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Automated Visions, Algorithmic Imageflows: The Technopolitics of Black Lives Matter Videos on YouTube

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Abstract

This essay considers how mechanisms of machine vision intervene as forms of "social sorting" and subject formation in the context of YouTube's algorithmic flows of images. Too often, algorithms are treated as neutral, unbiased processes. In reality, many algorithms reinscribe and reinforce human biases. This essay focuses on the power of YouTube's algorithms to shape viewers' understandings of the Black Lives Matter movement, focusing specifically on what Chris Ingraham calls the micro-rhetorical tier of algorithmic processing. The essay employs critical cultural studies methods to rigorously contextualize and compare case studies of algorithmically-suggested content connected to pro-Black Lives Matter videos. In this context, I argue that these automated flows of images become less about what any specific video shows about the need for radical socio-political change and more about the articulation of an idealized viewing position and idealized viewing subjects.

Keywords

algorithms; YouTube; Black Lives Matter; social movements; digital media

In the early hours of New Year's Day 2009, a transit cop shot and killed Oscar Grant on a subway platform in Oakland, California. Grant was unarmed. There is no evidence that he was

posing any threat to the officer. At least five cell phone videos of the incident taken by other subway passengers show that Grant was lying face down with his hands behind his back and another officer's knee holding his head against the ground when he was shot. Without video evidence of this event, it might be hard for the portions of the general public who do not experience police terror on a regular basis to believe that it happened at all. With video evidence, though, it became undeniable. Still, even with an abundance of publicly available audiovisual evidence, the officer who killed Grant served less than two years in jail on a charge of involuntary manslaughter. Grant's death and the incongruity of the crime's severity with the killer's sentence sparked three founders of Black Lives Matter, Alicia Garza, Patrisse Cullors, and Opal Tometi, to begin organizing around racial injustices in policing during an era when many pointed to the election of Barack Obama as evidence that the US had become a "post-racial" nation that had moved beyond the need to critically examine issues of race (Segalov).

Such videos can help spread awareness and engage viewers who might not otherwise be moved to act (Malkowski). Bay Area broadcast station KTVU-TV posted cell phone videos it received to its website, where they were viewed nearly half a million times in just a few days after Grant was killed by the police (Stannard and Bulwa). An annotated version of one of the videos was posted to YouTube, where it received more than one thousand views per hour on average for the first week after Grant's death. As Jennifer Malkowski argues, YouTube played a primary role in making videos of Grant's death not just available but spreadable.

To consider YouTube videos as self-contained texts whose power exists exclusively in their ability to represent events, though, would be to overlook the platform's role in doing what its affordances and economic conditions dictate it must do: produce audiovisual flows capable of holding viewer attention, then hold that attention as long as possible in order to commodify it

and transform it into revenue. Part of the way YouTube does this is through its default autoplay function combined with its recommendation algorithms. Through these, the platform produces audiovisual flows. The representational components within any given video become secondary to the flow's capacity to modulate affect. The social imaginaries produced by these audiovisual flows, then, are also not reducible to the representational production of meaning within any given video. The platform produces a social imaginary of its own. What are the political horizons of this imaginary? To what extent is it able to redirect energy and attention away from the political horizons envisioned in any given video?

This essay seeks answers to these questions by interrogating the automated audiovisual flows that the platform produces in response to the input "Black Lives Matter." I examine the micro-rhetorical effects of the platform through the lens of a materialist approach to media in order to investigate representational effects as one subset of material effects produced by and through the platform. Specifically, I focus on the boundaries between representational and non- or super-representational effects as well as the crossing and, in some cases, erosion of these boundaries. I consider how mechanisms of machine vision intervene as forms of "social sorting" and subject formation in the context of YouTube's algorithmic flows of images and how these flows express the power of YouTube's recommendation algorithm to shape viewers' understandings and affective predispositions toward the Black Lives Matter movement. In this context, I argue that these automated flows of images become less about what any specific video has to say about the need for radical socio-political change and more about the viewing subject: the articulation of an idealized viewing position—a seemingly omniscient position that exists as an assemblage distributed across the "machine" of internet infrastructures—as well as the articulation of an idealized viewer that interpellates any actual viewers. This process automates

the production of a capitalist realism that fundamentally limits the potential of social movement discourses to bring about change. I examine this phenomenon through what Félix Guattari calls a "non-reductive pragmatic analysis" aimed toward better understanding the "economy of desires in the social field" produced on YouTube in part through its use of recommendation algorithms and endless flows of images stitched together by its autoplay function (*Lines of Flight* 9).

Beyond Representation: Data, Flows, Affect

Too often, algorithms are treated as neutral or objective processes that are somehow free of bias. In recent years, there has been a wave of scholarship that is working to debunk that misconception, but the misconception remains—especially in popular discourses (Eubanks; O'Neil; Gillespie; Vaidyanathan). Safiya Umoja Noble's work has been particularly important in not just drawing attention to the biases of algorithmic processes but also to their power to reinscribe racist narratives and ways of thinking. To understand how such processes play out within YouTube's algorithmic ecology, the next section will focus specifically on what Chris Ingraham calls the micro-rhetorical tier of algorithmic processing by providing close readings not just of texts themselves but of the automatic connections between videos that the platform makes as well as the way that the platform blends audiovisual materials together to manufacture automated flows.

Joining together videos through automated processes creates juxtapositions based not on the content of the videos but on metadata created from tracking past viewers' engagement with each video. That metadata suggests some filiation between videos based on past viewers' habits taken in aggregate. This process, then, creates an ideal viewing subject that is an amalgamation of all past viewers. This articulation of an imagined ideal viewer is particularly powerful when it comes to political nonfiction videos. YouTube's interface constructs a passive viewer who

observes rather than acts. The platform's logics imagine the ideal viewer to be someone who makes no decisions apart from selecting an initial video to watch and allows the algorithms to determine their unending flow of content for them.

There are, of course, key differences between the sort of flow we experience on YouTube and televisual flow as Raymond Williams first considered it. The two most significant differences are the automatability of YouTube's flows as well as the disconnect between video creators and the programmers who write the code that automates the flow. In television, the imagemakers and flow-constructors would be working within the same institutions, aware of one another and capable of interacting directly. In the case of YouTube, the person who creates the image, the person who uploads it, and the many different people who write the code all exist in their own places and times. They may have no knowledge of one another, much less any ability to communicate directly with one another in order to exert some limited agency over how their work fits into the larger flow of images. In other contexts, algorithmic editing is used to interrogate the performative aspects of software (Enns). The default sort of algorithmic "editing" that YouTube generates, however, is not developed by artists or activists but by software engineers. They are not incentivized to explore or critique but to maximize the ability for the platform to capture the attention of users and ultimately monetize that attention. It is this overarching reduction to capitalistic capture that forms the basis of Alex Juhasz's critique of YouTube: even in the best of circumstances, any activist video on YouTube is being mobilized to serve the interests of private industry at least to some extent. This criticism is similar to what Jodi Dean suggests about all forms of user-generated content on the web: no matter the aims of a particular video, tweet, blog post, or picture, the affects produced by their transmission are inevitably captured by consumer capitalism and further reinforce its power.

Taking any given video that YouTube returns in a search for "Black Lives Matter" as a starting point, the automated flow of videos quickly moves away from—or many times directly against—the Black Lives Matter movement. In the hundreds of times I began with a pro-Black Lives Matter video and tracked the flows that followed from it, these algorithms almost never directed me to more than one other overtly pro-Black Lives Matter video. Instead, the flows tended to move quickly toward content that explicitly opposed the movement. Often, these flows became saturated with remediated clips from twenty-four hour cable news programs, especially FOX News. This is consistent with existing findings that videos from accounts associated with mainstream media outlets, which consist almost entirely of television clips, have twenty-four times as many videos as accounts associated with the more overtly reactionary "YouTube Right" (Munger and Phillips). If I followed a flow for long enough, it often eventually moved on to other political issues that had been put on the public agenda by these traditional media giants and/or to topics that have nothing to do with the Black Lives Matter movement and that do not appear to be overtly political at all: shark attacks, discussions of whether or not a particular musician is overrated, and discussions of the Kardashians, for example.

Notably, my first foray through these algorithmic flows provided, in addition to cable news critiques of Black Lives Matter, critiques of the movement's tactics from people who presented themselves as generally sympathetic to the movement as well as critiques from the far right. One particularly troubling example, which has since been removed, came from a company called Florida Gun Supply. The video presents Black Lives Matter activists as "a gang." The host asserts that "we" need to stand up against this gang by arming ourselves and "carrying daily," presumably with guns purchased from Florida Gun Supply itself. Not all of the critiques were from the far right, though. There were also critiques from the far left in the case of one evening-

news-style segment from Maoist Rebel News. This critique comes to the conclusion that Black Lives Matter's tactics were fundamentally flawed because the movement lacks a strong central authority figure.

The overwhelming tendency within these algorithmic flows is to move toward de-politicized or counter-politicized messages. Doing so explicitly reframes the videos seeking to objectively or favorably represent the movement as outliers that are isolated and unworthy of further consideration. The platform does not facilitate discussion here. There is no genuine exchange of ideas between those who support and those who oppose the movement. Instead, the discourse that this movement is nothing but "thugs" and entitled radicals persists through what appears to be a preponderance of "evidence" provided through the flow itself. Even if a particular video crafts a perfectly flawless argument with substantial visible evidence, its capacity to persuade is limited when it is stitched together into an automated flow. In the most extreme instances, such flows contain one person after another reinforcing the already-dominant discourses around the movement. Even in the best cases, the flows present little to nothing that would enable the viewer to further explore the movement from the perspective of its participants.

At the most, the one video immediately following my chosen entry-point video contained a similar political formation of the truth that the movement seeks to address, though often even the very first algorithmically selected video departed significantly in terms of its framing of the movement or even its subject matter generally. There also appears to be a heavy bias driving the flow toward established media companies, which is also consistent with existing studies (Munger and Phillips). Often, these are video clips that remediate TV news (most often FOX News in my experiences immersing myself in this flow, but also frequently CNN, MSNBC, and CBS). Sometimes they are clips from other streaming media outlets like The Young Turks or

self-contained videos (not clips) produced by professional media companies like Pitchfork. In the cases of FOX News, The Young Turks, and Pitchfork, entering the flow of that particular media company provided no escape without human intervention. That is, once the algorithms drove the flow into one remediated FOX News clip, it seemed there was no choice but to swirl around in other FOX News clips indefinitely until the viewer stopped it. It appears, then, that there is a tipping point within these flows: they continue to present media that frames itself as nonfiction, but they move quickly and irreversibly toward anti-Black Lives Matter media, eventually to unrelated clips typically from professional media companies. Once each of those thresholds is crossed, it appears to rarely if ever go back. Of course, because YouTube's algorithms are proprietary, there is no way to know exactly how they function to process video and user data in developing these flows; we are instead left to infer their functionality from the traces of their processes that we receive as viewers. As the algorithms connect these videos by a logic based on the established "old media" institutions, it becomes clear that this process of flow is the antithesis of the movement itself. The movement is, after all, based on logics of decentralization, polyvocality, nonhierarchical organization, heterogeneity, and disruption.

There is risk in this flow of images, and that risk is magnified by the amateur status of so many creators of documentary work on YouTube. An activist's video in support of any aspect of Black Lives Matter risks having itself joined into a series of moving images in which it functions as an entry point into a world of self-regenerating consumer capitalism at best. More often, it is an entry point into a world of explicit hate and oppression. YouTube's algorithms are not solely responsible for these outcomes nor do they function in complete isolation: viewers must be complicit and accept the platform's enticement to passively accept the content it strings together. The algorithms capture, abstract, and distill datafied traces of past viewers' collective habits and

behaviors, then use such aggregates to automate the experiences of individual viewers in the present. In this way, they automate and inscribe hegemony at a scale that is removed from individual human sense perception. They inscribe their logics onto us as a collective, amorphous machine-imagined "community" of isolated users.

Automation and Algorithmic Control

Under Integrated World Capitalism, humans have ceded a great deal of control over our lives to automated decision-making processes (Guattari, *The Three Ecologies*). For example, algorithms increasingly manage the workplace by scheduling workers' shifts, surveilling workers on the job, quantifying attention in the form of a worker's "time on task" and flagging those who fall short for disciplinary action, and even making hiring and firing decisions (Todolí-Signes; Adler-Bell and Miller; Aloisi and Gramano; Rosenblat). While YouTube's recommendation algorithms are not making such decisions, this context nevertheless illustrates the power of algorithms not just to shape representations but to enact material changes that impinge on people's lives. With YouTube's joining of algorithmic recommendations with an autoplay system structured to create flows, the platform develops for itself a great deal of power to shape meaning as well as viewer experience beyond representation. As Stefania Milan put it, "No longer mere platforms, social media have become actors in their own right, intervening in the meaning-making process of social actors by means of their algorithmic power" (887). Social media recommendation algorithms, including YouTube's, have been connected with a rise in white nationalism and far-right politics (Daniels, "The Algorithmic Rise"). For example, white supremacist murder Dylann Roof's own manifesto describes his experience of searching for "black on white crime" and being directed toward white supremacist content as being an integral part of his developing a violent, reactionary political worldview (Daniels, "The Algorithmic Rise" 62). As Noble points

out, this is not an aberration but part of a larger tendency of internet algorithms to perpetuate racial bias and inequality ("Google Search").

Of course, algorithms are not the only aspects of digital media that are driving people toward white supremacist content (Daniels, "Race and Racism"; DeCook; Nagle). Celebrities within the alt-right media ecosystem play a major role in this trend by cultivating parasocial relationships with their audiences, then driving audiences toward other far-right figures (Lewis, "This Is What the News"). Becca Lewis's work mapping alternative influence networks on YouTube found that anti-feminist sentiment is a driver of radicalization across various political ideologies: for example, self-described "classical liberal" Dave Rubin's YouTube channel is only two degrees of separation away from white nationalist Colin Robertson's channel because they have both featured the explicitly anti-feminist Sargon of Akkad on their channels, thereby introducing the devoted followers of one channel to the other through their shared anti-feminism ("Alternative Influence" 11). The affective power of homophobic and anti-feminist sentiments appears to drive men toward white nationalism (Bjork-James). White nationalist videos on YouTube frequently attempt to cultivate fear around Muslims, immigrants, and feminists by explicitly foregrounding the perceived threats these groups pose to the status of white men (Hawkins and Saleem). Such connections have everything to do with the affective moods generated by the content of the videos as well as the circulation of such videos as they are shared on other social media platforms. Algorithmic recommendation, then, is but one vector in a larger cluster of quasi-causes driving this mainstreaming of white nationalist content.

Algorithmic filtering and recommendation are still important, though, particularly in the way that they carry the past forward into the future by their very nature. Their predictions about what will hold any given viewer's attention in this moment and into the next are necessarily

based on data collected from past viewers. This allows any social biases, values, or attitudes to be reflected in those suggestions. The algorithm's flows prescribe normative values: they convey a sense that this is what a normal viewer ought to want. This enacts a conditioning of desire that, while it may not be effective for most or even many viewers, is nevertheless present. Such an effect is particularly powerful when, in the example of searching for videos on "Black Lives Matter," one is presented in sequence with an endless flow of other concerns that, from the apparent perspective of the platform, the ideal viewer ought to care about instead. Of course, such an imagined subject will never exist, but it is the platform's reaching for it—the *becoming* inherent in this subjectivation process—that matters. This is an enactment at the level of the platform of what Ingraham calls "concerned gestures" that "beckon toward some potential that they seldom see actualized except through the realization of reaching for it" (2). The platform gestures toward a subject who is too thoroughly immersed in the endless flows of both images and capital to ever imagine an alternative to either.

YouTube's Automation of Hegemony

Attempting to use YouTube to learn about the Black Lives Matter movement has major political limitations. The most pervasive limitation comes from the platform's automated enacting of capitalist realism: "the widespread sense that not only is capitalism the only viable political and economic system, but also that it is now impossible even to *imagine* a coherent alternative to it" (Fisher 2). While Mark Fisher discusses this as a socio-cultural phenomenon, YouTube enacts it at the level of the machine, thereby further insulating it from direct human agency. If we accept Becky Kazansky and Stefania Milan's claims that technology constitutes the "digital backbone" of social imagination and that social movements are engines driving alternative imaginaries

(366), then what happens when social movement discourse is itself bounded and redirected toward different visions by technological systems like YouTube?

This bounding and redirection of discourse within a platform that otherwise presents itself as being a radically open and democratic space is even more powerful given that it appears as a seemingly unbiased technical decision being made by an objective machine that is free from direct human influence or bias. The exact workings of the algorithm are proprietary and, thus, opaque. This creates a "black box" effect whereby we can observe the functioning only from the outside and cannot look "beneath the hood" of the algorithm to see exactly what is happening (Gillespie; O'Neil). This black box effect is something that does not serve the public interest but does serve YouTube's ability to generate revenue. What is hidden is not only the precise technical functioning of the algorithms but also the human labor and human values that go into shaping the platform. As Nick Seaver puts it: "The 'black box' is full of people who design, build, and maintain it; algorithmic systems can extend and scale up their all-too-human biases and worldviews" ("Seeing Like an Infrastructure" 773). This ability to not only preserve but also scale up biases is precisely what makes the political role of algorithms worthy of special attention. The algorithm also exerts influence in the short term in the way that it interprets a viewer's failure to disrupt the flow of images as the viewer's desire to continue seeing similar content in the future. For example, Anthony Burton et al. found that after just one day of allowing right-wing recommendations to play, YouTube's main page "was swamped with predominantly right-wing content."

YouTube's algorithms exert control within a mixed semiotic system that, like other forms of surveillance, "produces a social body, rather than straightforwardly reflect[ing]" one (Nakamura 150). Guattari developed mixed semiotics as a theoretical framework that considers

how linguistic signifiers, non-linguistic signs like gestures, and codes that are not directly accessible to humans and instead operate directly on material flows all interact and shape one another (Lazzarato; Guattari, "The Place of"). In digital communication, such an understanding is key precisely because of the ways in which the machines structuring these communications mask their internal processes and because information, no matter how ephemeral it may appear in practice, is always embodied (Chun). The production of meaning through semiotic representation, then, is only one aspect of communication and not necessarily the most important one. If we understand rhetoric as the discovery of all available means of persuasion, then there is no reason to limit such means to the realm of semiotic signification. Moreover, such semiotic signification is often subservient to other a-semiotic encodings of asignifying systems. This is especially true in digitally mediated environments. As Guattari puts it, "a-signifying machines remain based on signifying semiotics, but no longer use them as anything but a tool" (*Molecular Revolution* 75). Asignifying semiotics "connect an organ, a system of perception, an intellectual activity, and so on, directly to a machine, procedures and signs, bypassing the representations of a subject" (Lazzarato 40). This has particularly important consequences in the context of late capitalism because "what matters to capitalism in controlling the asignifying semiotics apparatuses . . . through which it aims to depoliticize and depersonalize power relations" (Lazzarato 41).

The articulation of an ideal viewing subject further entrenches capitalist realism by making it more difficult for collective enunciations of alternative social imaginaries to emerge. Social imaginaries are the outcomes of "collective sense-making activities" that produce shared ideas including "fears, hopes, and expectations" (Kazansky and Milan 364). One need not trace the audiovisual flows from an initial search of the phrase "Black Lives Matter" for long before

observing a habitual drift away from a politics of hope and toward a politics of fear. Such a shift is useful to the platform: a politics of hope might require logging off, but a politics of fear often requires staying put. What emerges is the expression of a power relation articulated through collecting and sequencing audiovisual fields. The expressive impact of these audiovisual fields is not reducible to the meaning produced representationally within any individual video. As Guattari puts it, "The organisation of contents, the constitution of a homogeneous field of representation, always corresponds to the crystallisation of a power formation" (*Lines of Flight* 137). In the case of flows produced by YouTube in response to searching "Black Lives Matter," the power of the platform is crystallized through its habitual production and modulation of presence-effects. "Presence-effects" describe a phenomenological layer of encounters that have impacts beyond the extrapolating "meaning" to make sense of an encounter through interpretation (Gumbrecht 79). Presence-effects "are especially important in a time when we are so inundated with information that now nearly anything can be signal and anything noise, depending on whom you ask and which algorithms are doing the sorting" (Ingraham, *Gestures* 4). It is because of the power of presence-effects that Ingraham considers meaning an "epiphenomenon" of communication (*Gestures* 4). In the case of YouTube-produced flows following from searching "Black Lives Matter," the viewer's experience of the flow state itself may be considered a presence-effect. More specifically, any videos containing footage of street demonstrations and embodied direct-action protests are, through these flows, deterritorialized from the streets and from any coherent left-wing political projects. They are reterritorialized, in many instances, into flows of far-right paranoia. The affective moods produced through the confluence of endless flows of images and the temporary audiovisual fields they call into being out of theoretically endless possible combinations matter at least as much as the actual meaning

of the words spoken and actions represented. They gesture away from the movement and the alternative social imaginaries it seeks to create. In gesturing away, the destination matters less than the presence-effect of the gesture: always away, always to elsewhere.

Conclusion

Automated decisions shape our audiovisual environments, and their power to do so continues to grow. Even media giants like Warner Bros. are beginning to use artificial intelligence software to automate decisions that would traditionally be made by humans, like assessing a star's worth to a particular project (Siegel). One can easily see how such decisions, once they are offloaded to digital automation, could be used to frame racist and sexist hiring practices as accidental "bugs" of complex technical systems. Automation provides the businesses that operate and use these platforms with a way of further diffusing responsibility across an assemblage that includes both human and nonhuman components.

YouTube is a sociotechnical assemblage. Its algorithmic flows pull together never-ending streams of images. What associations and patterns appear in its stream of not-quite consciousness? What political imaginaries emerge through this assemblage? We must consider the ways that both the social and the technological recursively shape one another. To do so, we must consider this assemblage not only in terms of the more or less likely outcomes the algorithms tend to produce but also as accidental experiments in the production of automated imaginaries. Such imaginaries regularly come into being no matter how unlikely any one particular flow of images may be. Examining these, we can attend "to how things are actually working out relationally betwixt manifestation and possibility" (Genosko 10). In YouTube's case, the platform's automated production of audiovisual flows enacts a drifting away. This gesture of drifting away recontextualizes the meaning of any given video that appears at the

same time that it produces a drifting away at the level of presence-effects. It conditions the body to remain engaged in the flow rather than to heed any calls to action that may be expressed within any given video, no matter how compelling such calls may be on their own.

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