible way to think through the stakes of visibility under algorithmic life.

Datafication, visibility, recognition

The increasing pervasiveness of datafication across social life has repositioned visibility as a major contested notion. Through post-optical technologies and practices such as machine vision, biometric identification, algorithmic recognition, data tracking and analytics, the scope of visibility imposed upon bodies and subjectivities has been significantly expanded through new modes of capture especially suited for 'surveillance capitalism' (Zuboff 2019). While these practices seem to have increased the scope of visibility, whereby subjects are rendered visible, accessible and knowable in new guises, at the same time it also becomes apparent that algorithmic processes (for instance those underlying the architecture of social media) structure the field of visibility in ways that render some things more visible than others, yielding new parameters of visibility that determine who and what dis/appears (Bucher 2012). These new modalities of visibility raise challenging questions to anyone concerned with ontologies of the visual, given that they occur through datafication rather than ocular means, and through algorithmic mechanisms no longer meant to be seen by humans but by machines. How do these developments compel us to rethink and possibly expand the notion of visibility, understood here not so much as an ocular-based perceptual field, but as a multifaceted site of power, identity formation and contestation? What does it mean to be visible, and under which parameters of visibility does one become visible or invisible? If visibility is reconceived as the result of algorithmic processes that structure the space of appearance – a space of appearance inhabited and intervened upon by humans, machines, data and algorithms – what to make of the demands for visibility and recognition claimed by political subjects? How does visibility as a regime of algorithmic structuring coexist with the notion of visibility as a political site for subject formation, justice claims and resistance? And what does it mean to claim visibility or invisibility when the term has acquired these new configurations?

These conceptual struggles over visibility open up new areas of onto-epistemological and political uncertainty that I propose to home in on through the notion of recognition. Algorithmic processes of recognition, such as computer vision recognition systems, but also the recognition of informational patterns deployed more broadly by different systems of data analysis (Apprich et al. 2018), are currently reconfiguring the terms of visibility and the ways in which subjects become (in-)visible and (il-)legible to the information machines through which power operates. Technologies of recognition are widespread across social domains, from social networking platforms to ecommerce, war and finance, in ways that make these fields increasingly interdependent and difficult to tell apart. As

Amoore and Piotukh argue, digital and computational technologies matter beyond their specific and intended functions as they increasingly shape and govern all areas of our life, a condition that they address through the term 'algorithmic life' (2015). Visibility is one of the dimensions undergoing significant and multifaceted changes under such conditions. Recent news have drawn attention to the fact that Amazon is using its facial recognition technology, called Rekognition, to identify fake sellers and counterfeit goods being peddled on the website. The technology came under scrutiny when it was revealed that the company was trying to sell the software to the United States Immigration and Customs Enforcement. Amazon's cloud division has also shown interest in government bids, including CIA and Pentagon contracts. It was later revealed that the software had inherent gender and racial biases. As a result, the company has been pressured by civil rights groups after tests by academics and the American Civil Liberties Union found that Rekognition's image analysis and face recognition functions are less accurate for black people. When the ACLU tested Amazon's face recognition service using images of congress members, the service incorrectly found matches for 28 of them in a collection of mugshots. The false positives were disproportionately people of colour.

The case of Amazon's facial recognition technology shows how a technology, intended for a specific purpose, can easily be mobilized for other functions, affecting and reshaping innumerable and interconnected domains of social life. But it also reveals how algorithmic recognition intersects with social categories and norms of recognition in ways that challenge the parameters and scope of visibility, what it means to become visible, and the implications and stakes of striving for invisibility. What I suggest here is that in order to understand the broad stakes of visibility under algorithmic life, this intersection between algorithmic recognition and social norms of recognition needs to be further theorized.

These intersections have long been explored by artistic and activist practices concerned with new regimes of data capture, which can offer productive avenues to think through the effects of algorithmic permeation upon lived experience. Particularly after Snowden's revelations in 2013, artists responded to datafied modes of visibility through various aesthetic strategies that problematize the scope of visibility, explore its different modalities, and negotiate its variegated meanings. Obfuscation, camouflaging, sousveillance, over-saturation and counter-archiving are some of the strategies artists have foregrounded to probe and make sense of the parameters of datafied visibility, as well as to respond to a sense of increasing pervasiveness of recognition technologies.

Without exhaustive or typological ambition, one can mention a number of cases that shed light on these different modes of visibility and the uncertainties they generate. Examples include Adam Harvey's 'aesthetics of privacy', with projects such as 'CV Dazzle' (2010), a camouflage line of hair style, makeup and fashion accessories that evade face detection algorithms, or more recently 'HyperFace' (2017), a type of camouflage aimed at reducing the confidence scores of facial detection and recognition by providing false faces in the background that distract computer vision algorithms.

Premised on the idea that pervasive datafication increasingly renders subjects identifiable and traceable, these techniques resort to the partial masking of identity to evade and undermine technological means of recognition and identification, pushing back against the regime of capture ushered in by recognition systems. While remaining visible and detectable to computer systems, these examples evade identification markers legible to the algorithms operating in the systems, playing with the uncertainties immanent to algorithmic systems of identification. What is noteworthy here is how datafied visibility is negotiated, that is, not fully evaded or avoided, but rather strategically responded to. Rather than advocating a radical withdrawal from visibility, Harvey negotiates the terms of human and computational recognition in ways that reinstate the political importance of remaining visible both within and outside the parameters of computational control.

Another example of strategic negotiation can be found in Zach Blas' long-standing research on queer and 'informatic opacity'. Drawing on Édouard Glissant's conceptualization of opacity as intelligibility, as being seen but illegible (2010), Blas devises 'collective masks', for instance in *Fag Face Mask*, which blends the biometric facial data of several queer men into amorphous sculptures that can be perceived as collective 'portraits' (see also Sørensen 2016; Michelsen 2018). Reprising the aggregating techniques of algorithmic identification, these masks are conceived as tools of collective intervention that refuse to accept the terms of datafied visibility in order to continue to occupy a space of visibility where identity can be formulated and expressed otherwise.

A different approach can be located in the work of Emilio Vavarella, which explores the errors to which facial recognition algorithms are particularly prone. In *Digital Pareidolia: A Personal Index of Facebook's Erroneous Portraits* (2012–13), Vavarella uploaded all the photos from his personal archive to his Facebook profile, amounting to a total of 30,000 files acquired since 2005. This sum was, at the time, the equivalent to the number of photos uploaded to Facebook every ten seconds. Vavarella then sifted through each of Facebook's suggested face recognitions, looking for possible errors incurred by the technology, and realized that Facebook recognized faces where no actual faces existed 193 times. The artist suggested that the face recognition algorithm seems to reproduce the psychological phenomenon of pareidolia, the recognition of human faces in everyday objects which is said to be genetically linked to the survival of the species by identifying potentially threatening situations. Instead of a face, the technology erroneously identifies all sorts of things such as a piece of fabric, a hand, a rock, a plant, which Vavarella organized into a coherent system. *Digital Pareidolia* prompts us to think through the implications of facial recognition technology in increasingly daunting contexts. During the operation of uploading photos, Facebook uses facial recognition to prompt the user for the names of the people in the pictures, creating a database that connects images and personal data. The same technology is applied to video surveillance in order to automatically link the image of a face to the identity of an individual through the use of biometric data. Together, face recognition technologies, databases and platforms create digital personas for each individual (known as data

doubles or shadows) that often escape the control and knowledge of the subjects they are derived from, and whose existence exceeds the digital realm, as it often results in material effects.

Each in its own way, these projects point to how visibility is being reconceptualized by algorithmic systems of recognition, tease out different modes in which becoming visible has acquired new contours and stakes, and formulate aesthetic responses through which one might imagine different ways to inhabit visibility. Vavarella's project in particular is evocative of Louise Amoore's insight that what defines algorithmic recognition systems is not the power to see but the power to recognize, to discern patterns, and this process ultimately defines the conditions of appearance, who can appear, what matters and what does not (Amoore 2018. See also Steyerl 2016). In her analysis of AlexNet image recognition, a convolutional neural network trained on more than a million images from the ImageNet database, Amoore asks us to shift the question from whether the computer vision algorithm can successfully see or correctly identify an object in an image, to whether the algorithm can generate its own point of interest in the scene. Which implications can we draw from errors of recognition? What happens when the algorithm defines what matters in a scene? How the algorithm extracts what is significant in a scene (say, if it identifies a dalmatian instead of a cherry, in a scene that contains both) ultimately defines the field of meaning, and hence what will count or not count as recognizable?[1] What if visibility is the result of what the algorithms surface and render recognizable in a scene? Does this fundamentally change established notions of visibility?

The implications of this question can be productively unpacked, I suggest, if we bring together the question of what counts as recognizable according to algorithmic vision with the notion of recognizability discussed by Judith Butler. Recognition, for Butler, operates through a set of social norms that govern recognizability, which she defines as the conditions of possibility for recognition, or 'a frame for seeing and judging' (2001: 23). Recognition here is not meant as the liberal notion of legal recognition of personhood and inclusion, but as an ethical encounter between subjects premised on the idea that 'we cannot really be who we are or who we want to be if others do not treat us in certain ways' (Lepold 2018: 474). Subjects depend on others, and on recognition by others, in order to be able to fully count as subjects. As Charles Taylor observes in his landmark essay 'The politics of recognition': 'Nonrecognition or misrecognition can inflict harm, can be a form of oppression, imprisoning someone in a false, distorted, and reduced mode of being' (1994: 25). While within theories of social recognition, the concept is understood as inherently positive, Butler's intervention in this debate is characterized by pointing out that recognition is not only enabling, but also constraining, based as it is on social norms that structure the ethical encounter between subjects, and which influence what counts as recognizable and what does not. What this means is that subjects are differently perceived against 'schemes of recognition' that are already in place in societies, schemes that enable and disable recognition and thus function as constraining forces. Butler terms this structured encounter 'scene of recognition', which presupposes, she argues, a 'differential distribution of

1. See the study conducted by Krizhevsky et al., 'ImageNet Classification with Deep Convolutional Neural Networks', trained a large, deep convolutional neural network to classify the 1.2 million high-resolution images in the ImageNet LSVRC-2010 contest into 1000 different classes. The test data revealed errors of recognition that Louise Amoore draws on to think about how algorithms condense the features of a scene to an output of meaning (Amoore 2018; Krizhevsky et al. 2012).

recognizability' (Butler in Willig 2012). As she contends: 'the scene of recognition is set by the existing norms and powers, and the subject does not operate independently of what can become an object of recognition' (Butler in Willig 2012: 139). She further points out that recognition becomes a problem for those who have been expelled from the structures and vocabularies of political representation, and that without 'substantial recognition' lives are at risk.

What the notion of recognizability allows us to bring to the fore is the differential visibility produced by social processes that are embedded and replicated by technological means of recognition. It allows us to emphasize that visibility is not distributed equally in society, and consequently that invisibility from identification regimes is often an unequally distributed privilege that not all subjects can aspire to or benefit from. For instance, strategies rooted in concealment and camouflage, as ways to outsmart computational means of recognition, can often be premised on a generic, unmarked subject of 'prototypical whiteness' (Browne 2015: 26). Surveillance and recognition, however, are historically yoked to structural inequalities that determine that some bodies are more visible than others. Scholars such as Simone Browne, Shoshana Magnet and Kelly Gates have forcefully argued that surveillance technologies of rendering visible are historically rooted in social systems of discrimination that cut across the axes of race and gender (Browne 2015; Magnet 2011; Gates 2011). As Simone Browne has demonstrated, historical surveillance practices that can be traced back to the transatlantic enslavement trade have long subjected black bodies to a heightened visibility. What is crucial to note here is that such a differential visibility, while making racialized bodies highly visible, also invisibilizes them politically by rendering them as property, as 'undeserving of personhood' (Weheliye 2014: 11). What they emphasize, then, is that visibility does not affect subjects equally, and that computational technologies extend this differential and racialized visibility. Amazon facial recognition technology is a case in point. The question is not so much the need to improve the confidence score of the algorithm so that it recognizes and identifies people of colour more accurately, but to ponder on the consequences of such identification. Both the implications of an accurate and an inaccurate identification are riddled with problems, as they potentially generate unequal, material effects. As such, the racializing processes underlying algorithmic recognition have to be taken into account in any reconsideration of what it means to be visible or to claim invisibility under algorithmic life. Who can claim invisibility from computer vision algorithms, who can safely expose a massive personal archive to recognition algorithms, and who is allowed to claim a space of appearance outside the terms of computational control?

I find the notion of recognizability as 'a frame for seeing and judging' (Butler 2001: 23) useful to complicate and advance the understanding of algorithmic visibility and recognition. What I am interested in, then, is how algorithmic recognition occurs against the backdrop of such frames for seeing and judging, in what could be understood as a socio-technological scene of recognition. In other words, to repurpose Butler, algorithmic recognition does not operate independently of what can

become an object of recognition according to schemes of recognition already in place in society. The notion of recognizability thus points towards the social schemes of recognition that structure the encounter between subjects and technologies. At the same time, I am interested in the aesthetic conditions under which 'substantial recognition' can occur. How does substantial recognition look like and what politics of the image can be conceived under such conditions of algorithmic permeation?

Such questions have been at the heart of the work of American interdisciplinary artist Sondra Perry, who has been opening up important lines of inquiry with regard to the racialized and gendered visibility ushered in by pervasive computation, which I find productive to take into consideration in this context. Perry's practice is particularly concerned with exploring the intersections between race and digital media, whilst also imagining modes of existence and freedom within computational conditions. Importantly, I find, Perry's work offers thought-provoking avenues to conceptualize the stakes of visibility under algorithmic conditions in ways that gesture towards a political ontology of the image through which substantial recognition can be claimed. In dialogue with her work, and drawing on contributions from feminist and critical race theories, I submit here the possibility of a political ontology of the image premised on the intersection between computation and the markings of the flesh. In order to unpack the intersections between algorithmic recognition and social schemes of recognition, I revisit theoretical debates on racialized visibility within photography and film studies to show how racializing processes are inscribed in photographic and filmic ontologies that are extended by digital and algorithmic technologies. In reading through these debates, I make the point that visibility, as a racial formation, is always already subjected to an algorithmic logic. Through Sondra Perry's work, and in particular her mobilization of the Chroma Key technique, I examine how such algorithmic visibilities are constitutive of human ontologies, and propose a fleshy ontology of the image as one possible way of thinking through the stakes of visibility under algorithmic life.

My Life in the Sunshine: Black luminosity and race as algorithm

In the desktop film *Lineage for a Multiple-Monitor Workstation: Number One* (Perry, 2015), against a Chroma Key green background on the desktop, we see footage of Perry's family gathering in front of a house wearing green knitted balaclavas, while Perry, in and out of the frame, gives instructions to compose a group photo (Figure 1). After the shot is taken ('1, 2, 3, cheeeeese'), the audiofile of Roy Ayer's *My Life in the Sunshine* is opened and becomes a soundtrack upon the Chroma Key background. Throughout the film, the green masks are worn and taken off all the time, in between instructions and cues from Perry and the more or less unscripted and disorderly movements of everyday family life. In another scene, Perry gathers the family members around a table, asks them to agree on a song to sing (they sing 'Somebody Prayed for Me'), and to put on the masks. The on and off usage of the masks seems puzzling, as family members are

Figure 1: Sondra Perry, Lineage for a Multiple-Monitor Workstation: Number One *(still), 2015. Courtesy of the artist.*

identified or named over the course of the film in such a way that the masks are not covering anyone's identity, but nevertheless populate the screen image with its vivid green. Perry's video thus starts by opening up questions around visibility and possible ways to respond to pervasive modes of identification. Rather than used as means to evade the heightened visibility enabled by computational technologies, Perry's masks seem to gesture towards the broader processes of social recognition that shape our encounters with technology, and the aesthetic possibilities available beyond tactics of evasion and obfuscation.

Perry's video works and installations are often set against a background – not only within the videos themselves but also when installed in the exhibition space – painted Chroma Key blue or Chroma Key green, the colours traditionally used to superimpose a background into a film. Within video production and post-production, the Chroma Key functions as a blank slate upon which anything can be projected as a backdrop for characters and events to unfold. Perry's Chroma Key green and blue however, rather than standing for a blank slate, could be read as the historical background and the social schemes of recognition that continue to shape and inform the space of appearance for specific subjects, in particular how racialized subjects are rendered visible and recognizable within a set of deep-seated norms that often remain unspoken, unseen and unacknowledged. In other words, the Chroma Key actually shows that there is no such thing as a blank slate, and that subjects become recognizable through the operations of norms that structure the scene of recognition. The one and off usage of the masks thus seems to indicate that even when wearing a mask, racialized communities are subjected to other forms of recognition that operate structurally, social forms of recognition that cannot be circumvented by camouflage.

The Chroma Key is in many ways evocative of Simone Browne's conceptualization of hypervisibility. In *Dark Matters*, Browne details how historical surveillance practices, such as lanterns laws in colonial New York city,[2] have long subjected black bodies to heightened and differential visibility, what she terms 'black luminosity' (2015: 67). This light, she claims, shines more brightly on some than others. This hypervisibility of racialized bodies, in particular black bodies, seeks to maintain the boundary between blackness and whiteness, boundaries that distinguish those deemed human from the non-human. Following Saidiya Hartman, blackness is understood here 'in terms of social relationality rather than identity; thus blackness incorporates subjects normatively defined as black, the relations among blacks, whites, and others, and the practices that produce racial difference' (1997: 56). Moreover, as Alexander Weheliye defines it, 'blackness designates a changing system of unequal power structures that apportion and delimit which humans can lay claim to full human status and which humans cannot' (Weheliye 2014: 3). What this means in this context then, is that technologies of seeing – such as the candle lantern – are complicit in this demarcation of human ontologies, in that they demarcate those within and outside the racialized category of the human (Walcott 2014; Weheliye 2014).

2. Eighteenth-century laws in New York required black, mixed-race, and indigenous enslaved people to carry lit candle lanterns when walking in the city after sunset, unaccompanied by a white person.

Such differential visibility enabled by technologies of seeing, Browne argues, is extended and maintained through digital media and computational technologies that reproduce 'black luminosity' through practices such as biometric identification, but one could also mention machine learning, data analysis and algorithmic sorting more broadly (Amaro 2016; Noble 2018). Black luminosity thus helps us understand the racialized terms that govern recognizability, that is, how specific groups are recognized and misrecognized through racial norms that operate unevenly. Such norms determine that technological recognition does not function equally but differentially, given that these norms structure the field of visibility.

A crucial example of this hypervisibility and its differential terms of recognition can be found in the Rodney King trial that motivated a debate around what constitutes visual evidence, a debate that is worth revisiting here as it allows us to discern perceptual continuities between different media. In 1991, African-American construction worker Rodney King was beaten by LAPD officers while a civilian, George Holliday, filmed the incident from a nearby balcony and later sent the footage to local news station KTLA. The four police officers involved in the beating were subsequently charged with assault and use of excessive force, and later acquitted despite the recorded video evidence that showed a man being beaten repeatedly, brutally and without signs of visible resistance. The officers testified that they tried to physically restrain King prior to the starting of the videotape, but King was able to physically throw them off. Instead of evidence of the brutality against Rodney King, the video was thus read as a lawful containment of a threatening black male body that endangered police officers. Many commentators have asked how an apparently unambiguous recording could have resulted in such a reading. As poet Elizabeth Alexander asked:

> What collective versions of African American male bodily history do different groups of viewers, then, bring to George Holliday's 81-second videotape of Rodney King being beaten by four white Los Angeles policies officers while a crowd of other officers watched?
>
> (1994: 79)

In her discussion of the case, Butler famously claims that such a reading of the video was made possible by a 'racially saturated field of visibility' and that the racism that pervades white perception interprets visual evidence in advance, structuring what can and cannot appear within its horizon (Butler 1993: 15). The trial, Butler adds, called to be read 'not only as an instruction in racist modes of seeing but as a repeated and ritualistic production of blackness' (1993: 16), as a demarcation and reiteration of the limited possibilities in which blackness can be seen and recognized in social life. As Elizabeth Alexander also remarks, pointing towards the different racialized imaginations brought to the viewing of the case, a 'metaphorization of the black male body had to have been already in place' (1994: 79).

Several aspects of this discussion remain relevant to problematize the stakes of visibility under algorithmic life. For one, as Butler famously contends, 'the visual field is not neutral to the question of race; it is itself a racial formation, an episteme, hegemonic and forceful'. This point marks the impossibility of a blank slate, of a neutral scene of recognition even if it is the result of algorithmic processes, which Sondra Perry's Chroma Key gestures towards, as a background that is always already structured by possibilities for appearance. But there is also another point to be made here which ties to my initial considerations on how the algorithm recognizes the dalmatians over the cherries, that is, how the algorithm surfaces its own point of interest in a scene (Amoore 2018). In her discussion, Butler speaks of two possible interpretations of the video that generate a 'contest within the visual field, a crisis in the certainty of what is visible' (Butler 1993: 16). If the trial decided for the reading of the video that construed King as the agent of violence, instead of a man being brutally beaten, one could argue that there is an 'algorithmicity' (Schuppli 2016) already at play in the scene of recognition, where a racist episteme surfaces the point of interest in a scene, a scene which is always already circumscribed by the workings of race that constrain what it means to see. While it has been established that computational technologies writ large, from machine learning and algorithmic sorting, reproduce racism through many processes, including the limited training sets from which algorithms learn, what I would like to emphasize here is how race runs on an algorithmic logic that surfaces a target and generates its own point of interest within the visual field. Here I extend Wendy Chun's known formulation of 'race and/as technology', through which she invites us to shift the focus from race as representation to race as a category that organizes perception, and to frame the discussion around ethics rather than ontology, to see race as 'a question of relation, of an encounter, a recognition, that enables certain actions and bars others' (Chun 2009: 23). Expanding this notion, I suggest that 'algorithmic visibility', understood as the process through which certain things are rendered more visible than others through algorithms, does not radically change established notions of visibility. Visibility, as a racial formation, is already pervaded by an algorithmic logic, insofar as race enables certain actions and recognitions while barring others. For racialized subjects visibility was always already subjected to a 'crisis in the certainty of what is visible' (Butler 1993: 16). The differential recognizability that structured the scene of recognition is now, with algorithmic processes, recast in new ways. Perry's Chroma Key backgrounds, and the black lives that unfold upon them with intermittent Chroma Key masks, signal towards the histories of racialized recognition that structure their appearance and the way computation reanimates the algorithmic logic of racial recognizability.

One of Wendy Chun's claims is that one of the affordances of thinking race as technology, as relational instead of ontological, is that it makes possible new modes of agency and causality by making race do different things. Race, she contends, can be considered as 'a technique that one uses, even as one is used by it' (Chun 2009: 7). This consideration opens up other possibilities to think

through race and technology that also come through in Perry's work, as I shall examine in the next section through an incursion into photographic and filmic ontologies.

Viscous dreams of life: Towards a fleshy ontology of the image

In her analysis of the Rodney King video, Butler points to how the racism that structures 'white perception' disqualifies visual evidence as an efficient mode of establishing racist violence:

> To the extent that there is a racist organization and disposition of the visible, it will work to circumscribe what qualifies as visual evidence, such that it is in some cases impossible to establish the 'truth' of racist brutality through recourse to visual evidence. For when the visual is fully schematized by racism, the 'visual evidence' to which one refers will always and only refute the conclusions based upon it; for it is possible within this racist episteme that no black person can seek recourse to the visible as the sure ground of evidence.
>
> (Butler 1993: 17)

Butler's questioning of the visible as ground for evidence within a racist episteme is indicative of the fraught relationship between race and technologies of seeing, and 'the ways in which documentary photography has inadequately represented black life' (Alexander 1994: 93). This historical inadequacy is also important to revisit in order to understand the stakes of visibility under algorithmic conditions. For it is in this inadequacy, I would like to suggest, that possibilities for doing different things with race might materialize.

The history of the photographic and electronic imaging of black skin is, so to speak, the reverse image of black luminosity: while black people have been subjected to heightened forms of exposure and surveillance, the photographic and filmic media, premised as they are on prototypical whiteness, were never especially suited to photograph black skin. In a text about American photographer Roy DeCarava, Teju Cole details how film emulsions were generally calibrated for white skin and thus had limited sensitivity to other skin tones. Light metres tended to underexpose dark skin, and for many years, from the 1940s onwards, Kodak's film-developing units came with 'Shirley cards', a test image named after the white model who was featured on them and whose skin colour was marked on the cards as the 'normal' standard for calibrating colour (Cole 2015; see also Roth 2009 and Menkman 2018). This material inadequacy was also deplored by Godard who in the late 1970's was invited to Mozambique to start a television station for the new government of Samora Machel. Godard famously refused to use Kodak film, claiming that it was fundamentally racist. According to Kodak's institutional memory, it was only when manufacturers of wooden furniture and dark chocolate complained they could not adequately photograph their products that the company began

devising a new range of film with which, internal descripts guaranteed, one could 'photograph the details of a dark horse in low light'. What these examples show is that the illegibility of blackness is not a mere technical error, nor is privileged whiteness a mere object of representation, but part of our very 'condition of seeing' (Yoon 2018: 78).

Coupled with this material condition, another way the photographic and filmic media have been inadequate in documenting black life has to do with the spectacle of black suffering and the predominance of offensive and racist imagery in popular culture. In her discussion of the case, Elizabeth Alexander refers to the Rodney King beating as 'an event in an open series of national events' that can be traced to the 'spectacular slave violence' constructed by white viewers (1994: 81).[3] Saidiya Hartman terms these instances or events 'scenes of subjection', scenes which are routinely and casually reiterated, reinforcing the spectacular character of black suffering. Importantly, and beyond the shocking spectacle of black pain, Hartman draws attention to scenes in which terror is more difficult to discern, 'the terror of the mundane and the quotidian' (1997: 4), such as minstrel shows or the very constitution of humanity and slave law, through which subjugation is routinely enacted. Such scenes of subjection, both spectacular and mundane, come to delimit the possibilities for black life to appear.

The predominance of subjugation and suffering in the documentation of black life offers ground to question the indexicality of the photographic and filmic medium. In a reading of Spike Lee's *Bamboozled* (2001), a satire about a modern televised minstrel show that mobilizes many of the racial stereotypes that dominate popular culture, film theorist Kara Keeling takes issue with Lev Manovich's idea that the rise of digitization undermines cinema's identity as an indexical media technology. According to Manovich, the digital regime of the image throws cinema into an identity crisis by questioning the filmic image's direct reference to 'prefilmic reality'. While the filmic image claims to be an index of that reality, thus encouraging identification between the image and its referent, the digital image complicates the idea of direct reproduction of the real by questioning the very notion of a prefilmic reality to which the digital image might lay claim (Keeling 2005: 238). Bearing in mind the scenes of subjection that populate visual culture (and that Spike Lee's *Bamboozled* critically recycles), what Keeling contends is that the indexicality of the filmic medium was always in crisis for black subjects, as the prefilmic reality was always radically incommensurate, for it did not coincide, with black people's lived experience and understanding of that real. Indexical media were thus never indexical to begin with or, put in other words, the regime of indexicality was never a neutral condition of seeing, but the result of a 'photochemical imagination' (Raengo 2013) premised on anti-blackness.

Keeling's argument further substantiates Butler's insight that the visible does not offer sure ground of evidence for black people given this radical incommensurability between embodied and represented life. Such questioning of indexicality further complicates the reliance of colonialist discourse on vision as a privileged site of access to knowledge about racialized others. If the modern concept of race is premised on an epistemology of visibility, but the visible is racialized and thus

3. In *Picture Freedom*, Jasmine Nichole Cobb traces the emergence of a black visuality decoupled from the cultural logics of slavery within nineteenth-century visual culture, detailing how popular culture also offered a venue for visual emancipation and self-fashioning of the free black body (2015).

insufficient ground for knowledge (Chun 2009: 20), then there is a gap between subjects and their representations that might open up possibilities for escape. This possibility is also harboured in Keeling's argument, when she points out that the black image in film (we could add photography as a presumed indexical medium) has always operated according to the very characteristics of the digital, suggesting that digitality and blackness share common traits. What Keeling's argument gestures towards is that given the historical inadequacy of indexical media to document black life, the digital might be harnessed to craft different worlds and 'dreams of freedom' (Kelley 2002) that are not bound to presumedly indexical demands. Here it is worth extending Saidiya Hartman's definition of blackness as 'a social relationship of dominance and abjection and potentially one of redress and emancipation' (1997: 57), and recalling Rinaldo Walcott's understanding of blackness 'as a sign, one that carries with it particular histories of resistance and domination' (Walcott 2003: 132). The affinity between blackness and the digital (or technology more broadly) has been consistently noted and explored by Afrofuturists among others, echoed for instance by artist Aria Dean when she writes: 'blackness was always ahead of its time, always already a networked culture and always already dematerialized, thanks to the Middle Passage' (2018: 6). Sondra Perry's work is firmly situated within a black digital practice that fully embraces both race and the digital as techniques that one uses, even as one is used by them, energized as it is by the desire to disassemble and mobilize blackness (as resistance and domination) towards new modalities of existence.

In this sense the Chroma Key emerges as a space where imagining can happen, a space to craft new worlds that reimagine the intersection of blackness and visibility. While Perry's work points to how social schemes of recognition limit the terms of recognizability for black subjects, it also offers a space to reconceive the terms and conditions within which subjects become recognizable. As a desktop film, *Lineage for a Multiple-Monitor Workstation: Number One* offers a compelling example, as the video is conceived and presented as a making-of, where the juxtaposition of video and sound files against a Chroma Key green showcases the possibility of assembling and disassembling scripts, of adding, subtracting and multiplying the possibilities of one's image, of reconstituting one's subjectivity in ways that trouble the socio-technological scene of recognition. The video thus circles around storytelling and the stories Perry's family tells and retells in different versions, blending memories (already traversed by imagination, individual and collective) and fiction. As Perry elucidates in conversation with artists Arthur Jafa and curator Dean Daderko:

> That way of inventing a story is part of the reason I started working with my family. I realized that they were really good storytellers. I just think back to being young and listening to the same stories at family events. I'd recognize how those stories would change over the course of ten years or so. It relates to how we move through the world.
>
> (Perry quoted in Daderko 2017)

Those ever-shifting stories and the way they elude fixation come together with Perry's editing of the film as we are watching the footage that constantly defies and defers resolution or a final coherent shape.

Perry's Chroma Key thus functions as a space where the tensions inherent to visibility are generatively embraced, a space that confronts 'our simultaneous desire for visibility and awareness of the violence it brings' (Dean 2018: 15). Towards the end of *Lineage for a Multiple-Monitor Workstation: Number One*, as we watch the family leaving the room where they gathered around the table, we hear Perry's grandmother over the phone singing 'The Guns of Brixton'. As the video draws to a close, interspersed with the grandmother's laughter, the verses 'Shot down on the pavement / Waiting in death row / His game is called survivin' / As in heaven as in hell / You can crush us / You can bruise us / But you'll have to answer to /Oh, the guns of Brixton', perform a kind of ritual that blends the mournful and the joyful, running counter to the repeated and ritualistic scenes of violence privileged by white perception.

In her later video *Resident Evil* (2016), a centrepiece to her eponymous exhibition at The Kitchen in New York, Perry most directly engages with the mediatized documentation of black death and the politics of viewing that structures its circulation and spectatorship. Displayed in a monitor installed on top of a credenza, which situates it in the viewing context of a living room, the video begins over a Chroma Key blue screen with an audio interview with Ramsey Orta, who recorded the death of his friend Eric Garner under the custody of NYPD in 2014. The video further incorporates audio recordings of Korryn Gaines narrating her own impending death over Instagram in 2016, as well as footage of Kwame Rose's encounter with Fox News host Geraldo Rivera at a protest in Baltimore following Freddie Gray's funeral. The video juxtaposes Fox News's broadcast of the protests, where the news desk refers to the protesters as 'vandals', with a citizen's video of the same event showing Kwame Rose asking Rivera to have a conversation about the biases of Fox News. The video cuts to black as Rose asks onlookers to stop recording, hoping to have the conversation without any cameras, in a clear indication of the limits of sousveillance.[4]

Reproducing a series of 'national events' that amplifies and replays, through virality, the traumatic depiction of black death, the video is displayed against another work in the background, *TK (Suspicious Glorious Absence)*, a Chroma Key 'skin wall' in which a close-up, digitally animated image of Sondra Perry's own skin is projected on a massive surface. Perry thus juxtaposes the visual history of brutalization of black people with the racialized materiality of technologies of seeing in a way that viscerally renders their mutually enhancing imbrication. In order to view *Resident Evil*, sitting on the plastic-covered couch, the viewer will always have to face that fluid lava-like skin as a backdrop. By animating her own skin, Perry renders visible and visceral how race is inscribed in digital technologies, how black skin and flesh are the very 'connecting tissue' of technologies and not merely their representational surface (Perry 2018), as if the interface through which our encounters with technology take place is suddenly fleshed out and the fleshy materiality and labour that sustains it is laid bare.

4. For a detailed analysis of the limits of sousveillance and its incorporation by twenty-first century policing see Beutin's argument, who proposes the term 'racialization as a way of seeing' as a historical formation that brings together the history of policing, the development of visual epistemologies, and the history of the naturalization of the criminality of blackness. Beutin argues that the optimism of the counter-surveillance discourse has been co-opted by the state into consent for police worn cameras, whose footage works to relegitimize police and the state against black life (Beutin 2017).

'Chroma key blue and green are supposed to represent skin tone, but we ask whose skin tone?', the artist questions. Perry recounts being moved by Arthur Jafa's cinematography in Julie Dash's *Daughters of the Dust* (1991), which is known for vividly depicting intense dark skin tones through natural lighting, countering film stock's prototypical whiteness and the idea that natural light disfavours darker skin tones (Perry quoted in Kleigh 2018). In a similar gesture, Perry literally amplifies her skin to turn it into an emulsion-like substance which forges its own materiality, as if dispensing with the available material media of representation. As Perry has noted: 'in order to avoid White normativity, I prefer to disassemble my own body. To take my skin, reanimate it into fluid waves' (Perry quoted in Daderko 2017).

Perry's fleshed out installations potentially direct us towards a different political ontology of the image than the one structured by white perception. In her reading of the Rodney King case, Elizabeth Alexander notes how the bodily experience of African Americans, both individually experienced bodily trauma and collective cultural trauma, 'comes to reside in the flesh as forms of memory reactivated and articulated at moments of collective spectatorship' (1994: 80). Scenes of communally witnessed violence in slave narratives, she argues, are inscribed in African American flesh and reactivated during the viewing of ritualized – and now viral we could add – scenes of black subjection. Yet, this bodily knowledge is disavowed by the sanctioning of brutality against black bodies, whereby a national narrative talks 'black people out of what their bodies know' (Alexander 1994: 93). Alexander here explicitly draws on Hortense Spiller's important reflections on 'body' and the 'flesh', a distinction that demarcates free and captive bodies:

> But I would make a distinction in this case between 'body' and 'flesh' and impose that distinction as the central one between captive and liberated subject-positions. In that sense, before the 'body' there is the 'flesh,' that zero degree of social conceptualization that does not escape concealment under the brush of discourse, or the reflexes of iconography. Even though the European hegemonies stole bodies – some of them female – out of West African communities in concert with the African 'middleman,' we regard this human and social irreparability as high crimes against the *flesh*, as the person of African females and African males registered the wounding. If we think of the flesh as a primary narrative, then we mean its seared, divided, ripped-apartness, riveted to the ship's hole, fallen, or 'escaped' overboard.
>
> (Spillers 1987: 67, original emphasis)

Spillers refers to the processes through which subjects are turned into flesh by way of 'lacerations, woundings, fissures, tears, scars, openings, ruptures, lesions, rendings, punctures' as 'hieroglyphics of the flesh' (1987: 67). These 'undecipherable markings on the captive body', she posits, might be transferred to subsequent generations of black subjects who have been nominally liberated and

granted body in the aftermath of legal slavery. As Alexander Weheliye explains, the hieroglyphics of the flesh do not simply disappear once affixed to legal personhood – the body – after the abolition of slavery, but rather endure as a naturalized marking that sustains racial hierarchies. This continuous becoming-flesh of the body, through ritualized violence and precarization, defies the nominal freedom granted by law. As Weheliye puts it, 'the flesh resists the legal idiom of personhood as property' (2014: 44).

Perry's installation thus incorporates the cultural memory that resides in the flesh by rendering it as a new materiality through which to appear in the world. Yet Perry's skin and flesh are not presented as static materiality, but as a fluid wavy substance that defies fixity. Animated with an open-source program, her skin is let loose like the source code:

> I animate it with a 3-D rendering program called Blender that's open source. You don't have to install it on your computer in order for it to work, which is important to me because I'm such a transient being. I put the program on a zip drive that I can pick up and take somewhere else. It's important to me to have this kind of mobility, conceptually and actually. I'm interested in taking what I have, no matter how traumatic or joyful, and seeing where it goes.
>
> (Perry quoted in Daderko 2017)

In this becoming-flesh as open source resides Perry's potential for an alternative political ontology of the image, one that challenges the racialized parameters of visibility that structure visual events, and one that acknowledges the flesh as a source for rethinking the racist disposition of the visible. The flesh as transient open source opens up 'possibilities for fugitive acts of escape' (Browne 2015: 164), acts that do not merely evade systems of capture but productively sloshes through them to imagine different lives that do not cohere to the available schemes of recognition. Such acts of escape are not to be mistaken with individualized 'exit fantasies' of unplugging, retreating or withdrawing (Sharma 2017), as those are the privilege of the very few, but rather as movements that displace the centrality of the liberal subject to whom recognition is granted by default, in order to craft other worlds where the flesh is the very venue of subjectivity.

In his theory of 'racializing assemblages', drawing on Hortense Spillers and Sylvia Wynter, Weheliye places the flesh at the centre of his conceptualization of the notion of the human, proposing the term 'habeas viscus' as an alternative (or a corrective) to 'bare life'. Arguing that the becoming-flesh of the racialized body is what allows for the liberal white (male) subject to become the sole and universalized figure of the human, Weheliye proposes to 'fully inhabit the flesh' as a form of displacing Man (the human liberal subject) as the sole bearer of human subjectivity. Drawing on Wynter's notion of 'genres of humanity', Weheliye sees in the flesh the potentiality for human genres other than the one legally sanctioned and naturalized as Man. By fully inhabiting the flesh, he claims,

one might 'acknowledge the social life found in the circles of sorrow around political violence' and make ways for 'a different modality of existence' (Weheliye 2014: 112). Importantly, the flesh does not cease to carry the markings of violence to lay claim to personhood; rather, it is from the bodily, fleshy and visceral knowledge of past and present subjection that freedom can be enunciated and enacted, as Christina Sharpe submits:

> Those blackened bodies become the bearers (through violence, regulation, transmission, etc.) of the knowledge of certain subjection as well as the placeholders of freedom for those who would claim freedom as their rightful yield. Put another way, the everyday violences that black(ened) bodies are made to bear are markers for an exorbitant freedom to be free of the marks of a subjection in which we are all forced to participate.
>
> (2010: 4)

Similarly, the digitally rendered fleshiness of Perry's images does not leave behind the wounding inscribed upon the body. Hers is not a project of technological enhancement or a fantasy of dematerialization to transcend the body; rather, the flesh is both bearer of subjection and source (code) of freedom. In a 'space of post-production', Perry acknowledges, 'all of those problematics and possibilities are present' (Perry quoted in Kleih 2018). In *Graft and Ash for a Three Monitor Workstation* (Figure 2), one of the pieces in the *Resident Evil* installation, a video mounted on a bicycle workstation welcomes visitors with an avatar of Sondra Perry who introduces herself in the following way:

> We're the second version of ourselves that we know of. We were made with Sondra's image, one of them captured with a SONY RX100 under fluorescent light at her studio in Houston Texas on April 15 2016. We were rendered to Sondra's fullest stability but she could not replicate her fatness in the software that was used to make us. Sondra's body type was not an accessible pre-existing template.

The video's background alternates between the Chroma Key blue and the fluid wavy skin that becomes the 'fleshy tissue' for other, unavailable, perhaps incomputable worlds of possibility.[5] Perry's avatar speaks to how the digital and the flesh become the sites for imagining 'new genres of being human' (Wynter 2007: 112) and modes of freedom untethered from the available modalities of subjectivity. The inability of Perry's body to conform to an existing template fully resonates with Fred Moten's definition of blackness as 'an irreducibly disordering, deformational force' (2008: 180). The shared condition of blackness and the digital is then harnessed towards an ontology of the fleshy image in which freedom resides in and is claimed from the markings of subjection. 'We have long been digital', claims Aria Dean, '"compressed, reproduced, ripped, remixed" across time and space'

5. Luciana Parisi defines the 'incomputable' as the 'algorithmically random result of the binary expansion of an algorithmic sequence' (2013: 262). See also Majaca's and Parisi's formulation of an 'incomputable subject' (2016).

Figure 2: Sondra Perry, Graft and Ash for a Three Monitor Workstation *(2016), video, bicycle workstation, 9:05 min;* Resident Evil *(2016), 3D animation created with Blender open-source software, video on monitor on credenza, 17:29 min;* Historic Jamestowne: Share in the Discovery and Take Several Seats *(2016), used couch, S Curl Activator, spray paint, vinyl cover, cinder blocks. Image credit: Jason Mandella. Courtesy of the artist.*

(2018: 15). Against the Chroma Key blue, Perry's flesh becomes fluid, transient and agile, streaming 'viscous dreams of life' (Weheliye 2014: 124) illegible to pre-existing templates.

(Open) coda

The imagining of new worlds and dreams of freedom illegible or imperceptible through existing idioms and schemes of recognition cannot but take us back to the notion of opacity. In a recent artist talk about his video installation *Purple* (2017), filmmaker John Akomfrah summarized his *oeuvre* as an attempt to answer the question of how to attain opacity while simultaneously 'stressing our presence'. Informed by Martinican philosopher and poet Édouard Glissant, opacity is meant here as an ontological condition whereby the subject is seen and recognized but not legible, captured or appropriable. Opacity is also one of the conditions for recognition as conceptualized by Judith Butler. In 'Giving an account of oneself', Butler refers to opacity as an 'excess' that falls outside the terms of identity, that fails to or refuses to be captured, as an answer to a question that remains unsatisfiable:

> As we ask to know the Other, or ask that the Other say, finally, who he or she is, it will be important not to expect an answer that will ever satisfy. By not pursuing satisfaction, and by letting the question remain open, even enduring, we let the Other live, since life might be understood as precisely that which exceeds any account we may try to give of it.
>
> (Butler 2001: 28)

Recognition as an ethical stance must remain unsatisfiable, and recognition that works to capture undermines the very conditions of recognition itself. As such, substantial recognition, one that lets live, is only possible through opacity.

This opacity as unsatisfiable recognition does not necessarily translate into a literally opaque aesthetics premised for instance on low resolution, cloudiness, camouflage and masking, although it might. Sondra Perry's work offers one possible way to conceptualize and materialize opacity that does not operate through evasion or masking, but rather thinks through recognition as 'a position where one can make a claim instead of being exclusively claimed' (Stanley 2017: 617). This position to make a claim from is carved out from the flesh, the connecting tissue that organizes perception, the venue of both subjection and the possibility of life and freedom. Perry's opacity is forged not in withdrawal or obscurity but in a mode of visibility that allows for escape and fugitive dreams, a visibility where one can 'be seen without being known' (Stanley 2017: 618). The rethinking of visibility prompted by algorithmic life can thus be taken as an invitation to reconsider the conditions of seeing and appearing that have governed entrenched notions of visibility, in particular how race but also

gender function as an organizing optic that demarcates the body from the flesh. With Sondra Perry, the flesh provides the ground for a political ontology of the image where other humanities can be claimed and materialized as open source and fluid waves. Ultimately, Perry's work compels us to conceptualize visibility as compatible with opacity, as a site where substantial recognition can be strived for rather than confiscated, where deformational uncertainty can be cultivated against the drive for calculation, and where vulnerability, rather than exploited and disavowed, can be a powerful driver of collective mobilization under algorithmic life.

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