

#FuckTheAlgorithm: algorithmic imaginaries and political resistance

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Figure 1: Fuck The Algorithm. Art by Letter Shoppe.

ABSTRACT

This paper applies and extends the concept of algorithmic imaginaries in the context of political resistance to sociotechnical injustice. Focusing on the 2020 UK OfQual protests, the role of the "fuck the algorithm" chant is examined as an imaginary of resistance to confront power in sociotechnical systems. The protest is analysed as a shift in algorithmic imaginaries amidst evolving uses of

#FuckTheAlgorithm on social media as part of everyday practices of resistance.

CCS CONCEPTS

• **Social and professional topics** → Government technology policy; • **Applied computing** → **Sociology**; Computing in government; • **Information systems** → *Social recommendation*; *Content ranking*; *Personalization*; **Social networks**;

KEYWORDS

critical algorithm studies, algorithmic imaginaries, science and technology studies, social media, protest

ACM Reference Format:

Garfield Benjamin. 2022. #FuckTheAlgorithm: algorithmic imaginaries and political resistance. In *2022 ACM Conference on Fairness, Accountability, and Transparency (FAccT '22)*, June 21–24, 2022, Seoul, Republic of Korea. ACM, New York, NY, USA, 12 pages. <https://doi.org/10.1145/3531146.3533072>

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FAccT '22, June 21–24, 2022, Seoul, Republic of Korea

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ACM ISBN 978-1-4503-9352-2/22/06...\$15.00

<https://doi.org/10.1145/3531146.3533072>

1 INTRODUCTION

Society can be considered a technology, a set of constructed relations mediated by all manner of systems and power structures. Increasingly society has become an algorithmic technology, taking in certain values (whether technical or social) and producing, encoding and reproducing certain values. Algorithms and their values are representative and constitutive of dominant social orderings [Benjamin 2019], they are as much about enacting social processing as data processing. When we are datafied as subjects, we become the ‘stuff’ that is both consumed and acted on by the society algorithm (which is the intersecting mechanisms of sexism, racism, classism, colonialism, homophobia, transphobia, ableism, and other social relations of injustice). But just as society could be organised differently, so too could the social algorithm (and its sociotechnical assemblage of constituent algorithms) be redesigned, reimagined [Costanza-Chock 2020] around equity, care and justice. How then, do we imagine and reimagine algorithms that manage society? How do we construct alternative narratives of resistance that force changes to the ways algorithms are used in and on society?

In 2020, in the midst of the Covid-19 pandemic and its impact on everyday life, secondary school exams loomed as a concern. The disruptions for in-person learning had rendered traditional exams impractical to administer, and alternatives were being sought. In the UK, teachers had been grading students based on their ongoing learning and achievements in classes (whether in-person or online). But persistent narratives of standardisation - both within a given year and between years - caused fears in the government and media that teacher-assigned grades would inflate results. So an algorithm was designed by OfQual, the national administrator and regulatory for qualifications, to “correct” teacher-assigned grades for A-levels and standardise the results according to past patterns of achievement. But the algorithm was designed to replicate school-level results, ensuring no specific centre would see inflation on previous years. This meant that high-achieving students in areas without a track record of high results simply could not get the grades they deserved or that their teachers had awarded them. All the way down the grade boundaries, results were altered to fit students to their position in the class relative to that same position in historical data for their school. Many grades were changed, including almost 40% being lowered [Richard Adams and Barr 2020], with massive ramifications for students’ futures including, specifically, university entry requirements, all based on replicating location-based and class-based historical inequalities.

This paper examines the algorithmic imaginaries that emerged through the August 2020 protests and legal challenges [Foxglove 2021] against the OfQual algorithm, leading to a government U-turn and students receiving the higher of teacher- and algorithmically-assigned grades. How was the algorithm understood in these acts of resistance? How did the failings of the algorithm generate different understandings of its design? How was this situated in broader social debates and structures around power, discrimination and injustice? This discussion will be framed by an examination of the chant “fuck the algorithm” which came to characterise the protests in their representations in the media. The phrase, and its hashtag, will be analysed through Twitter and other media for prior usage, in order to highlight the changes in this algorithmic

imaginary that occurred through its shift from platform resistance to political resistance. Work on algorithmic imaginaries [Bucher 2017; Kazansky and Milan 2021; Milan 2015] will be applied to changes in the understanding and representation of algorithms during and after the protests, to understand evolving practices of algorithmic resistance.

2 ALGORITHMIC IMAGINARIES

Imaginaries are a familiar concept to sociologists, philosophers, media theorists and others. Social imaginaries concern the construction of society through the shared image it presents to itself, the collective understanding of society that binds it together and creates its identity (positively and negatively). The value of moving beyond formalism in computing by engaging with the sociological imagination was identified by Leith over thirty years ago [Leith 1990], applying the shift from legal formalism to legal realism to the context of computing and AI. This has been picked up again in Green and Viljoen’s more recent proposal for algorithmic realism and a closer examination of the political, porous and contextual issues surrounding algorithms within society [Green and Viljoen 2020]. Similar arguments have come from media scholars’ interventions in technical approaches to issues of fairness in algorithms, calling for the inclusion of social as well as technical actors and emphasising the social contexts that surround and inform decision-making about the design and use of algorithms [Selbst et al. 2019]. Across these conceptual moves, there appears to be an overlap of realism and the imaginary. In order to understand the realism of context, of porosity, of politics, in short the real effects of algorithms in the world, we must understand the imaginaries that produce, support, legitimise, perpetuate or conceal those algorithms and their effects.

Such imaginaries are also political imaginaries, described as:

the way people imagine their social existence [...] carried in images, stories and legends [...] shared by large groups of people [...] that makes possible common practices and a widely shared sense of legitimacy [Taylor 2003].

Imaginaries here become also a sociotechnical relation between realism and possibility:

public debates concerning the development and use of science and technology are likely to be informed by distinctive visions of the right relations among science, technology, the state, and society [Kim 2015].

These sociotechnical imaginaries both perform and produce sociotechnical realities, and are closely linked to social change. As Jasanoff and Kim highlight, imaginaries can “shed light on the hidden social dimensions” that underpin the ways radical change tends to require and/or produce changes in “social infrastructures” and “established patterns of life and work” as well as “allocating benefits and burdens differently from before” [Jasanoff and Kim 2013]. Bringing together these social and technical aspects generates a “fertile hybridity” [Jasanoff 2015] within sociotechnical imaginaries, which we can take further to examine imaginaries of algorithms as relational assemblages of social, political and sociotechnical imaginaries.

The term algorithmic imaginary was coined by Bucher as “users’ understanding and experiences of algorithms in everyday life” [Bucher 2017]. The algorithmic imaginary is how people make sense of algorithms, how they perceive them. More specifically, it is how people perceive algorithms within their everyday lives, how people experience algorithms. This emphasis on experience leads Bucher not to develop algorithmic imaginaries as an extension of sociotechnical or political imaginaries - even social imaginaries are only briefly mentioned as being something that social media algorithms “seize” control over. Instead, Bucher looks back to Merleau-Ponty and Deleuze to emphasise not only perception but affect. It is not only making sense in terms of understanding technical complexities, but making sense (and sensation) of how algorithms feel (or make us feel). Algorithmic imaginaries are “productive of different moods and sensations” [Bucher 2017]. Bucher’s emphasis is, in other words, about those moments when algorithms make us feel something in our everyday lives.

Paying greater attention to this affective component of imaginaries can help us understand more deeply how such imaginaries function. The political imaginary, for example, is nothing without an understanding of the affective dimension of social and political movements (whether they be populism or social justice). There is here more of a focus on the relation to individuals, a performative function in which collective imaginaries are constructed through iterations across many people’s individual lives. Bucher is particularly interested in moments of disjuncture, of friction, of malfunction, in which affective encounters within the everyday make visible those algorithms which often go hidden. While Bucher’s scope is mainly the algorithms that underpin social media platforms and thereby define social life online, it is this affective aspect of imaginaries that is particularly relevant when discussing the effects of other algorithms on society, and particularly in those areas that have a strong emotional and affective dimension such as the exam results.

We can extend the importance of experience in applications of algorithms to social issues by highlighting how most people do not directly “use” such algorithms. The user tends to be an organisation, particularly in the public sector where civil servants and politicians will have their own contextual and political imaginaries. But while they may not be the ones to use a particular algorithm, people can experience it, and this relation is essential to understanding the social role of algorithms. In this way, algorithmic imaginaries return to the broader sense of social and sociotechnical imaginaries insofar as they generate “different ways of thinking about what algorithms are and do [which] may affect how these systems are used” [Bucher 2017]. It is important here to note the power asymmetries of different imaginaries in different contexts - such as those formed by politicians compared to citizens, or tech companies compared to their clients. For example, so-called “algorithmic lore” videos may speculate on how particular algorithms “really work”, but in doing so more often than not act as market devices that legitimise and feed into algorithmic, objectivity and value narratives [MacDonald 2021]. Simply “lifting the lid” on algorithms is not enough. Explaining how algorithms work in a technical sense is of little use to real social contexts if we don’t also understand how they work in and on society, making visible the relation between affect and effect in order to make visible the limits of our perception.

Even the term algorithm has limits that must be made visible through acknowledging the imaginaries that shape and constrain it. As Dourish points out, such limits “are determined by social engagements rather than by technological or material constraints” [Dourish 2016]. This extends to the future possibilities of what algorithms could be. Mager and Katzenbach emphasises the “function, power and performativity” of future imaginaries, while also acknowledging them as “multiple, contested and commodified” [Mager and Katzenbach 2021]. Similarly, when discussing the sociotechnical imaginaries of big data, Ruppert describes how “dominant imaginaries [...] “not only shape what is thinkable but also the practices through which actors perform them” [Ruppert 2018]. Thus power asymmetries in society create power asymmetries in shaping imaginaries, particularly those generated by tech companies and their PR machines. These processes echo what Ten Oever identified in the privatisation of Internet architectures that closed off the ability to change them, reconfiguring affordances to prioritise certain (corporate interests) that created certain sociotechnical imaginaries [ten Oever 2021]. Different imaginaries carry different power in performatively constituting not only present realities but future possibilities.

3 ALGORITHMIC RESISTANCE

Markham raises the issue of the limits of the imaginary to generate change [Markham 2021], particularly in terms of the invisibility not only of how technologies such as algorithms function, but the invisibility of the boundaries of the imaginary. These limits are constructed through previous imaginaries and the uneven power relations that give certain dominant discourses a feeling of inevitability. Imagining change here becomes first a shift in the frames of the imaginary. Different forms of algorithmic resistance and social media resistance. On one level, different practices can act as a symbol, an exclamation, an organising tool, and more, or often multiple forms at once. The different motivations and effects of resistance can be problematised but cannot be separated, and serve to highlight the different relations at work within sociotechnical assemblages and resistances to them. On another, perhaps more instructive level, these different practices of resistance engage with algorithms in different ways.

Kazansky and Milan outline the need for - and existing alternative practices of - counter-imaginaries of activism against inequitable design and uses of algorithms in society. They highlight bottom-up approaches to activism and social justice that contest dominant imaginaries through counter-narratives that are co-produced alongside “shifting material and social arrangements and priorities” [Kazansky and Milan 2021]. We move here from making visible towards making thinkable. Algorithmic awareness is important - acting as a further dimension of digital divide that reproduces existing divides and inequalities (particularly around education) [Gran et al. 2021] - but it is not on its own sufficient. For example, the use of algorithms in the public sector relies more on credibility than explainability [Kolkman 2020]. Through not only making-visible algorithms and their practices but making-thinkable alternative algorithmic practices, the oft-hailed aims of transparency and accountability can find the “critical audience” required to push for change [Kemper and Kolkman 2019].

Costanza-Chock discusses the use of social media platforms (and other media) for organising physical resistance, by building networks and communities or coordinating action in physical spaces. These types of practices are often not directly focused on resisting algorithmic systems, but within areas such as migrant rights they target systems of power and bureaucracy that have long defined people's lives through data and anonymous systems. Costanza-Chock highlights the risks and pitfalls of overemphasising online activism (surveillance of activists, records of events, professionalisation distorting community aims) but maintains the value of "a praxis of critical digital media literacy" in movement building, organising and educating [Costanza-Chock 2014]. The hashtag has now become integrated into the contemporary political landscape [Jackson et al. 2020], part of the social and transmedia norms of organising protests at scale and across multiple locations as the boundaries between physical and digital protest become blurred.

Jackson, Bailey and Welles discuss the more direct online practices often labelled #HashtagActivism, using social media to increase the visibility of certain issues and resistances through algorithmic techniques like the hashtag. They identify in over a decade of online activism centred on race and gender injustices that "hashtags have been successful in creating a shorthand story that is easily recognizable and speaks to much broader concerns" [Jackson et al. 2020]. The hashtag also plays a historicising role, not only linking pre-existing activist practices and networks but building discourses of resistance that thread narratives from the past into the present to highlight systemic and ongoing injustices, providing a tool for counterpublics to "create compelling, unignorable narratives" [Jackson et al. 2020]. In this way, the hashtag itself can form an imaginary around which resistance can find a locus for awareness and action.

Taking a quite different angle, Heemsbergen, Treré and Pereira examine not just resistances to algorithms, but also "fucking *with* algorithms", what they label 'antagonistic algorithmic media practices' that "tactically subvert, manipulate, or obviate extant power relations" and "leverage traits in computational automation for disruptive political ends" [Heemsbergen et al. 2022]. Other considerations include the ways all these practices relate to conventional protests and conventional mass media, spreading across forms of communication to build wider narratives between mainstream and citizen journalism, and between different communities of resistance. Across these different forms, communities and sites, resistances to algorithmic practices require practices of resistance that reconfigure what algorithms should or could be through combinations of physical and digital expressions and acts of rejection, refusal and reappropriation. This was embodied in the OfQual protests, and particularly in the rallying cry of "fuck the algorithm".

4 #FUCKTHEALGORITHM

The exclamation "fuck the algorithm" predates the OfQual protests. But prior to the more explicit (and now iconic) use of the phrase heard chanted in the streets, it held a more specific online usage, part of broader practices of confronting opaque control mechanisms in online platforms [Burrell et al. 2019]. This usage focused on the online platform algorithms that suggest content to users, promoting the visibility of some content over others, a use closely linked to the focus of Bucher's algorithmic imaginary. The phrase "fuck the

algorithm" had been particularly associated with artists frustrated with the opaque whims of the algorithms that define visibility (and therefore creative and financial success) on platforms like Instagram, Youtube and Facebook. It was used to air this frustration at the moments the algorithm became visible in ways that affected the everyday lives, livelihood and even sense of worth of online artists, as well as a call to look for paths to success outside such platforms [Wei 2019]. Similar phrases and sentiments were linked to methods by which artists could circumvent the feelings of invisibility online, combining a cry of despair with a call to action and tactical practices of resistance to beat these algorithms and reclaim agency. As one artist described, "after scouring the internet I was able to find a few tips or at the very least credited rumours on how we can get the Instagram gods back in our favor" [Rodriguez 2018], alongside an animated GIF of "Fuck this algorithm". The appeal to platform gods recalls the theistic conceptions (which we might call religious imaginaries) that Singler [Singler 2020] identified in #BlessedByTheAlgorithm, paired with the inverted hashtag of despair and hatred at the capricious systems that can define success or failure and thereby social and material value online.

Taking a closer look at the hashtag version of the gesture of frustration, protest and resistance, #FuckTheAlgorithm first appeared on Twitter at least as far back as 2011 in a reply to a complaint against #OpPayPal being blocked from Twitter trending 2a. The next still accessible example is in 2014 alongside a link to an article on social media algorithm chasers 2b. Other examples from this time exhibit the affective dimension of algorithmic imaginary through various frustrations at content recommendation algorithms. As viewers it refers to seeing inappropriate or unwanted content; as creators it refers to not being seen by desired audiences. Even when broader sociotechnical issues such as privacy are associated with the hashtag 2c it is still almost exclusively related to social media or search platforms. The few examples from this period that go beyond search and social platforms include algorithmic decision-making in online platform areas such as insurance 2k or purposefully feeding different data into age-rating algorithms 2d. While the hashtag is in English, it is used in posts across various languages, particularly commentary on platforms in Spanish but also links to news items in French and German as well as posts in Portuguese and Hungarian (among others). There were also a small number of earlier instances of "fuck the algorithm" (without the hashtag), but they expressed similar topics - particularly frustration at algorithmic content recommendations - but also wider gestures of resistance to, for example, censorship, notably rejecting both algorithmic censorship and people's decision to enact censorship 2e. These non-hashtag examples contribute to demonstrations of personal exasperation with everyday issues of visibility and algorithmic manipulation as well as wider confrontations with technological systems. Algorithmic imaginaries have long been inseparable from acts of resistance and wider sociotechnical and political imaginaries.

Usage of the hashtag itself spiked around specific events, particularly changes to platform algorithms. For example, in February 2016 Twitter changed the algorithmically sorted timeline. This sparked the first multiple use of the #FuckTheAlgorithm hashtag around a specific issue, an expression on the platform of resistance to the change in how the algorithm mediated the everyday. Parallel hashtags, such as the higher usage but shorter lifespan #RIPTwitter,

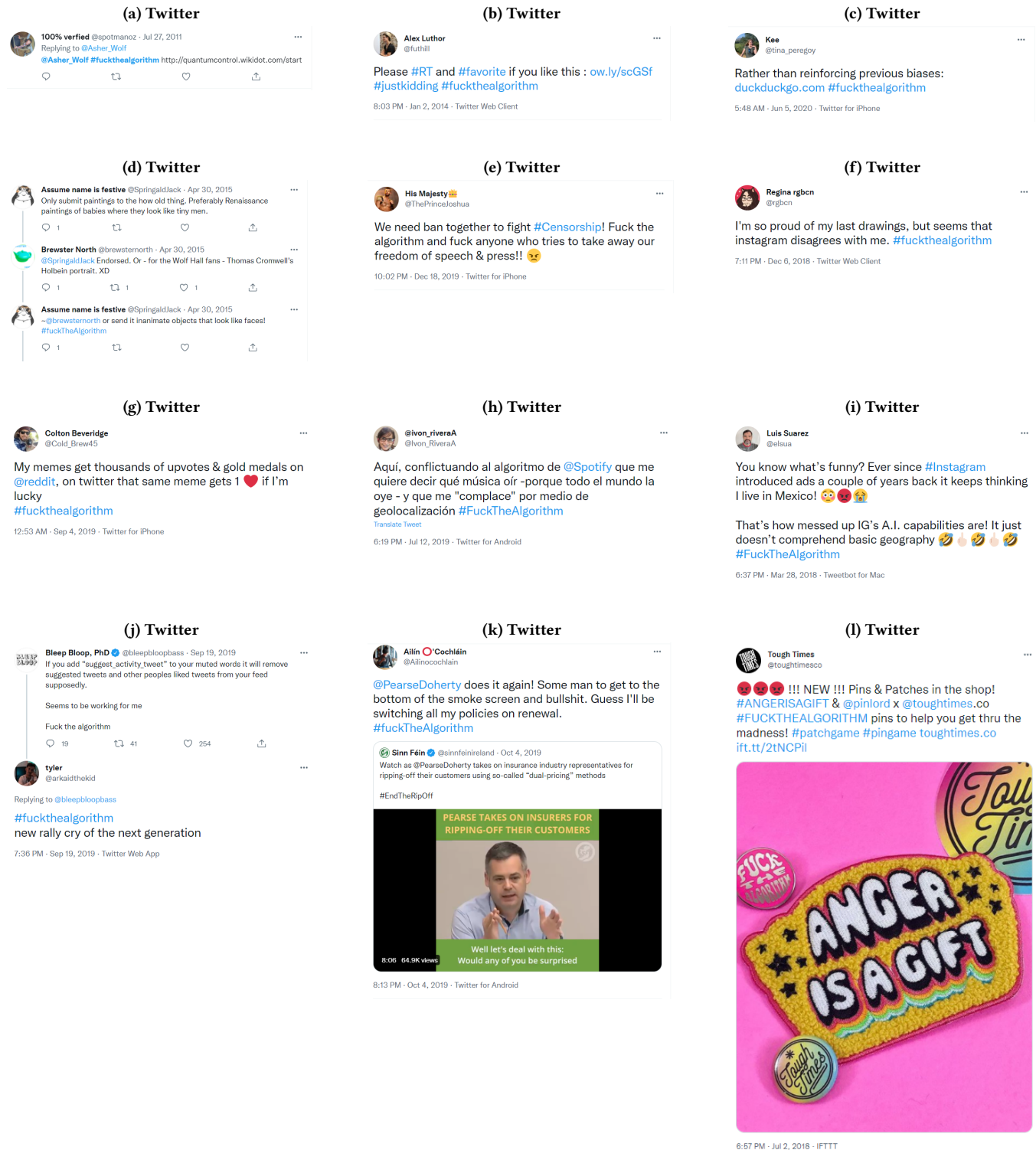


Figure 2: Example tweets

occurred alongside the news of these changes. The failure of such resistance, the evident futility of #RIPTwitter, shows how imaginaries can be altered by changing technical affordances and the inclusion of new narratives into the everyday role of the algorithms in social life online. But #FuckTheAlgorithm persisted as an affective response to any such changes, gradually catching on as an outlet for frustration at the failures of the algorithm or the imposition of new algorithms, an everyday act of resistance to these alterations of the everyday.

A further dimension to the use of #FuckTheAlgorithm, particularly on Twitter, is its use to make cross-platform complaints. For example, complaining about the Instagram algorithm on Twitter 2f, or complaining about the Twitter algorithm on Twitter by comparing it to Reddit 2g. This latter example is particularly interesting as it implies a common algorithmic (and social) imaginary across platforms, homogenising audiences online that are often highly heterogeneous across platforms, at least in terms of behaviours (based on different platform affordances, imaginaries and communities) if not in terms of composition. It also expresses an expectation of equal success, possibly further conflating different platform measures such as likes vs upvotes, or retweets vs comments. Wider links emerge as well, including issues with imposing content through geolocation on Twitter and Spotify 2h or Instagram 2i and their impact on linguistic, cultural and contextual problems. Perhaps, then the homogenising effect of algorithmic imaginaries reflects the homogenisation of users across platforms, a feedback loop of sociotechnical relations that constantly reasserts the dominance of algorithmic logics over the everyday.

However, some examples do prefigure the more direct resistance seen in the OfQual protests. #FuckTheAlgorithm was hailed as the “rallying cry of the next generation” 2j, embedding wider narratives of political, social and fictional resistances into the hashtag and exemplifying the use of the hashtag in reply or retweet to add the specific gesture to existing discourse, following what Brock identifies as a shift from “curatorial feature” to “an expressive modifier to contextualise the brusque, brief tweet” [Brock 2012]. Within the algorithmic imaginary of the platform, and the responses of resistance it invokes, the hashtag imaginary is therefore both one of signifier and affect, of linking specific comments to other media and wider imaginaries, and framing these comments in an emotional response. But in these earlier examples we already see hints of the mediatisation, mainstreaming and commodification of “fuck the algorithm” emerging, with the slogan being available to purchase on badges 2l two years before the OfQual protest slogan became merchandised. Even before the massive rise in usage of the hashtag in 2020, we can see different and complex transmedia uses and implications of this phrase. The everyday, often personal nature of the impact of algorithms evokes the affective responses to algorithmic, sociotechnical and political machinations.

5 IMAGINARIES OF RESISTANCE

The examples discussed so far have largely followed the context of algorithmic imaginaries discussed by Bucher. The vast majority of examples of #FuckTheAlgorithm up until 2020 were focused on issues related to social media platforms, and mostly content recommendation algorithms. This follows Bucher’s focus on the

everyday experience of everyday algorithms, the imaginaries that form as people try to individually and collectively understand how the algorithms work, the affective dimensions when the algorithms are perceived to fail, and the effect this has on the way people experience everyday life online. But in the context of the OfQual protests there is a need to extend the application of algorithmic imaginaries. The spilling over of ideas like “fuck the algorithm” from large social and search platforms to the public sector, from online spaces to the streets, and from physical affect back onto hashtags and other mediatisations evokes a broader sociotechnical view of the imaginaries in which algorithms are embedded. The protests constitute Bucher’s “kinds of situations through which people become aware of and encounter algorithms” [Bucher 2017], including the indirectness of such encounters, but here this is less about seeing algorithms beneath platforms and more about the reach of algorithms throughout society; many people encountered the algorithm only through the protests and their coverage in conventional and social media. We are invited to consider not only the role of algorithms in the everyday, but draw greater attention to the aspects of algorithmic imaginaries that deal with the way algorithms embed social values in shaping the unequal possibilities and limits of the everyday.

The OfQual protests were widely hailed in various media as a tipping point in resistance to inequitable use of algorithms. The protests were described as “the first time that people out of the tech bubble convene in the street to protest AGAINST AN ALGORITHM AND get a reaction from the government” [Arniani 2020]. They were labelled as the “defining battle of the Zoomers’ lives [...] against AI-enabled oppression” [Wright 2020]. Academics wrote opinion pieces about seeing “algorithms as objects of protest [...] a decade earlier than I imagined” [Amoore 2020]. The blogosphere was alight with praise for the success of the protest while emphasising the ongoing battle against modern-day “phrenology” algorithms and the uneven framing of exams [Doctorow 2020]. Across this commentary, an imaginary of the protest itself emerged, encapsulated in the chant heard in between emotional talks about the algorithm’s impact on destroying individuals’ futures: “fuck the algorithm”.

Some commentary - including from social science and STS scholars - focused on how this chant, this target of rage and despair, was misplaced. It’s not about the algorithm, such comments suggested, it’s about broader social and political forces. But this criticism appears justified only if we view the protests through the narrow lens of that single chant (and its hashtag), or through a narrow conception of what an algorithm “is” in society - in short it relies on a very specific imaginary founded in technical definitions. And yes, depictions of the OfQual algorithm as AI, for example, mischaracterise what was a relatively straightforward calculation. But the protests didn’t begin with “fuck the algorithm”. Signs were emblazoned with a range of slogans, critiques and targets. “Fuck the algorithm” and derision over the design of the algorithm went alongside “fuck Gareth Williamson” (the Education Secretary), “fuck Boris Johnson” (the Prime Minister), and “fuck the Tories” (the ruling Conservative party), as well as a range of phrases including “I’m a student not a statistic”, “people not postcodes”, “poor ≠ stupid” and similar critiques of the classist application of location to future potential. Across all these foci, the protesters demonstrated acute

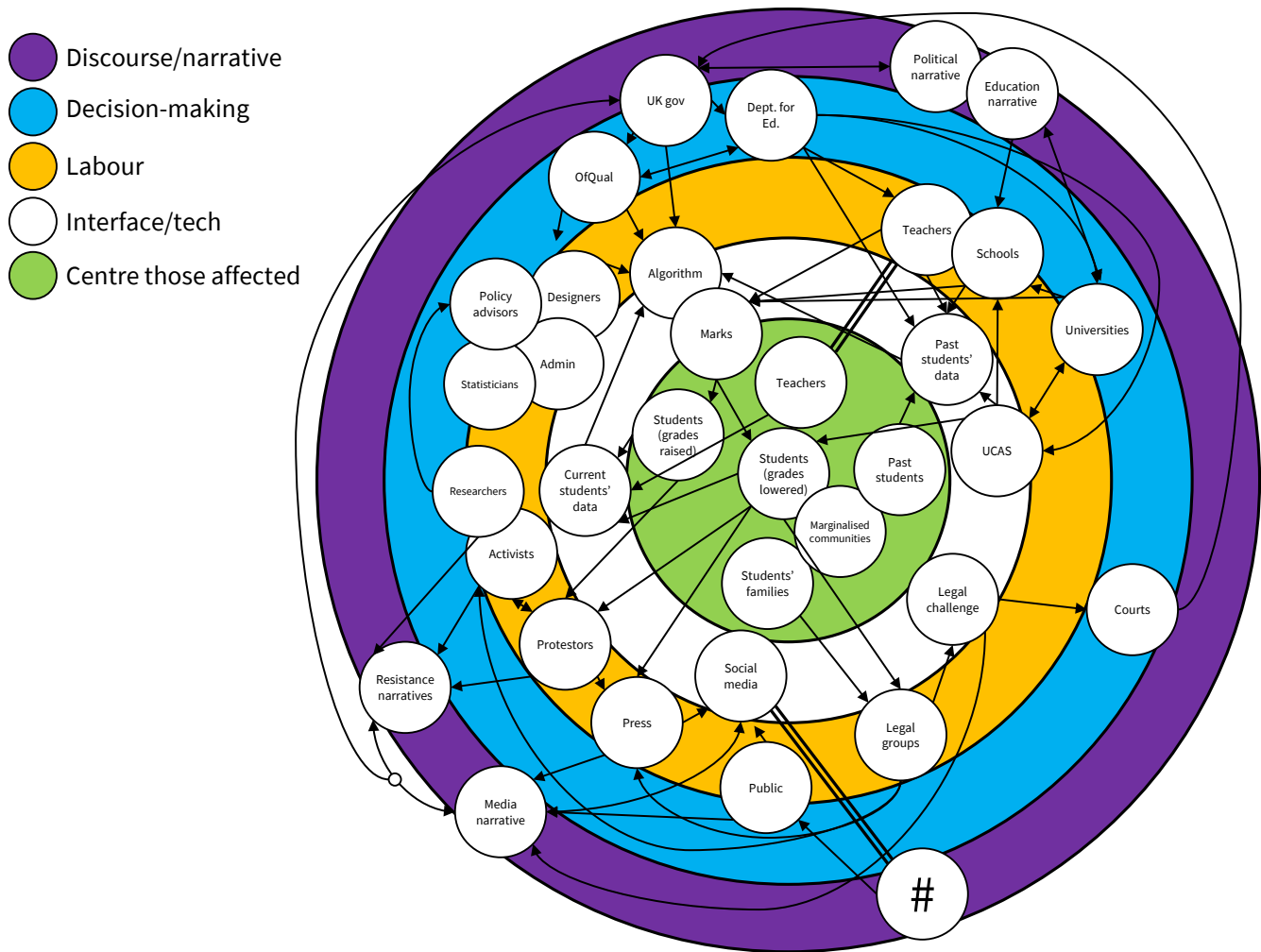


Figure 3: Sociotechnical map of the OfQual exam results algorithm.

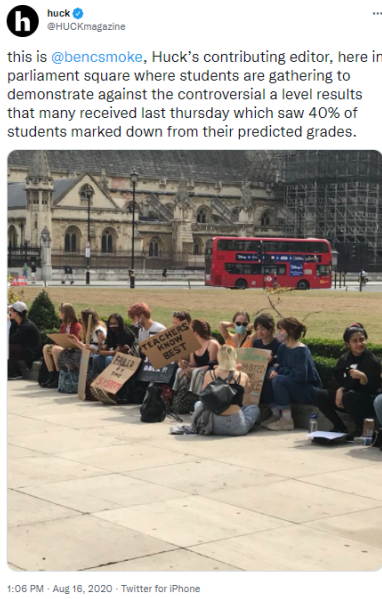
awareness of the embedded nature of the algorithm in wider social and political injustices, particularly the perpetuation of class-based discrimination.

Figure 3 follows Benjamin’s [Benjamin 2020] process of mapping AI and algorithms in their wider sociotechnical context, with the aim of centring those normally marginalised - here those acted upon by the algorithm - and visualising possible loci of resistance. This includes technical objects - labelled the interface layer - within issues of labour, decision-making, and the various social narratives that the assemblage embodies. The map extends the algorithmic imaginary from a focus on the relation between users and algorithms into the relations between those using the algorithms and those upon whom the algorithm is used. The map also highlights the algorithm as only one object of broader sociotechnical and political imaginaries, a social and technical interface through which the dominant unjust narratives and decisions were directed at those affected. So it follows that the protestors’ rage would be directed back through the algorithm (as sociotechnical interface-imaginary) towards those decision-makers and the narratives and injustices

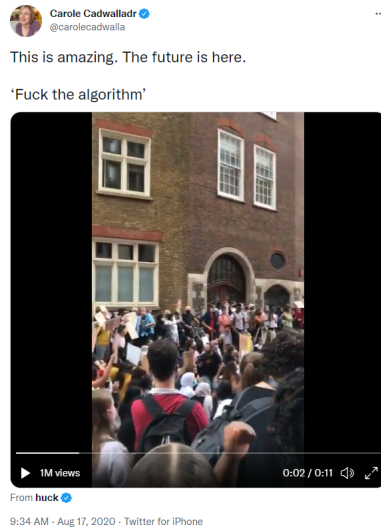
they perpetuate. The protest generated a particular algorithmic imaginary of resistance that shifted the discourse surrounding algorithms in society, drawing in existing movements opposed to algorithmic discrimination under a clear banner and narrative expression: a direct confrontation with decision-making algorithms and problematised their complicated role in mediating social injustices and power relations. Similarly, the hashtag itself functioned as a narrative and interface-imaginary through which the protest and resistance discourse was mediated via social media. The role of social media as a site of protest has expanded beyond even the cross-platform usage of the hashtag before the protests. Now it is fully part of the broader sociotechnical power relations in which algorithms exist within society.

So, while the protests may not so much have been #FuckTheAlgorithm as something closer to #FuckTheDecisionmakersWhoThoughtTheyCouldUseAnAlgorithmToPerpetuateStructuralInjustice, there remains a value in the simple hashtag as an imaginary of resistance, and as an affective gesture that mobilises this representation as a hook to tackle systemic injustices bound into dominant algorithmic

(a) Twitter



(b) Twitter



(c) Twitter



(d) Twitter



(e) Twitter



Figure 4: Example tweets

imaginaries. The breadth of the protests were well documented on Twitter 4a, but gained additional momentum with the hashtag #FuckTheAlgorithm adding greater affective emphasis raising wider awareness of the issues involved, as well as the potential for direct protest to effect change in the use of algorithms in society. The protests and protestors were described as the first algorithmic protest 4d, or simply the future 4b. We can ask the future of what: of protest, of algorithmic resistance, of sociotechnical and political action? The protestors were described collectively as “Les #fuckthealgorithm” 4c, as well as being compared to Luddites protesting social injustice through technology 4e. These uses and understandings of hashtags as a method of protest builds on existing practices of

resistance used by marginalised groups (particularly Black women) [Williams 2015], building hashtag imaginaries of resistance. These forms of “cloud protest” make use of social media algorithms and their imaginaries in which “making protesting visible on social media turns out to be constituent of the protest” [Milan 2015], an act of emulation that leads to ritual and thereby collective identity of resistance. The hashtag thus serves as “sign, signifier and signified”, combining signification and affect, as well as “setting the parameters of the discussion that follows” [Brock 2012] by shifting the scope of the imaginary to make space for alternative possibilities. The role of identifying with the hashtag (signifyin’ according

to Brock [Brock 2012]) contributes to this collective and collaborative construction of an alternative imaginary that can generate literacies, practices and communities of resistance.

Milan identifies performance as one of four mechanisms through which the “specific materiality of social media” create a “politics of visibility” that alters traditional identity dynamics” [Milan 2015]. This visibility is important in the context of algorithmic imaginaries and the process of making-visible systems of decision-making that are often opaque to those on the receiving end (and often purposefully so). Pushing further into the affective dimension of algorithmic imaginaries, we see social media protests in which, as Tufekci describes, “the picture, the voice, or the tweet belongs to a real person. Our capacity for empathy is not necessarily limited by physical proximity” [Tufekci 2017]. Algorithmic imaginaries of resistance therefore enact not only a making-visible of algorithms, but a making-affective of their role in society, providing voices through which their uneven impact can be felt by others, through the hashtag as an identifying and signifying performance of collective resistance. The acts of resistance are therefore manifold – against specific technical objects, specific actors, specific organisations but also against technological solutionism, against algorithmic power and logics, against the closing off of possible futures, against injustice. In short, the hashtag functions as an imaginary of resistance to the entire sociotechnical assemblage, drawing in other media including conventional press, and social media functions as a discursive and affective space in which to narrate such resistance.

6 EVERYDAY RESISTANCES

In the wake of the OfQual protests, and the shifts they generated in algorithmic imaginaries following the successful demonstration of resistance practice, resistance to algorithms gained increased awareness and support. This was further embodied by the increase in the phrase “fuck the algorithm” as a signifier for such resistance and an increase in the use of #FuckTheAlgorithm in everyday online practices. For example, when Stanford Hospital in December 2020 used an algorithm to allocate Covid-19 vaccines to its staff, resulting in senior physicians and administrators (many of whom were working from home) being vaccinated before younger front-line medical staff, internal protests gathered. Amidst the anger in these demonstrations of resistance to algorithmic injustices (and the inequitable decision-making that led to them) were heard renewed chants of “algorithms suck” and “fuck the algorithm” 5a. Here, the decision-makers claimed that the algorithm didn’t work as intended. This was unlike the OfQual algorithm, which was built on the assumption that “a centre will perform the same in a subject this year as they have across recent years” [OfQual 2020], making the school-by-school fixing of results an intentional feature to combat perceived risks of grade inflation. However, in Stanford Hospital’s case, with resistance imaginaries already in place to confront unjust uses of algorithms and situate those within broader decision-making, the lack of success could not simply be waved away as a technical error and the hospital management were forced to publicly accept direct responsibility. One Twitter user even posted a variation of Kidder’s famous ‘front page’ test [Kidder 1995] in response: how will your algorithm be explained to by an angry mob yelling “#FuckTheAlgorithm” 5b. While this is not a new approach

or aim in terms of STS scholarship or social justice activism, for example, the wider application of sociotechnical and relational approaches signalled a shift in popular imaginaries of resistance in which “fuck the algorithm” acts as a sign for rallying to a cause, signifier of sociotechnical assemblages, and signified as a call to ditch unjust algorithms as both a tool and narrative.

Similarly, #FuckTheAlgorithm gained ongoing and increased usage on social media after the OfQual protests. A greater social focus emerged, highlighting issues of loss or abuse in the types of ads shown 5d; 5e; 5f, linking algorithms with community guidelines in content removal 5g, or the perception of feedback effects and narrowing social circles 5h. Many of the same priorities and concerns (as well as potential misunderstandings) persist within the ongoing dominant algorithmic imaginaries. But there was a more socially focused shift occurring, paired with changes in practices.

Everyday algorithmic imaginaries generate everyday practices of tactical resistance, and the hashtag took on a more active role not just as a complaint at social media algorithms but also building on existing uses in relation to ways of beating or messing with the algorithms. These could be playful ways of breaking down algorithms 5i, forcing those moments where their functioning and malfunctioning becomes visible, ways of trying to manipulate the algorithm by adjusting the relational and community implications of followed accounts 5j, self-retweeting 5k or adding sexual pictures to tread the line across the extreme ends of visibility between banning and increased views 5c, advertising indie shops over platform giants 5l, and increased use of amplification by adding the hashtag in a quote retweet (even self-retweeting 6a) to signify an existing conversation and embed it within the specific resistance narrative. Matt Mahmoudi of Amnesty Tech [@DocMattMoudi] even added #FuckTheAlgorithm (along with #WokeSorcerer) to his display name, embodying Brock’s notion of signifying’ on Twitter by aligning an aspect of his online identity with both his work in digital human rights and its fit within wider narratives of resistance imaginaries.

Perhaps most notably, however, the hashtag itself became a social medium through which to combat wider technologically-mediated but socially-embedded injustices. It began being applied to an increasing number of other social issues, including justice for Palestine 6d, the fight against the racial and gender bias [Buolamwini and Gebru 2018; Hamidi et al. 2018; Keyes 2018] of facial recognition technologies 6b, and more casual associations with wider systemic problems of algorithms and the patriarchy 6c. It has even been applied back onto Twitter in its wider social context such as denying visibility on the platform to indigenous rights groups, reconnecting digital and physical protest 6e.

Off Twitter, the hashtag increased in usage as well, with over 5000 posts on Instagram. These portrayed many of the same reasons and priorities as on Twitter but expanded with more visual elements. For example, within artist communities and their followers the phrase was associated with reassurance despite perceived lack of visibility [link], represented directly in images [link], or built into visual narratives comparing algorithms to abusive relationships [link] or outlining (on Twitter) the reasons for leaving Instagram [link]. Again, questions over understandings of what the algorithm is or does are pertinent, and form part of the broader resistance imaginary. But the shift in narratives towards community


(a) Twitter

Dan Diamond @ddiamond

Facing angry doctors, Stanford official tries to explain why vaccine went to others instead.

The algorithm "clearly didn't work," he says, as doctors boo + accuse him of lying.

"Algorithms suck!" shouts one protester. "Fuck the algorithm," says another. (video via tipster)



12:29 AM · Dec 19, 2020 · Twitter for iPhone

(b) Twitter


Dan Mazur @QEDanMazur

Data Scientists, whatever you are working on, think about whether you will cause someone to be explaining the complexity and drawbacks of your work while surrounded by an angry mob of people saying "Algorithms suck" and #FuckTheAlgorithm.

Dan Diamond @ddiamond · Dec 19, 2020
Facing angry doctors, Stanford official tries to explain why vaccine went to others instead.

The algorithm "clearly didn't work," he says, as doctors boo + accuse him of lying.

"Algorithms suck!" shouts one protester. "Fuck the algorithm," says another. (video via tipster)



1:09 PM · Dec 19, 2020 · Twitter Web App

(c) Twitter

amelia @ameliaheblonde

I love a good receipt plus I posted it with a cute booty pic because thirst traps either get me banned or more views!! #fuckthealgorithm



Tayshia Adams and Ben Smith

amelia @ameliaheblonde · Dec 28, 2020
Uzoma "Eazy" Nwachukwu was framed as a desirable romantic prospect and became a fan favorite. How should the show have responded to an assault allegation against him? huffpost.com/entry/bachelor... # via @

6:30 AM · Dec 28, 2020 · Twitter for iPhone

(d) Twitter

LeonaCaraquista @LeonaCaraquista

Amazon me pregunta si quiero un "Mother's Day Gift" Coño #FuckTheAlgorithm

3:39 AM · May 4, 2016 · Twitter for iPhone

(e) Twitter

James Wallbank @accessjames

Recently I've noticed that the adverts targetting me are for will-writing services.

Does the algorithm know something I don't?

#FuckTheAlgorithm

11:25 AM · Aug 22, 2020 · Twitter for Android

(f) Twitter

Koira @imgnificentwif

So I tweeted about how disgusting #365days is. Today facebook shoves "novels" into my face about abusive "alpha males" hunting for women. #fuckthealgorithm

10:48 AM · Apr 23, 2021 · Twitter for Android

(g) Twitter

Soundwave @Ochazbin

Replying to @AshNicholsArt

YouTube is so inconsistent. #fuckthealgorithm #fucktheguidelines

3:54 PM · May 27, 2021 · Twitter for Android

(h) Twitter

Running in Reykjavik @Jim_Used_ToDrum

Before #socialmedia did you seek out people who shared your beliefs, opinions or tastes? In order to form a giant club of followers who you agree on everything about? I'm not sure I did. And meeting people with different beliefs helped refine my own. #fuckthealgorithm

8:21 PM · Jan 1, 2021 · Twitter Web App

(i) Twitter

Lee Gamble @GambleLee

I was playing about with an AI facial recognition software yesterday and it said I was 94% forehead. #fuckAI #fuckthealgorithm #fuckforehead

7:16 PM · Aug 23, 2020 · Twitter for iPhone

(j) Twitter

trill nye @radScientist

Purged (unfollowed) approximately 100 Instagram accounts and it feels goood. Also, now seeing content from people I missed seeing content from. #fuckthealgorithm

5:18 PM · Apr 14, 2021 · Twitter for iPhone

(k) Twitter

Mark of the Unseelie Court @MarkMeredith · Aug 30, 2020
Yeah, I just RT myself.

Seasonal Dungeon Master Draco @DM_Draco
Replying to @MarkMeredith

I do it all the time.

#FuckTheAlgorithm

1:51 AM · Aug 30, 2020 · TweetDeck

(l) Twitter

Nido Indie Shop @nido_shop

We're open weekends, you should pop by #fuckthealgorithm WE LOVE YOU!! VISIT US in Playa Coronado OPEN WEEKENDS FRI SAT SUN 11-6 ENVIO TODO PANAMA DHL INTL SHIP #whomademyclothes #quienhizomiropa... instagram.com/p/B0rvrC-hTo0/...

2:36 AM · Aug 3, 2019 · Instagram

Figure 5: Example tweets

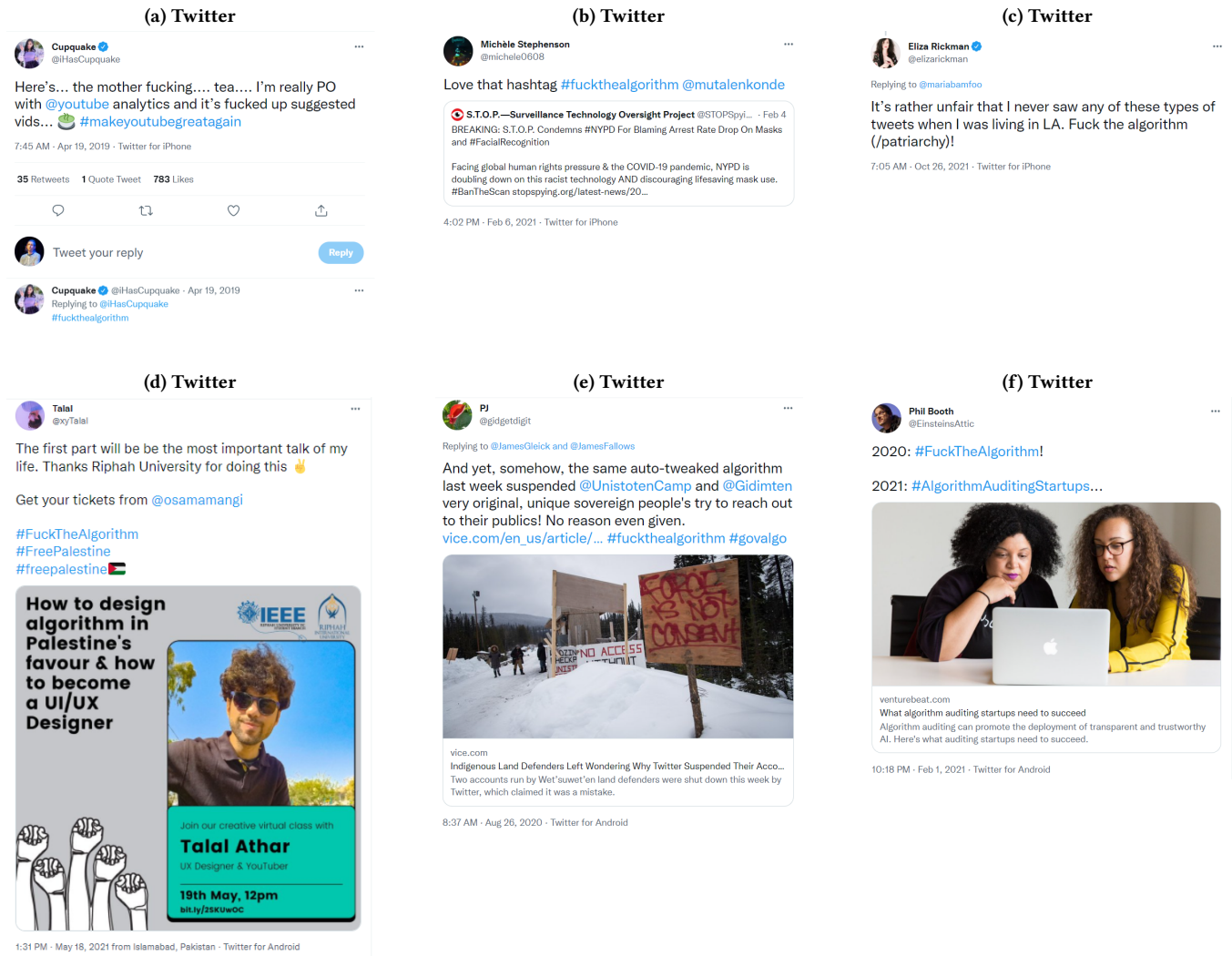


Figure 6: Example tweets

and self-care offer alternative, equally transformative, approaches to resistance.

However, “fuck the algorithm” also began generating more critical responses. Expressions of boredom and overuse emerged, such as complaints on Reddit about the phrase appearing too often in the top comments on YouTube [link]. This apparent resistance to the imaginaries of resistance demonstrates how those resistance imaginaries succeeded in breaking apart the expected functioning of algorithms within dominant imaginaries. The comment also brings in issues of visibility, which shows how the hashtag and phrase have succeeded in working through the algorithm to spread awareness of the issues. But there is also the risk that spreading the hashtag too widely with neither critical depth nor action could lessen the affective impact, subsuming it in a standardised stream of generic responses or empty identifications. Other comments on Twitter 6f compared the protest slogan in 2020 to corporate attempts at

ethics-washing in the rise of algorithmic auditing startups by the following year. We can imagine #FuckTheAlgorithm-as-a-Service in these commodifications of the shifting algorithmic imaginary. Nevertheless, it does demonstrate that such shifts were occurring, and a popular imaginary of resistance that was developing some longevity. And wider practices of resistance not only to unequal algorithms but unfair financial systems emerged in the GameStop shares debacle. While hedge funds attempted to exploit financial systems by short selling GameStop stock, users of the subreddit r/wallstreetbets - taking issue at the practice but also the undervaluing of a beloved if failing company - took action to buy up the stock and cause the price to soar, at great expense to the short sellers. This practice leaned into many of the themes of algorithmic resistances in the reappropriation of opaque and automated financial markets through more accessible brokerage apps. In this way it fed into algorithmic imaginaries and became associated with “fuck

the algorithm” resistance narratives and tactical practices [link]. Just as the OfQual protest was about far more than the algorithm itself, so too has the phrase “fuck the algorithm” come to embody broader imaginaries and practices of resistance to systemic injustices that intrude on everyday lives. And in doing so it has brought algorithmic resistance further into everyday practices.

7 CONCLUSION

This discussion has examined the use of #FuckTheAlgorithm before and after the 2020 OfQual exam results protest. While the hashtag’s critique of online media platforms predated the OfQual algorithm, the association of the phrase with the chants at the protest and the way it was spread through different media can be seen as generating new sociotechnical imaginaries of resistance. #FuckTheAlgorithm has defined a potential future focus of protests. The phrase encapsulates not only a rejection of unjust algorithms, but a gesture of resistance beyond technical objects towards social power relations. The protests situated algorithms within political and sociotechnical contexts, made visible to new publics online and off. #FuckTheAlgorithm therefore shifts dominant algorithmic imaginaries through affective moments that make algorithms visible, as well as through a making-affective and making-political of public responses to the use of algorithms in society. The expansion of the hashtag on Twitter relates to broader literacies and practices off Twitter, adding a new imaginary of resistance to invoke while organising or reporting on a range of physical protests. In this way, #FuckTheAlgorithm performatively constitutes practices and narratives of resistance. The focus of this resistance applies Bucher’s concept not only to the everyday algorithms that order life online (prioritising certain social media posts or different search results), but to the social algorithms that shape the possibilities (and limits) of the everyday. Perhaps counterintuitively, by focusing the protests on the specific chant of “fuck the algorithm”, the phrase and hashtag have provided an identification with a broader understanding of what algorithms are and what they should be.

REFERENCES

- Louise Amoore. 2020. *Why 'Ditch the algorithm' is the future of political protest*. Retrieved November 29, 2021 from <https://www.theguardian.com/commentisfree/2020/aug/19/ditch-the-algorithm-generation-students-a-levels-politics>
- Marta Arniani. 2020. *The Ofqual case: a precedent for protesting algorithms?* Retrieved November 29, 2021 from <https://futuribile.org/2020/09/08/the-ofqual-case-a-precedent-for-protesting-algorithms/>
- Garfield Benjamin. 2020. “Put It In the Bin”: Mapping AI as a framework of refusal. In *Resistance AI Workshop at NeurIPS2020*.
- Ruha Benjamin. 2019. Race after technology: Abolitionist tools for the new jim code. *Social Forces* (2019).
- André Brock. 2012. From the blackhand side: Twitter as a cultural conversation. *Journal of Broadcasting & Electronic Media* 56, 4 (2012), 529–549.
- Taina Bucher. 2017. The algorithmic imaginary: exploring the ordinary affects of Facebook algorithms. *Information, communication & society* 20, 1 (2017), 30–44.
- Joy Buolamwini and Timnit Gebru. 2018. Gender shades: Intersectional accuracy disparities in commercial gender classification. In *Conference on fairness, accountability and transparency*. PMLR, 77–91.
- Jenna Burrell, Zoe Kahn, Anne Jonas, and Daniel Griffin. 2019. When users control the algorithms: values expressed in practices on twitter. *Proceedings of the ACM on Human-Computer Interaction* 3, CSCW (2019), 1–20.
- Sasha Costanza-Chock. 2014. *Out of the Shadows, Into the Streets!: Transmedia Organizing and the Immigrant Rights Movement*. MIT Press.
- Sasha Costanza-Chock. 2020. *Design justice: Community-led practices to build the worlds we need*. The MIT Press.
- Cory Doctorow. 2020. *Fuck the Algorithm*. Retrieved November 29, 2021 from <https://pluralistic.net/2020/08/18/fifth-pig/#a-levels>
- Paul Dourish. 2016. Algorithms and their others: Algorithmic culture in context. *Big Data & Society* 3, 2 (2016), 2053951716665128.
- Foxglove. 2021. *We put a stop to the A Level grading algorithm!* Retrieved November 26, 2021 from <https://www.foxglove.org.uk/news/press-release-u-turn-on-a-level-algorithm>
- Anne-Britt Gran, Peter Booth, and Taina Bucher. 2021. To be or not to be algorithm aware: a question of a new digital divide? *Information, Communication & Society* 24, 12 (2021), 1779–1796.
- Ben Green and Salomé Viljoen. 2020. Algorithmic realism: expanding the boundaries of algorithmic thought. In *Proceedings of the 2020 Conference on Fairness, Accountability, and Transparency*. 19–31.
- Foad Hamidi, Morgan Klaus Scheuerman, and Stacy M Branham. 2018. Gender recognition or gender reductionism? The social implications of embedded gender recognition systems. In *Proceedings of the 2018 chi conference on human factors in computing systems*. 1–13.
- Luke Heemsbergen, Emiliano Treré, and Gabriel Pereira. 2022. Introduction to algorithmic antagonisms: Resistance, reconfiguration, and renaissance for computational life. *Media International Australia* (2022), 1329878X221086042.
- Sarah J Jackson, Moya Bailey, and Brooke Foucault Welles. 2020. *#HashtagActivism: Networks of race and gender justice*. MIT Press.
- Sheila Jasanoff. 2015. One. Future Imperfect: Science, Technology, and the Imaginations of Modernity. In *Dreamscapes of modernity*. University of Chicago Press, 1–33.
- Sheila Jasanoff and Sang-Hyun Kim. 2013. Sociotechnical imaginaries and national energy policies. *Science as culture* 22, 2 (2013), 189–196.
- Becky Kazansky and Stefania Milan. 2021. “Bodies not templates”: Contesting dominant algorithmic imaginaries. *new media & society* 23, 2 (2021), 363–381.
- Jakko Kemper and Daan Kolkman. 2019. Transparent to whom? No algorithmic accountability without a critical audience. *Information, Communication & Society* 22, 14 (2019), 2081–2096.
- Os Keyes. 2018. The misgendering machines: Trans/HCI implications of automatic gender recognition. *Proceedings of the ACM on human-computer interaction* 2, CSCW (2018), 1–22.
- Rushworth M Kidder. 1995. *How good people make tough choices*. Morrow New York.
- Sang-Hyun Kim. 2015. Seven. Social Movements and Contested Sociotechnical Imaginaries in South Korea. In *Dreamscapes of Modernity*. University of Chicago Press, 152–173.
- Daan Kolkman. 2020. The (in) credibility of algorithmic models to non-experts. *Information, Communication & Society* (2020), 1–17.
- Philip Leith. 1990. *Formalism in AI and computer science*. Ellis Horwood.
- Thomas WL MacDonald. 2021. “How it actually works”: Algorithmic lore videos as market devices. *New Media & Society* (2021), 14614448211021404.
- Astrid Mager and Christian Katzenbach. 2021. Future imaginaries in the making and governing of digital technology: Multiple, contested, commodified.
- Annette Markham. 2021. The limits of the imaginary: Challenges to intervening in future speculations of memory, data, and algorithms. *New media & society* 23, 2 (2021), 382–405.
- Stefania Milan. 2015. When algorithms shape collective action: Social media and the dynamics of cloud protesting. *Social Media+ Society* 1, 2 (2015), 2056305115622481.
- OfQual. 2020. *Awarding GCSE, AS & A levels in summer 2020: interim report*. Retrieved November 29, 2021 from <https://www.gov.uk/government/publications/awarding-gcse-as-a-levels-in-summer-2020-interim-report>
- Sally Weale Richard Adams and Caelainn Barr. 2020. *A-level results: almost 40% of teacher assessments in England downgraded*. Retrieved November 26, 2021 from <https://www.theguardian.com/education/2020/aug/13/almost-40-of-english-students-have-a-level-results-downgraded>
- Dina Rodriguez. 2018. *Get Instagram engagement back on your art*. Retrieved November 26, 2021 from <https://www.lettershoppe.com/blog/instagram-algorithm>
- Evelyn Ruppert. 2018. *Sociotechnical Imaginaries of Different Data Futures*.
- Andrew D Selbst, Danah Boyd, Sorelle A Friedler, Suresh Venkatasubramanian, and Janet Vertesi. 2019. Fairness and abstraction in sociotechnical systems. In *Proceedings of the conference on fairness, accountability, and transparency*. 59–68.
- Beth Singler. 2020. “Blessed by the algorithm”: Theistic conceptions of artificial intelligence in online discourse. *AI & society* 35, 4 (2020), 945–955.
- Charles Taylor. 2003. *Modern social imaginaries*. Duke University Press.
- Niels ten Oever. 2021. “This is not how we imagined it”: Technological affordances, economic drivers, and the Internet architecture imaginary. *new media & society* 23, 2 (2021), 344–362.
- Zeynep Tufekci. 2017. *Twitter and tear gas*. Yale University Press.
- Whitney Wei. 2019. *FUCK THE ALGORITHM: CAN ARTISTS FORGE A CAREER WITHOUT THE HELP OF SOCIAL MEDIA?* Retrieved November 26, 2021 from <https://mixmag.net/feature/fuck-the-algorithm-social-media>
- Sherri Williams. 2015. Digital defense: Black feminists resist violence with hashtag activism. *Feminist media studies* 15, 2 (2015), 341–344.
- Mic Wright. 2020. *Fuck the algorithm. The defining battle of the Zoomers’ lives will be against AI-enabled oppression*. Retrieved November 29, 2021 from <https://brokenbottleboy.medium.com/fuck-the-algorithm-86c18245af36>