# Conclusion: From Algorithmic Anxiety to Algorithmic Possibility, or Movement at the Spot

Despair is the absolute extreme of self-love.

It is reached when a person

deliberately turns his back on all help from anyone else

in order to taste the rotten luxury

of knowing himself to be lost

— Thomas Merton, Seeds

## Introduction

In this concluding chapter, I recapitulate and tease out the major ideas of the preceding chapters. At the start of this book, I introduced present-day anxieties braided around the entwinement of the social and the algorithmic. Algorithmic culture has evoked anxieties that are symptomatic of its logic of automation, optimization, accumulation, and exploitation. I observed that the proliferation of, in particular, the mechanics, apparatuses, and infrastructures of facial recognition algorithms, trading algorithms, and search algorithms had drawn the attention and concern of a growing group of contemporary artists over the past decade. What I have referred to as algorithmic anxiety was framed as an extension of Kierkegaard’s distinctive concept of anxiety mapped onto prominent contemporary artworks that engage explicitly with facial recognition, trading algorithms, and search algorithms.

In Chapters 2-4, I fleshed out the concept of algorithmic anxiety through the analysis of a range of popular and prominent contemporary artworks that explicitly tackle concerns about the algorithmic capture of the face (Chapter 2), automated trading on the financial markets (Chapter 3), and algorithmic mediation of web search (Chapter 4). In line with Kierkegaard’s conception of anxiety, I have described algorithmic anxiety as a relational synthesis between confining and extending constituents of the self, actuality, and knowledge, of which the finite, necessity, and temporality are confining and the infinite, possibility, and the eternal the extending constituents. Put simply, where necessity converges, possibility diverges. Algorithmic anxiety happens when one side of the reciprocal relation is overlooked, underdeveloped, or ignored. It is conditioned by a sense of being entangled within a system within which you cannot freely move and within which you experience a lack of power and resources to climb out of.

The question that algorithmic anxiety poses is one of positioning: it is a matter of relating to the possible while simultaneously accounting for necessity. What resonates in the majority of artistic portrayals is an emphasis on necessity, on the converging aspects of the self, the structures of actuality, and the production of knowledge in algorithmic culture. Further, algorithmic anxiety represents a desire to move away from centralized powers and central mediators, and a desire for changes in the distribution of resources, political power and information, as well as a desire for more participatory and inclusive forms of government. It gets to the ways that algorithms, in part intended to reduce and control the anxieties around the incomprehensibility and unpredictability of social reality, instead refashion anxieties they purport to manage.

A few intriguing contemporary artworks frame algorithmic anxiety as the relation between, on the one hand, the radical openness of the self, knowledge and actuality, *and*,on the other hand, the rigid algorithmic regimes that attempt to circumscribe this openness. In these works, algorithmic anxiety provides the opportunity to relate to the extending aspects of self, the structures of actuality, and the production of knowledge.

Here, artists do not merely reflect on the experienced anxieties about algorithmic culture, but also re-imagine the entanglement of the social and the algorithmic pointing to alternative relations of entanglement. In various ways masks (Chapter 2), specters (Chapter 3) and collectors (Chapter 4) represent alternative ways of relating to algorithmic culture. The artistic portrayals of these ambiguous motifs point to or hint at where there might be room to maneuver, where cracks and fissures appear. The relational conceptualization of masks (Chapter 2), specters (Chapter 3) and collectors (Chapter 4) developed in the book’s analyses of artworks hints at conditions that could make changes in the entanglement of the social and the algorithmic possible by tacitly but poignantly pointing to bottom-up, smaller-scale and collective and participatory movements that allow for different ways of relating. These different forms of relating, these movements, take the form of syntheses between individual independence and collective interdependence, between opening up and cracking up, and between means and ends.

## Capturing the Face Anxiety and the Possible of the Multiple Self

In the first case study in Chapter 2, I approached algorithmic anxiety by assessing works by three contemporary artists — Zach Blas, Adam Harvey and Sterling Crispin — all of whom have responded to recognition algorithms with masks and camouflage techniques designed as a means to disrupt and critique the perceived proliferation and threat of facial recognition devices and practices. The algorithmic capture of the face causes anxiety partly because the desire for sovereignty, immunity, autonomy, and self-transparency is perceived as tarnished and inhibited by the potentialities facial recognition technology is associated with, namely: to police, inspect, nudge, and oppress. The logic and practices that manifest itself through facial recognition technology are perceived to pose the risk, to individuals and groups in society, to become a tool for those in whose service facial recognition technologies operate. Unable to know the future and see what that risk may entail, artists imagine what the future may bring forth, and share a tendency to hold on to what one is afraid to lose and believes to possess in the present: autonomy, privacy, sovereignty.

Masks and camouflage offer symbolic and practices of resistance to these posed threats. The prevalence of masks and camouflage in contemporary art as a response to facial recognition algorithms builds on a historical tradition of facial concealment as well as on black-boxing strategies used by political protest movements, in civil conflict, and (guerrilla) war. By exploiting the weaknesses in recognition technology, face masks and camouflage do not merely represent a subversive hacking of facial recognition technology. Beyond this, face masks and camouflage offer movement, and movement comprises more than the fading-in-of- and fading-out-of-sight of facial recognition technologies.

Algorithmic anxiety in the face of facial recognition systems is shaped by the desire for something that is perceived as hampered or at risk. Desires, of different people in different contexts and situations, cannot be separated from gender, ethnicity, geographic location, abilities and aspects of one's socio-political or economic habitat. A close reading of masks and camouflage practices indicates a desire to belong, to community and solidarity, a desire to be recognized and seen, as well as a desire to withdraw, depersonalize, and hide in the masses. Face masks and camouflage as strategies of hiding, withdrawing and depersonalizing, cannot be separated from the desire to be seen and belong. Algorithmic anxiety evoked by facial recognition technology is the dynamic between the desire to be acknowledged, valued, recognized, and included *and* the fear of being objectified, denied, excluded, and disregarded; between the desire to be autonomous and independent *and* the fears that the inability to be such evokes. The work of Blas, Harvey, and Crispin show that relationality always involves risks, the risk of being judged, exposed, objectified.

Masks and camouflage emblematize the grip algorithmic facial capture technologies have on the self and offer an intervention in this tension field by allowing for a reorganization of an experienced power imbalance and precariousness. Crispin fears that algorithmic facial capture and the profit-driven data it produces will become a dominant way of assembling and imagining people. However, his *Data Masks* suggests that this model is forced upon social reality, but is not reality itself. The gap between the two is a space of possibility, symbolized by covering the face as the desire for a space to cover. Further, the face masks of Blas and Harvey's camouflage print suggests that though much importance is often given to the autonomous, self-contained, self-organising person, facial recognition technology's grip might be loosened by way of moving towards collectivity, collaboration, community work, and solidarity.

Masks and camouflage are not tools to resolve algorithmic anxiety. Over and beyond an intervention into facial recognition technology, the face masks and camouflage couture of Blas, Harvey and Crispin could be considered as stylized performances of the embodied, situated, and relational self. Rather than pointing to the vulnerability of the self and its relation to others, masks and camouflage point to different forms of being and relating such as interdependency, community, collectivity, among others.

Masks and camouflage symbolize the possibility to maneuver vis-à-vis algorithmic capture and circumscription by multiplying and strengthening one's connections to and engagements with others.

## Black Box Anxiety and the Possible of System Collapse

The possible took on quite a different face in relation to automated trading. The second case study, described in Chapter 3, was dedicated to a close reading of algorithmic anxieties caused by trading algorithms. Algorithmic trading causes anxiety in part because the infrastructure of trading algorithms is conceived as an impenetrable black box, outside of human reach and influence. Flash crashes and volatility on the financial markets are imagined as the effect of these ever-faster, invisible, complex, and unruly trading algorithms that work in inscrutable ways and merely in the interest of their proprietors. In response, some artists have taken to visualizing parts of the black box of finance. The rendering-visible of the infrastructure of the black box of finance is perceived as key to opening it up. There is a shared focus on wires, cables, electronics, modems, screens, as well as on data centers and bricks and mortar. Noticeable, too, is an emphasis on the output of algorithmic processes in the form of representations of machine vision and visualizations of algorithmic patterns of calculation. Algorithmic failures and vulnerabilities in the form of flash crashes or breakdown are a shared point of reference, too. Algorithmic anxiety is here evoked by the imaginary of trading algorithms as a black box, a separate world unconcerned with anything other than capital accumulation and profit maximization, and the perceived lack of effect or bearing upon the operations of the black box of finance.

However, some artists imagine the black box of finance as not merely the result of developments in and characteristics of algorithmic trading. The artistic engagement with trading algorithms of Femke Herregraven and Emma Charles points to the spectral condition of the black box of finance. This spectral relation lies therein that the black box of finance is portrayed as produced through a *synthesis* between a wide range of — seemingly oppositional — market actors and facets: past and present; visible and invisible; material and immaterial; regulators and operators; local and global; human and machine. In their work, the spectral symbolizes the ambiguous relations that constitute the black box of finance which defy rationalization, systematization, and prediction. In their respective artworks, the spectral is figured by a flood, the suggestion of a ghost or hybrid in the black box of finance, and by God-like powers represented by a rapidly rotating column of wind inside of a trading room. As water and wind, the spectral is formless and makes its way through cracks and around obstacles.

Herregraven and Charles reimagine the black box of finance as penetrable, changeable. A flood or a prodigious whirlwind can be described as interventions which, in the words of Jack Halberstam, ‘do not seek to make life better under the current conditions of exploitation and extraction, but [try] to figure out how to bring things to the point of collapse’.[[1]](#footnote-1) Wind can break while water can crash into things. The spectral events in the work of Charles and Herregraven do not fix, mend or ameliorate anything, but rather momentarily tear the black box of finance apart. Collapse and catastrophe are here imagined as conditions to change, and as manifestations of possibility.

Sometimes the only way to change is to rip something down. Herregraven and Charles seem to suggest that another system is possible when this one breaks. As Halberstam puts it:

The question that seems most pertinent now, in an era of environmental decline, financial corruption [is] how do we unbuild the world? …The contemporary anarchist does not seek to make life better under the current conditions of exploitation and extraction, but tries, rather, to figure out how to bring things to the point of collapse.[[2]](#footnote-2)

The spectral interventions of Herregraven and Charles dissociate the black box of finance from its socio-technical infrastructure and break it open to transformative encounters, represented by alternative forms of relating and of presence, and by extension alternative ways of doing economics. An observation made by Siddharta Mukherjee on homeostasis is apposite here: ‘There’s a seemingly glassy transparency to things around us that work, made visible only when the glass is cracked and fissured.’[[3]](#footnote-3) When glass cracks and fissures, it becomes marked. Shards reveal the bits and pieces that together made up its smooth and shiny surface. When glass shatters, it gives way to other spaces that exist within the seemingly totalizing frame of the black box of finance. Shaking and breaking stuff may open to alternatives that exist within and roam amid the seemingly all-encompassing and never-ending spaces of algorithmic capital accumulation. The desire to shake and break the black box of finance, the desire to grind the machine to a halt and the drift and force with which this happens in the artworks reflect the resolute rejection of the operations of the black box of finance. Further, breaking it down forms the mirror opposite of the perceived helplessness and powerlessness in relation to and the imperviousness of the black box of finance. As James Baldwin writes in a different context: ‘Any real change implies the breakup of the world as one has always known it, the loss of all that gave one an identity, the end of safety.’[[4]](#footnote-4) Real change might be for the better but might also be for the worse, as everything is possible within the possible.

## Search Anxiety and the Possible of Passionate Acts

Chapter 4 discussed search anxiety, the anxieties surrounding the centralization and corporatization of access to online information in general, and specifically around Google’ search engine algorithms because it is the most used search engine in Europe and the United States at least. Google’s search engine evokes anxiety about the possible exploitation of personal aggregated search data and the algorithmically ranking and listing of search results in the interest of, among other things, revenue. Search anxiety is about the possible in relation to a shared dependence on one for-profit company for access to online information. It revolves around the implication of quests for knowledge shaped by a for-profit logic.

The chapter zoomed in on one significant artistic response that has come in the form of an experimental film made by Camille Henrot that espouses the act of collecting. *Grosse Fatigue* enacts web search as a form of collecting within a collection and refers to Walter Benjamin’s conceptualization of the collector. When linked to Kierkegaard’s notion of passion, *Grosse Fatigue* shows a relationship to the centralised, monetized, and ordered structures of Google’s search engine which grounds search anxiety in possibility. This happens by reframing our searching condition and the act that gives form to it, collecting, as a passionate activity bordering on a feverish condition. To search is to collect, and a collection represents an idea or value that the collector feels passionate about and is strongly committed to. In other words, a collection is a concrete abstraction: to collect is a concrete act that happens in connection to abstract ideal, values and desire.

Kierkegaard claims that passion is one way to relate to the possible. Passion can be described as an enduring desire that requires nourishment, but that also nourishes you. In *The Undercommons: Fugitive Planning & Black Study,* Stefano Harney and Fred B. Moten describe passion as ‘the duty beyond duty’.[[5]](#footnote-5) Passion, they argue, both sustains and exceeds the self. Further, passion is an ambiguous force. One feels passionate about something or someone, yet passion as a feeling transcends that someone or something. As Harney and Moten describe it, with passion, you step out of the anxiety of the unknown and into what exceeds both truth and oneself.[[6]](#footnote-6) Passion represents something of intrinsic value, something that exceeds the logic of profit and capital accumulation, something that transcends the present order of things.

However, collecting, as Henrot performs it in *Grosse Fatigue*, does not signal a break from nor exceeds the bounded and finite spaces of Google's indexed web. Indeed, to search is to collect *within* Google’s collection. Searching as collecting is collecting within a collection. Forming a collection could be considered as the building of a box in the theatre of the world, as Benjamin describes it. The box, the collection, may represent a value or an idea around which a collector frames its activities, not outside of or separate from but within the world. To foster a collection is to establish relations that enable the coming together of people and things that gravitate around (and are limited by) a common value, aspiration, or ideal. To collect is to gravitate around alternative values, valuables and different currencies than profit or truth. Collecting is a response to Google’s favoring of traffic over truth and clicks over content. It exceeds truth, traffic, clicks and content. To reframe searching as collecting within a collection is a limited and time-sensitive gesture oriented toward possibility, and geared toward different relations and cohabitations within Google’s engine — an act of worlding within the world-wide-web.

To search is to collect within a collection, and to collect is to foster worlding —however brief, disorderly, and loosely organized. Collections, like assemblages, ‘are defined by the strength of what they gather as much as their always-possible dissipation’.[[7]](#footnote-7) Like nodes and links on the web, the relations and connections within an assemblage are ephemeral, variable and fragile; they come together and fall apart, they break and dissolve. The possible here is not about radical change, necessarily, but about the endless ways to draw and re-draw relations centered around shared values and strengthened by passion.

To return to the question posed at the start of this dissertation: Tactics of collaboration, practices of mobilization, reorganization, and rupture constitute the possible in relation to algorithmic anxiety. Where masking and collecting are tactics of living with anxieties evoked by search and facial recognition technology, the spectral calls for radical change in relation to algorithmic trading systems by battling through it.

## Movement at the Spot as the Response to Algorithmic Anxiety

What becomes of the possible when Kierkegaard’s critique is aimed at algorithmic culture? What ties masks, specters and collectors together? Movement *at the spot*. Movement at the spot, Kierkegaard writes: ‘Neither moves from the place where it is nor arrives anywhere. [It] is literally a movement in that place.’[[8]](#footnote-8) Movement at the spot is not reactionary, but imaginative and creative. This ‘movement of infinity’, as Kierkegaard calls it in *Fear and Tremblin*g, is a way of thinking, being, and imagining to preserve yourself, of creating a space to catch a breath, to buy time, and to organize and reorganize.[[9]](#footnote-9) It also provides a metaphor for re-thinking and re-imagining the confining and limiting aspects of algorithmic culture. When the algorithmic is represented as becoming central in the organising, governing and confining of the socio-political sphere and in the distribution of wealth and information, movement is a way to battle the algorithmic anxiety this evokes. What Kierkegaard describes as ‘movement at the spot’ does not mean to — Romantically — fan the flames of faith and passion, or to celebrate imagination and collaboration.[[10]](#footnote-10) Neither does it mean to jettison the algorithmic or to embrace it. Movement at the spot is not merely a ‘fantasy of exit’.[[11]](#footnote-11) Instead, movement at the spot is a way to understand algorithmic anxiety as grounded in necessity *and* possibility. Algorithmic anxiety could be considered as a lack of movement, lost motion, or as the desire for motion.

The mask, the specter and the collector are figures of movement *at the spot*. Where algorithmic regimes attempt to confine motion and openness, movement is the response. What always moves is difficult to grasp, and hence to be mathematically modelled, duplicated or regulated. Movement at the spot challenges the logic of algorithmic entrapment. It is less about what it will bring — again, everything is possible within the possible — and more about actualizing the potentiality to shift positions, to find a space to catch a breath. Masks, specters, and collectors are about ‘finding ways through and around’.[[12]](#footnote-12) In motion, one can become aware of limits one did not know existed and imagine possible ways around these delimitations. Living with algorithmic anxiety requires motion. Masks, specters, and collectors tell us that the algorithmic structures we inhabit and that inhibit us, in uneven and unequal ways, might be challenged by moving at the spot, by actively imagining moving through and around. They point to conditions for change, and to make room, however small, in a confined space.

What becomes imaginable with movement? To move at the spot has a lot to do with positioning. It is about shifting positions within the uneven and unequal relations of power in the entanglement of the social and the algorithmic by strengthening ties, practicing solidarity by organising and re-grouping from within, as well by moving and breaking stuff. Masks, specters, and collectors provide room for the desire to make *and* unmake relations and connections, to produce zones of indiscernibility *and* collective presence, and to tear down *and* to re-arrange, assemble, and rebuild. As long as we fail to imagine fissures, openings or alternatives to algorithmic culture, we remain stuck and cornered in its grid. Masks, specters, and collectors offer a vision of the possible. In writing about the aesthetics of possibility, Ashton T. Crawley also connects possibility with imagination. He phrases it thus: ‘possibilities exist alongside that which we can detect with our finite sensual capacities’.[[13]](#footnote-13) He adds: ‘Imagination is necessary for thinking into the capacities of infinite alternatives.’[[14]](#footnote-14) Movement at the spot is a form of what Crawley calls ‘the nevertheless and in spite of condition’: that though one may feel enclosed, contained, circumscribed, ‘that — nevertheless, and in spite of — there is an excessive force that sustains’.[[15]](#footnote-15) The word ‘nevertheless’ and the phrase ‘in spite of’ ‘mark the always available and plural otherwise possibility’.[[16]](#footnote-16) Movement at the spot symbolizes what *may* condition otherwise possibilities. Kierkegaard observes: ‘Possibility is for the self what oxygen is for breathing.’[[17]](#footnote-17) ‘Drawing breath in Latin is called *respiratio*, a word which indicates a flowing back of what had first flowed out. In drawing breath the organism enjoys its freedom,’ Kierkegaard writes.[[18]](#footnote-18) Movement at the spot symbolizes taking a deep breath, the kind of breath taken just before someone makes a move.

Masks, specters and collectors represent different guises of possibility *grounded in necessity*. This grounding in necessity is of key importance. By grounding in necessity these figures, to refer to Donna Harraway, stay with the trouble. To stay with the trouble, Haraway writes in *Staying with the Trouble: Making Kin in the Chthulucene* (2016), is to reject the cynics, the technofixes, and the techno-apocalypses.[[19]](#footnote-19) Staying with the trouble requires ‘unexpected collaborations and combinations’ that are ‘always situated, someplace and not no place, entangled’.[[20]](#footnote-20) Masks, specters and collectors, as figures of movement at the spot, stay with the trouble represented by algorithmic regimes of confinement. Furthermore, in relation to algorithmic confinement, they represent situated responses to algorithmic anxiety. These situated responses are the result of collaborations and unexpected combinations, prompting different ways of relating to and refusing to succumb to the algorithmic trouble it finds itself in. This requires the continual work of dissembling, reframing, and repositioning. Taken together, masks, specters and collectors form small gestures and creative experimentations with alternative ways of establishing connections, of being with others, and subversive acts of (dis)assembly. They point to where there is room to maneuver as well as the limitations of the movement that they, in different ways, bring into view.

## In Closing…

It would be too easy to judge these artistic figures of movement on the basis of whether or not they have any measurable impact, or whether these works lead to concrete outputs.[[21]](#footnote-21) Admittedly, none of the artworks discussed pave the way towards equivalence or equilibrium in happy co-existence with algorithms. None of them tackles or undoes algorithmic power abuses and ongoing capitalist exploitation in algorithmic culture. Nor do they provide a clear-cut answer to the amassing of personal data by corporations, to flash crashes on the financial markets, or skewed and slanted search results. The notion of movement at the spot will not assure those who want systematic and step-by-step formulas to be freed from algorithmic anxiety, wholesale. Nor will it please those concerned with policy recommendations, tools and protocols on how to deal with internet monopolization, algorithmic capitalism and surveillance, automated financial markets, or the monetization of online communication and (dis)information. These figures will not be able to assuage the anxieties of those who believe technological determination means that we are already claimed by it. Movement at the spot is not likely to change the minds of those for whom the wedlock between capitalist corporations, the state, and algorithmic exploitation reveals what the future will be and which renders artistic interventions futile.

What movement at the spot offers is a contribution to the making of an artistic imaginary of possibility characterized by convoluting, entwining, and synthesizing relations. Movement at the spot is not merely about understanding that many things take the shape of a relational yet uneven synthesis or understanding the performativity of the confining and delimitating representations of algorithms. Movement at the spot imagines the possible as possible vis-a-vis the troubles it is in. Yet, it never accepts these troubles as fixed, given, or impervious to change, but continually seeks ways through, around, and in between them. Movement at the spot is situated, embodied, yet also an imaginative orientation towards possibility. It needs to be sustained by the continual work of the synthesis of possibility and necessity and the finite and the infinite. This work involves relational practices of being, thinking and doing — concrete, imaginative, and otherwise, both small and large — that bring movement into view.

Social life will continually find itself confronted, contained, and constrained by continuously moving and changing mutations of algorithmic confinement, capitalism, control, and governance. This is what conditions movement at the spot, what mobilizes it into action. Practices of movement at the spot are not merely up against ‘algorithmic culture’ and its past, present and future mutations. Movement at the spot is a response to the tendency to represent the present as an all-encompassing, capitalist, and controlling power structure, impervious to intervention or subversion. It is up against assertions that relational experiments with alternative ways and practices of being, thinking, and doing ‘will never work’, ‘are already co-opted’, ‘are too small to be meaningful’, and ‘won’t make a difference, anyway’, and the like. It pushes back against cynicism, fatalism, determinism, or the tendency to succumb to their substitutes, like neoliberalism, nihilism, positivism, legalism, and so forth. It pushes back against abstracted thinking about and limiting narratives of what is possible. Movement at the spot is a minority position facing a multitude of forces that act against it and that threaten to undermine it, and it might even bring more harm than good. And yet, *nevertheless*…

1. (Halberstam quoted in Young, 2019) [↑](#footnote-ref-1)
2. (Halberstam quoted in Young 2019) [↑](#footnote-ref-2)
3. (Mukherjee 2018). [↑](#footnote-ref-3)
4. (Baldwin 1956, p. 568). [↑](#footnote-ref-4)
5. (2013, p. 35) [↑](#footnote-ref-5)
6. Harney and Moten, 2013, p. 35) [↑](#footnote-ref-6)
7. (Tsing, 2015, p. 43) [↑](#footnote-ref-7)
8. (SUD, p. 36). [↑](#footnote-ref-8)
9. (FT, p. 36) [↑](#footnote-ref-9)
10. (SUD, p. 36) [↑](#footnote-ref-10)
11. (Sharma 2017) In her Marshall McLuhan Lecture of 2017, held in Berlin, Sarah Sharma critiques what she calls sExit strategies, which she describes as “male fantasies of exit” (Sharma 2017). Such exit strategies, she argues, fall heavily on gendered lines (Sharma 2017). “sExit is an exercise of patriarchal power” (Sharma 2017). The point Sharma makes is that “sexodus” has a gender, a class and a colour. “The white patriarchal penchant for exit rears its ugly head at any hint of having to live with one’s supremacy in question” (Sharma 2017). [↑](#footnote-ref-11)
12. (Halberstam, 2013, p. 6) [↑](#footnote-ref-12)
13. (Crawley, 2017, p. 2) [↑](#footnote-ref-13)
14. (Crawley, 2017, p. 5). [↑](#footnote-ref-14)
15. (p. 81) [↑](#footnote-ref-15)
16. (p. 82). [↑](#footnote-ref-16)
17. ” (SUD, p. 40) [↑](#footnote-ref-17)
18. (E/O, p. 1310) [↑](#footnote-ref-18)
19. (p. 3) [↑](#footnote-ref-19)
20. (p.4) [↑](#footnote-ref-20)
21. In June 2019, an article in the *Financial Times* appeared that reported that Microsoft had pulled its database of 10m faces it used to train facial recognition systems around the world from the internet. "All three data sets were uncovered by Berlin-based researcher Adam Harvey, whose project *Megapixels* documented the details of dozens of data sets and how they are being used” (Murgia, 2019). [↑](#footnote-ref-21)