

## RESEARCH

# The Aesthetics of Retrieval: Beautiful Data, Glitch Art and Popular Culture

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At a time when the meaning of democracy is challenged by the power of algorithms and the politics of misinformation what has become apparent is that the valorisation of data is the defining characteristic of contemporary digital capitalism. In the marketing of 'Big Data' different forms of visualisation (dataviz) are employed to support the claim that a series of perfect signals can be abstracted from the background noise of the world's incessant uploading of information. At the same time, 'glitch' artists and musicians have developed techniques which deliberately disrupt digital signals, randomly re-sorting ordered sequences to privilege noise over signal and aestheticize error.

This paper will examine glitch as an artform which deconstructs the aesthetics of dataviz at the same time as it exposes what must remain hidden for it to retain value. It will propose a critical technique through which glitch artefacts in popular culture can be employed to explore the oppositional politics of posthuman subjects.

**Keywords:** algorithm; big data; glitch art; aesthetics; posthuman; Max Headroom; Mr Robot; Blade Runner 2049

In Rosi Braidotti and Maria Hlavajova's *Posthuman Glossary* (2018), David Theo Goldberg and Jemma Ng call for the inauguration of what they call 'algorithmic studies ... the critical study of the social, political and cultural life of the algorithm' (2018: 26–7). In this demand they are recognising not only the importance of algorithms to the operations of contemporary capitalism but that it is equally necessary to understand their part in the overall system through which culture is constructed and which is comprised of machines, people and their cultural artefacts. This system is cybernetic. It functions on the basis of read-outs from algorithmic processes which are fed back into the social through their cultural effects, a process which, in turn, produces new data on which the algorithms can feed. This constant process of feedback and feedforward incorporates market adjustments, currency values, commodity prices and information and transportation infrastructures at a global scale. At the same time, it effects ontological changes at the level of populations<sup>1</sup> and individuals in such a way as to blur the boundaries between people and machines, social systems and information systems, data and knowledge.

As a contribution to algorithmic studies, my proposal is to interrogate the politics of algorithms and how they provide for the conditions under which we experience

the world with a particular emphasis on how algorithmic processes give rise to visual data. I want to explore the representation of massive data sets, bearing in mind what is compressed, elided or discarded, both in the refinement of data into information and the way in which it is produced as a visual experience. My aim is to contribute to a vocabulary through which the aesthetics of data visualisation (hereafter 'dataviz') can be critiqued and, at the same time, to examine the appropriation of digital 'glitch' art in contemporary popular culture. I will suggest that glitch effects in mainstream film and video offer a method of analysis which can engage with the way that the paradigmatic structures and sensibilities through which data is rendered 'beautiful' can be subverted. I see in this a potential for the glitch aesthetic to open these products to new forms of critique; to, in effect, expose the relationship between the form and content of screen media and the way that the process of subjectivation proceeds as an effect of digital capitalism. I am interested here in opening a way to the new dimensions of knowledge production that Braidotti calls for and that she names the 'Critical PostHumanities' (2019: 101–121) which, as she says 'are both caught in and resisting the accelerating spin of neo-liberal logic of capitalizing on knowledge' (2019: 120). In what follows, I will explore the graphics of Big Data commodification before drawing on the critical resources of glitch practitioners to examine glitch effects in Denis Villeneuve's *Blade Runner 2049* (Villeneuve 2017) and Sam Esmail's *Mr Robot* (2015–19).

## Beautiful Data

The term Big Data is used to describe both the messy flows of information that algorithms operate upon and the commodified results of that operation. It is the raw resource of cybernetic capitalism that, in the second decade of the twenty-first century, we all labour to produce and the by-product of our lives as organised through social media, the Internet of Things, financial transactions and cloud computing. At the same time, it is what constrains the form of our interactions, determines our access to resources and conditions the structures of our lifeworlds. For Antionette Rouvroy, the application of information processing to masses of data produces a kind of truth which is immanent and purely operational; which neither admits of, nor requires, any form of verification or testing. Put simply, data speaks and the world responds accordingly. 'It is no longer a matter of threatening you or inciting you', states Rouvroy, 'but simply [of] sending you signals that provoke stimuli and therefore reflexes. There is no longer any subject in fact' (Rouvroy and Stiegler 2016: 12). This is algorithmic governmentality which, as she says, has had fundamental consequences for 'the ... making of norms and how they breed obedience' (2016: 6). In short, as Hito Steyerl puts it, 'humans feed affect, thought, and sociality into algorithms, algorithms feed back into what used to be called subjectivity' (2017: 38).

In this scenario, the subject of modernity, the Western European 'self' which is brought into being by the cogito and nurtured through modern science as the standard for patriarchal rationality is fatally undermined by the processes that produce us all as what Gilles Deleuze has called 'dividuals' (1992: 5); aggregates of data distributed across multiple platforms that do not require the coherence of the individual to be meaningful. But, as I will demonstrate, dataviz as employed by corporations bidding for lucrative contracts or organisations concerned to reduce the complexity of large datasets, employs classical perspective to establish the veracity of what it represents. It thus reproduces the aesthetics of liberal humanism in the service of capital while being, at the same time, a significant actor in the discursive production of the dispersed and distributed digital self. This accords with what Maurizio Lazzarato refers to as the 'twofold cynicism' of contemporary capitalism, 'the "humanist" cynicism of assigning us individuality' and 'the "dehumanizing" cynicism of including us in an assemblage that no longer distinguishes between human and non-human, subject and object, or words and things' (2014: 13). It is not so much the case then that there is 'no subject in fact' but that algorithmic governmentality mobilises forces which usher into being new configurations of the subject which, as I will later argue, requires new critical methods to bring into focus the politics of the algorithm and its cultural effects.

For now, it is enough to point out that the feedback that algorithms produce is far from uncontrolled. Kantar, for instance, which bills itself as 'the world's leading data, insights and consulting company' (2019a) produces reports based on data mining, coupled with structured interviews and other forms of market research designed to enable the advertising industry to better target

consumers. Although this kind of research is as old as advertising itself, the speed with which data can now be mined for 'insights' and the increasingly fine-grained profiling of consumers makes the product that they offer uniquely valuable. Data may be 'big' but what data mining promises is that tools will be provided through which it can be surveyed as a totality, mastered and forced to give up its valuable secrets.

The promise of Big Data is, as David Chandler suggests, that 'the world (coded through datafication) can begin to speak for itself' (2018: 117) without the necessity of interpretation. But, as Orit Halpern puts it, 'there is nothing automatic, obvious, or predetermined about our embrace of data as wealth. There is, in fact, an aesthetic crafting to this knowledge, a performance necessary to produce value' (2014: 5). In other words, data may allow the world to 'speak for itself' but, in order for it to be made meaningful as a product at point-of-sale, its 'speech' is pre-coded through a set of representational practices. These, as Anthony McCosker and Rowan Wilken have suggested, draw on predetermined ideas of 'beauty' which refer to the Kantian mathematical sublime: the aesthetic satisfaction derived from elegant representations of large and complex numerical data which cannot ordinarily be comprehended (2014: 157–9).

Kantar hosts the yearly Information is Beautiful Awards, held to celebrate 'awesomeness in data visualisation and infographics across the world' (2019b). 'Gold' winners in 2018, among many others, included a graphic representation of recurring themes and motifs in the work of Pablo Picasso, a sound and vision interactive mapping of 'fan energy' during a football game and a colour coded scrolling map of land use in the United States. The winner of the 'most beautiful' category was *Simulated Dendrochronology of U.S. Immigration 1790–2016* (Cruz et al. 2019a) which uses the visual metaphor of colour coded tree rings to image the historical growth of immigration to the US, where the colours represent the regions of the world which have done most to swell the US population in any given period. Rings for individual states and segments of history can be abstracted and it is also possible to see the difference in growth between new immigrants and increases in population due to 'natural borns' (children born in the US). The visual is complex, able to yield a number of differently inflected results and crafted according to design principles which deliberately suggest 'natural' growth (the soundtrack of the accompanying video is bird sounds and rushing water). Indeed, the designers state that their decision to image quanta of immigration statistics as 'cells' deposited during aeons of tree growth was motivated by 'the idea that these marks in the past are immutable and cannot be erased regardless how you read them. Additionally, it embodies the concept that all cells contributed to the organism's growth and that they are all part of it' (Cruz et al. 2019b). The intention, then, is to appropriate Big Data aesthetics to counter populist rhetoric which pits a supposed indigenous 'us' against a maligned immigrant 'them'. However, the form of presentation, as I will show, tends to mitigate these laudable intentions.

In her study of the corporate data industry, Melissa Gregg found that the medium overcame the message to the extent that, in one presentation that she attended, visualisations were offered that no actual datasets had been employed to develop. What was being promoted then was a persuasive aesthetic that could be applied to any number or type of dataset with any presumed audience. Thus 'in corporate settings, the possibility of data visualisation is regularly celebrated at the expense of considering the materiality of that which is processed' (2015: 39). Despite the fact that *Simulated Dendrochronology* is not aimed at the corporate market, I would argue that similar considerations apply. It simulates the retrieval of history in a form which gains the status of undisputed truth through its association with the instrumental value of Big Data while offering a form of knowledge which is literally naturalised by its presentation in images of organic growth. At the same time, it flattens the terrain of race to imply that immigration to the US has been seamless and that assimilation is the norm.<sup>2</sup>

Tree-rings notwithstanding, the form of *Simulated Dendrochronology* in fact, refers to and animates, both literally and figuratively, a visual rhetoric established in the statistical atlases published in the US in the early twentieth century through which data about the distribution of races across states and among eg., occupations could be read off easily by diverse audiences. These '[c]lean, geometric forms', as Charles Kostelnick suggests, 'supplied a basic design vocabulary for implementing the modernist program, engendering an aesthetic of cultural homogeneity that dovetailed with the melting-pot ideology of early 20th-century America' (2008: 235) and developing 'a conventional visual language for displaying data which built a rhetorical bridge to contemporary information design' (2008: 239). The idea of the melting-pot and the forms through which it is communicated can be seen to establish a standard both for how information about immigration is received and the viewing subject who receives it. Citizens schooled in the visual literacy of these forms are performing a ritual of self-recognition through which they are established as in conformity with a normalised ontology.

Thus the selective sifting of data which is the quintessential function of algorithms and which is, in corporate settings, structured to produce value is, in *Simulated Dendrochronology*, employed to strategically simulate a version of US history which accords with the mythology of colonialism. Put another way, the graphic here is read through the discourse of colonialism, supported by and entangled with algorithmic governmentality. With this in mind, my proposition is that the pleasure of viewing dataviz is derived from what I will continue to refer to as the *aesthetics of retrieval* to stand for the way in which data becomes beautiful through the graphic performance of a conditioned abstraction from the noise of the world. This describes the 'crafting' to which Halpern refers while encoding the sense that information *is* knowledge and is only waiting the appropriate retrieval mechanism to be realised and made available to perception. In fact, I intend the aesthetics of retrieval to have a dual meaning;

referring both to the way that dataviz is crafted to assure the value of what is retrieved from the churning archive of digital culture while also, as I will continue to argue, suggesting the affordances of what is *not* retrieved by the algorithms that do their work only in the name of profit.

### The Aesthetics of Retrieval

The representational logic of retrieval, I would suggest, offers access to what Lazzarato calls (following Félix Guattari) 'asignifying semiotics' (2014: 80) which function to destabilise the systems of meaning through which language operates to determine subject formation. Asignifying semiotics are found in languages (including, but not limited to, computer languages) and are, as he says, 'a matter of assemblages where man (sic), language and consciousness no longer have priority' (84) and which 'constitute the semiotics of an economy of possibles' (85). With reference to *Simulated Dendrochronology*, we could say that it derives its 'beauty' from an attempt to reterritorialize the asignifying semiotics from which it is produced and subject them to representation. Like cinema, which (again, following Guattari) Lazzarato points out is an always already deterritorialized art form which has nevertheless been subjected by the culture industry to reterritorialization through the exploitation of 'like psychoanalysis, personological and familialist signifiers', so the 'crafting' of *Simulated Dendrochronology* attempts to reduce 'asignifying semiotics to the models of capitalist subjectivity' (2014: 111). For Lazzarato the imperative is to 'free the human and non-human forces that the first industrial revolution imprisoned in *labor, language, and life*, and do so not in order to find an "original" subjectivity, but to open and activate other processes of its production' (2014: 93, emphasis in original). In other words, asignifying semiotics code an interrogation of what Braidotti calls 'the self-representations and conventional understandings of being human, which "we" have inherited from the past' (2019: 41). What is at stake here is the set of assumptions which had always ensured the category 'human' as a baseline measurement for all other ontological forms. It is this, I will argue, that is realised in the way that the aesthetics of retrieval activate both the coherent and consistent subject that the promise of synoptic vision confirms and the possibilities inherent in the realisation that there is 'no subject in fact'.

In what follows, I will propose that glitch art functions to expose the potential of asignifying semiotics in the form of the excess which cybernetic capitalism both requires and disavows. This is the excess which constitutes the 'grayness' (Fuller & Goffey, 2012: 13) necessarily produced by all forms of processing and which Matthew Fuller and Andrew Goffey describe as the 'digital equivalent of rotting offal' and which presents 'multiple occasions ... for crafty ... exploitation' (18–19). Glitch, I would suggest, in exploiting this excess, questions the self-evidence of the visible and re-frames data retrieval as an act of what Jacques Rancière calls 'dissensus' which 'creates a fissure in the sensible order by confronting the established framework of perception, thought and action with the "inadmissible"' (2004: 89). For Rancière, '[t]here

is no real world'. 'Instead', he writes, 'there are definite configurations of what is given as our real, as the object of our perceptions and the field of our interventions' (2004: 156). Glitch then marks out a space for dissensus where the configurations of data and their relationship to the real is made visible. In troubling those configurations it also troubles the ontologies to which they refer. It disturbs the sediment of what is forgotten or ignored; the remains that constitute the archive and which hold the promise of a different kind of retrieval and, just possibly, a different way of life.

### Invention and Breakdown

In *To Our Friends*, the most recent of the Invisible Committee's anonymously penned manifestos for social change they take a position which is echoed by, for instance, Braidotti (2013: 13–54) and which is the fundamental position from which posthuman politics proceeds. In broad agreement with Lazzarato, they refer to a 'cybernetic governmentality' operating in terms of a 'completely new logic' while 'its subjects continue to think of themselves according to the old paradigm' (2014: 115). This is the paradigm represented by Vitruvian Man (Braidotti 2013: 23–4), the impossible template for modern man and his investment in optics as proxy for the individual as controlling centre of a private and self-directed universe. He is the architect as author of space, the artist as interpreter of the world, the scientist as guarantor of progress and, finally, the human as bearer of rational perspective which is also the human as manipulator of technical devices. What this entails is not only the categorical expulsion of any and all living things deemed a-rational but the illusion of a natural world, itself a-rational, which human entities are both a part of and able to control. But the division between natural and artificial and technical and organic is artificial in itself. Or, as the Invisible Committee (2014: 122) put it, 'our familiar world rarely appears to us as "technical" ... because the set of artifices that structure it are already part of us'. Crucially, they continue 'the technical character of our world only stands out in two circumstances: invention and "breakdown." It's only when we're present at a discovery or when a familiar element is lacking, or breaks, or stops functioning, that the illusion of living in a natural world gives way in the face of contrary evidence'. Posthuman politics is attuned to this 'contrary evidence' and, in particular, to the frailty of the human as a category which guarantees ontological hierarchies. Posthuman thought, as Braidotti says, mobilises 'resources and visions that have been left untapped' (2013: 191) and is able to 'make a qualitative leap out of the familiar' (194).

This, as I will continue to argue, is the appeal of glitch; that it not only exposes the workings of the system and its ability to function otherwise but enables us to recognise ourselves as always already posthuman and thus not 'natural' subjects ranged against forces beyond our control but political actors subjectivised by those same forces and thus in a position to mobilise against them. I would designate glitch as an instance of what Dimitris Papadopoulos, Niamh Stephenson and Vassilis Tsianos call 'imperceptible politics' (2008: 13), the apprehension

of moments when the absurdity and precarity of the entire system of production and its associated representations become visible, graspable, and open to creative exploitation. 'The generative activity of the dataset' as Fuller and Goffey point out, 'is never completely assured in its outcomes, producing new forms of uncertainty and indeterminacy even as it accomplishes its allotted tasks of automation and control' (2012: 96). Glitch art exploits these moments of revelatory breakdown by appropriating the tools with which dataviz achieves its aesthetic crafting to structure an opposition which works with what Rouvroy has called the 'remnants' (2016: 10) or what the data retrieval mechanisms of contemporary capitalism discard, disavow or conceal.

### Glitch Apocalypse

Glitch art works with the signals suppressed by – but a necessary supplement to – algorithmic processes. In working with this redundancy, it utilises the output from random operations to reveal the underlying dependency of the smooth surface of the digital image on a particular but contingent arrangement of nested and interlocking commands. The process is deliberately destructive, aiming to rupture the coherence of a digital artefact so that something other may emerge. In effect then, it deliberately introduces noise into communication, randomly re-sorting an ordered sequence to demonstrate that order itself is arbitrary, contingent and open to transduction. Carolyn L. Kane locates its historical precedents in, for instance, the way that painting responded to the visual accuracy of the photographic image in the late nineteenth and early twentieth centuries, singling out, for instance, Futurism 'which actively skewed and distorted the coherency of the composition' (2014: 6). She also cites Duchamp's *The Bride Stripped Bare by Her Bachelors, Even* (1915–23) a.k.a *The Large Glass* which, as she says 'uses error and breakage to highlight what is normally invisible and functional in practices of looking and knowing, making visible what is otherwise an unconscious and ideological relation to knowledge and truth' (2014: 9). For similar reasons *The Large Glass* also features in David Company's essay 'A Handful of Dust', in which he emphasises how Duchamp's strategic use of random accumulations of dust (and *Dust Breeding*, Man Ray's photograph (Ray 1920) of *The Glass* in production) are significant examples of a 'preoccupation with the "stage wings" of modernity, with what progress must leave out or suppress' (2017: 14).

Thus, glitch and its 'compression aesthetics' (Kane 2014: 4) is an iteration of these tendencies which makes direct use of the technical processes of digital production to suggest a critique of data visualisations and their representations of forms of order through which information becomes commodified.

The glitch aesthetic itself is not particularly new, as is well known by producers of 'noise' music, an artform that utilised the inherently glitchy early samplers and digital synthesisers that began to emerge in the 1980s. Sound designer Kim Cascone suggests that glitch originated as 'a subversion of the smooth and technically perfect surface of digital audio' and is 'cognitively reacted to as a rupture

in the continuum of an idealized artifact' (2009: 17). Put another way, glitch can be understood as a rupture in the spectacle effected through interference techniques attuned to the latent potential of redundancy, error, misdirection and randomness. With this in mind, it can be understood as exploiting the aesthetics of retrieval to reveal what is beneath the technically perfect surface, what is discarded to ensure that it retains its value; the excess which secures meaning but which also threatens it with redundancy.

Indeed, glitch artists themselves are prone to describe their work in terms which echo my analysis. Post-photography practitioner Sabato Visconti (2017), for instance, situates glitch in the interstices of the digital production process which includes the techniques through which the digital camera and its firmware are made available for purchase and use through the iterations of the image as it is compressed, manipulated, corrected and viewed. Nick Briz, referring specifically to the systems architecture through which visual images are realised in a digital environment is concerned with the politics of glitch as an affront to the hegemony of corporate computing. 'A glitch', as he says, 'is an unexpected moment in a system that calls attention to that system', it 'reveals aspects of that system which might otherwise go unnoticed (while the system attempts to remain "invisible")' (Briz 2018). For Philip Stearns, glitch is 'the unlocking of other worlds latent in the technologies with which we surround ourselves' (2018). And Rosa Menckman, in her *Glitch Studies Manifesto*, proposes the term 'noise artifacts' (2009/2010: 4/13) to refer to the 'fingerprints of imperfection' (2/13) which are inherent in all technologies and which glitch retrieves and makes apparent. 'The glitch is a wonderful experience of an interruption', she writes, 'that shifts an object away from its ordinary form and discourse ... But somewhere within the destructed ruins of meaning hope exists; a triumphal sensation that there is something more than just devastation' (Ibid 5/13). Michael Betancourt suggests that the critical function of glitch is in that it reveals the materiality of machinic processes and, crucially, can be thought of as 'unformed and unforeseen potential ... which is inherent in the machine' (2017: 56).

Relevant here also is Hito Steyerl's assessment of 'poor images' as working to suggest a retrieval of what is discarded to produce what she refers to as 'the fetish value of high resolution' (2009: 7). Poor images are low resolution (pirated) copies of cinema blockbusters, imperfectly digitised copies of old analogue films that never made it to DVD, 'amateur' video and photography, the many clip montages with ill-chosen soundtracks that litter YouTube, gonzo pornography. All these (and more) are both the labour and product of the prosumer economy and what is other to, and guarantor of, the high exchange value of their high-resolution counterpart. They are its background hum; the noise which determines the signal – the debased term of an oppositional hierarchy. For Steyerl, this 'alternative economy of images' has the potential to constitute an art of the multitude, constructing 'anonymous global networks just as it creates a shared history'. 'The poor image', she writes, 'ambivalent as its status may be—thus takes its place in the genealogy

of carbon-copied pamphlets, cine-train agit-prop films, underground video magazines and other nonconformist materials, which aesthetically often used poor materials. Moreover, it reactualizes many of the historical ideas associated with these circuits' (2009: 8). Glitch, I would argue, engages with the same sense of reactualisation, encoded as the play of errant pixels in its signature aesthetic.

In a different register, Evan Calder Williams echoes this idea in his concept of 'salvagepunk', a cultural formation fascinated by ruins, not as a nostalgic yearning for lost empires or a romantic attachment to natural decay but as an expression of potential. What he calls 'apocalypse' is 'a wound of the present that exposes the unseen – but unhidden – from which after-work can begin to dig out all the failed starts, possible histories.' (2010: 9) Apocalypse, for Calder Williams, is a revelation of potential in ideas that refuse to die but have been obscured by totalising ideologies and the 'universal ordering system' which ensures that 'certain things are worth seeing or even can be seen'. What he calls the "undifferentiated" is that which cannot be seen' (2010: 6). In other words, what cannot or must not be seen are what threaten to collapse oppositions and to throw into doubt sanctioned differentiations. Apocalypse is, quite simply, the revelation of what we should have known all along, precipitated by a change in direction, a pause, a malfunction or, essentially, a glitch. Thus another way to describe the aesthetics of retrieval might be through the deliberate strategy of forced breakdown in the service of revealing the undifferentiated which algorithmic governmentality both requires and disavows. It is also, crucially, a description of the pleasure of *reading* the undifferentiated in such a way as to destabilise the hegemony of 'natural' structures and their associated ontological determinacy.

Glitch practitioners are often dismayed at the leaky nature of contemporary media and the incorporation of glitch artefacts into pop video and film. Kane, in particular, is scathing about Kanye West's glitchy 2009 *Welcome to Heartbreak* video which, as she says, 'simulates a DIY aesthetic, but is not actually derived from DIY strategies, nor does it perform any real critique of pop-culture' (2014) Nevertheless, as Campany points out '[t]he line between entertaining visual puzzles and troubling estrangement is very fine' (2017: 27). If we are to take seriously Kane's suggestion that '[a] glitch or technical error can be used to pose questions and open up critical spaces in new and unforeseen ways' (2014) then I would suggest that it is precisely in popular culture where we may make use of the appearance of the aesthetics of retrieval to inaugurate new forms of critique; to, in effect, expose the relationship between the form and content of screen media and the way that the process of subjectivation proceeds as an effect of digital capitalism. I want to conclude here then by exploring the emergence of noise artefacts into popular culture with a particular emphasis on Denis Villeneuve's sequel to Ridley Scott's *Blade Runner* (1982/1992/2007) and Sam Esmail's TV series *Mr Robot*, both of which are about the *loss* of data and which also make judicious use of glitch to explore the power structures that condition subjectivities.

### Noise Artefacts

Arguably, one of the first glitch artefacts in popular culture<sup>3</sup> was Max Headroom (**Figure 1**), a chat show host/VJ spun off from a TV movie, *Max Headroom: 20 Minutes into the Future* (1985), originally broadcast on Channel 4 in the UK (1987–8).<sup>4</sup> Although Max, from a twenty-first century point of view looks like a glitched data file, actor Matt Frewer's AI alter-ego was actually created using prosthetics.

Nevertheless, the premise of *Max Headroom*: that a human mind uploaded to a platform designed for broadcast television of the 1980s (remember – this is only *20 minutes* into the future) would necessarily glitch but would also have the potential to subvert the medium of which it had become a part is instructive. Leaving aside, for the moment, the debates which make a distinction between glitch art proper and 'glitch-alike' (Moradi in Betancourt, 2017: 86), my claim here is that Max is a figure that, in his troubling of ontological certainties in the face of apocalypse, can offer a way to assess the critical function of glitch in popular culture in terms of its revelation of the posthuman subject, read through the aesthetics of retrieval. Max, possibly the most annoying 'character' of 1980s TV and now largely consigned to the archive of lost media and the more obscure corners of internet fandom is nevertheless him/itself, I would suggest, representative of how the 'remnants' or 'false starts' can be mobilised to interrogate the apparent seamlessness of the looping structures through which algorithmic governmentality operates.

More recently, of course, glitch has emerged full blown into popular culture, perhaps lamentably collapsing the distinction between glitch as art and commercial forms which simulate or appropriate it (Betancourt 2017: 87). Nevertheless, *Blade Runner 2049* seems to me to invite a reading in which glitch effects stand for more than simply appropriation of the form in an attempt to borrow authenticity. I have suggested elsewhere (Shaw, 2000) that Ridley Scott's original *Blade Runner* can be most productively read as a critique of hierarchies of being in that it images the effects of the collapse of distinctions on which they rely through an interrogation



**Figure 1:** Looking like a 'glitched data file'. Max Headroom.

of the relationship between visual prosthetics and memory. In the sequel, set thirty years into the diagetic future, the employment of noise artefacts both troubles this relationship and, as I will demonstrate, opens new avenues of critique which work with the latent potential of breakdown and its cultural effects.

The graphics accompanying the opening and closing credits of *2049* were produced, in fact, through a collaboration between video glitch artist Anton Marini (aka Vade) and designer Toros Kose (Marini 2018 and Kose 2018). When I saw the film at the cinema, I honestly thought, at least for a moment, that the transmission was faulty. The shift to recognition of the glitch aesthetic was a moment of affective displacement or, to repeat Menkman's glitch experience, a 'wonderful interruption' where what was interrupted was the narrative of Hollywood and its overdetermination as the factory of cultural meaning. The glitching of familiar Hollywood and tech giant logos can be seen to render the ideas that they represent impermanent and corrupt. This is the 'shift away from ordinary form and discourse' to which Menkman refers and it is a powerful introduction to a film about the function of technology in the crafting of memories.

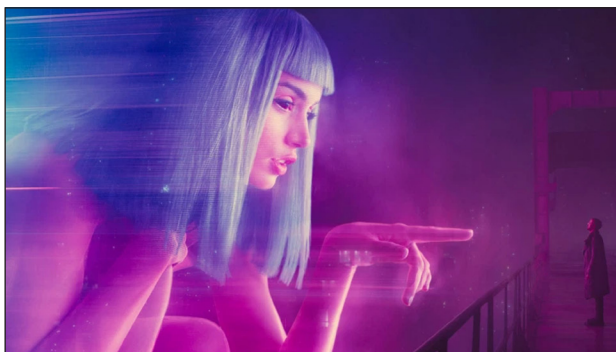
In the future of *2049* a rebel engineered data blackout has almost completely wiped the databanks of the world's computers (Watanabe 2017), leaving a gap in history and only fragments of the knowledge through which the famous 'replicants' of the original *Blade Runner* were created. Rick Deckard (Harrison Ford), now lives alone in a crumbling casino amid the ruins of Las Vegas where fragments of twentieth century culture survive as imperfect holograms of Elvis, Marilyn Monroe and Liberace in their prime, complete with chorus line. What is interesting here is not just the survival of twentieth century cultural artefacts but the significance of their degraded state: Elvis winks out halfway through a line and re-appears for the next verse; Marilyn flickers and stalls; the chorus line stutters mid-kick.

On the surface, this is a representation of the degraded state of historical data in the film's diagetic present which can also stand as commentary on the unreliable nature of memory. However, read through the aesthetics of retrieval, these noise artefacts in their random disruption of the smooth transmission of data, insert a hesitation which draws attention to the machinery of image production. The system, in Menkman's words, exhibits 'its formations, inner workings and flaws' (Menkman 2009/2010: 5/13). This stands as an effective deconstruction of celebrity culture and its artifice but it also functions, like the glitchy delivery of Max Headroom, to destabilise the myth of technological utopia or the dream that a successor species will emerge from the confluence of human consciousness and the digital archive; what Steve Fuller refers to as 'Humanity 2.0' (2011). This yearning for salvation through incorporation with advanced technology is currently the aim of multi-billion dollar projects investigating life extension through things like cryonic preservation, gene editing, nanotechnology, space migration and brain uploading.<sup>5</sup> All of these projects, ultimately, are oriented

towards the preservation of an essential humanity founded in an informational paradigm in which the brain is privileged as the organ of determination. In this scenario, the cumbersome body on which the violence of the state is enacted in the name of capital is dispensed with, modified or preserved as pure information while consciousness is retained in the form of digital encoding. This signals, as Charles Thorpe has pointed out, not only the triumph of abstract individualism but full mergence with etherized capital and thus a dispensation from the necessity to confront it (2016: 103). At the same time, what this scenario seems to require is the continuation of capitalism by any means necessary, including the use of dwindling natural resources.

But *Blade Runner 2049* is about *lost* knowledge, data that can never be retrieved and imperfect constructions of truth as read-out from the remaining fragments. The degraded holograms, representations of celebrities who, in their prime, promised a form of eternal life through their constant re-circulation as commodities are, in the face of structural breakdown, rendered redundant and monstrous. At the same time, the employment of glitch aesthetics, intentionally or not, points to the posthuman understood as a recognition of what we always already are, rather than what we hope to become. What is suggested is the promise of the undifferentiated where the aesthetics of retrieval activate an orientation towards to the future which does not imagine a perfected human condition reserved for the few at the expense of the many but a consciousness of imperceptible politics in the present and a commitment to working creatively with what emerges from the ruins.

Shortly after the film's premiere, voices were raised in protest (Smith 2017) over its portrayal of female characters, in particular the depiction of Joi (Ana de Armas. **Figure 2**), the holographic 'girlfriend' who lives with K (Ryan Gosling), the replicant at the centre of the narrative. However, it is Joi her/itself which most potently exposes the 'inner workings' of the system of gender. When K's spinner crashes in the desert, Joi, along for the ride thanks to the 'emanator' device that K has purchased to free her from the confines of his apartment, glitches



**Figure 2:** One in a series of 'femine archetypes': the fragility of glitch functioning as proxy for 'artifice and constructedness of gender itself'. Ana de Armas as Joi in *Blade Runner 2049*.

in the act of showing proper girl-friendly concern for her injured lover, never quite completing the gesture. As the camera pulls back from the scene, there is real pathos in the exposure of her fragility, the glitch here functioning as proxy for the fragility, artifice and constructedness of gender itself.

Joi is mercurial, adaptable to K's moods as she cycles through a series of feminine archetypes, conforming to her program which promises the perfect girlfriend experience, 'everything you want to see, everything you want to hear...'. As a noise artefact, however, she is a foil for the 'happy' ending; the expectation of heterosexual completion in the normatively constituted family scene. She is as redundant, in fact, as Elvis, Marilyn and all the absurdly remaining artefacts of Las Vegas in its prime represented, aside from the holograms, by giant tumbled mouldings of the idealised female form. Holographic nostalgia is a familiar entertainment in the media saturated world of our current location in time, as are virtual girlfriends. But displaced to the ruins of the future, their struggle to maintain coherence exposes the fragility of what they attempt to figure; the ideal that they purport to model.

Similarly, in the final episode of Sam Esmail's award winning series *Mr Robot* (**Figure 3**), glitch effects figure the dual meaning of memory disruption and dislocation which ground both the series' narrative and its sub-text. For a large part of the first three seasons, Elliot Alderson (Rami Malek) is a drug addicted hacker with an enabling alter ego, called Mr Robot (Christian Slater), who may or may not be his father. In Season 4, other characters emerge as manifestations of Elliot's dissociative personality disorder and the hack becomes a metaphor for the restructuring of the psyche necessary for him to re-engage with reality. Mr Robot is revealed as a memory retrieved from Elliot's childhood, put to work as an interface between Elliot and the world he must navigate in his fight against globe-dominating digital behemoth *E Corp*. Thus distorted recall and the function of memory in the structure of the personality are integral to the text and these are presented as inseparable from data retrieval as a function of cybernetic capitalism.

On a banal level, the hack can be read as standing in for the clinical scene of psychoanalysis and its resolution in adjustment to psychic reality. However, a more nuanced reading becomes possible through the noise artefacts which make an appearance in the final episode, imaged as interference in the transmission producing pixelated effects and time-space distortions. Initially, what this tends to emphasise is a breakdown in Elliot's constructed reality and an orientation towards a new subjective horizon. But, equally, it can be read as enacting Jacques Derrida's proposition, in *Archive Fever*, that '[a]rchivable meaning is also and in advance codetermined by the structure that archives' (1996: 18). Part of what Derrida is suggesting here is a necessary relationship between the sedimentation of memory as a function of psychic conditioning, the social structures that determine meaning and the technical devices that enable the archive to exist.



**Figure 3:** Rami Malek in *Mr Robot* (glitched) – ‘memory disruption and dislocation’.

As in *Blade Runner 2049* then, what *Mr Robot* makes available, and what the noise artefacts that it employs promote, is a ‘wonderful interruption’ in which ‘the structure that archives’ is exposed. The revelation of Elliot’s self-administered therapy which he experiences as a series of sessions with another artefact of his personality, Krista (Gloria Reuben), is not then adjustment to a pre-given reality but a recognition of disassociation as essential to subject positions as constructed by algorithmic governmentality. What I am discussing here then are what Braidotti calls ‘*conceptual personae ... alternative representations of the subject as a dynamic non-unitary entity*’ (2013: 164) which can stand for the posthuman as both a rejection of anthropocentrism and a move towards creative re-imaginings of what it means to *be* in a world where the boundaries between previously disparate entities are becoming increasingly fluid.

Glitch then is noise made manifest; a visual representation of what, if the system is functioning correctly, should not be seen. It is, equally, a retrieval but one which, in privileging noise over signal, provides for a response which is a recognition of the entire system of production as vulnerable to the excess which it necessarily represses in the aesthetic crafting of algorithmic truth. As Betancourt points out (2017: 49), glitch realises the kind of aesthetic that Theodor Adorno claimed for modern art. Its social function is, as Adorno says, in its ‘functionlessness’ (1997: 297). It is thus in antagonistic relation to production and consequently to the reality represented by the culture industry. What I have suggested then is that this requires a new critical approach; a form of posthuman critical theory which works with the tension between the atomised human subject that algorithmic governmentality requires and a subjectivity that is emergent with that same system and is an effect of its attempts at global dominance. Crucial here is the testing of these ideas in a critical appraisal of the products of popular culture which, in its attempts to incorporate the glitch aesthetic, also borrow its ‘wonderful interruptions’ that shift meaning away from teleological discourses. While, admittedly, both *Blade Runner 2049* and *Mr Robot* are texts which incorporate critique at a narrative level, my analysis here is designed to probe further into what they offer as templates for a reappraisal of tactics for reading contemporary visual culture against the grain. Put another way, the

employment of the glitch aesthetic signifies posthuman subjectivity as an effect of apocalypse where ‘post’ does not stand for a successor species or the *enhanced* human but a subject position emergent with the system itself, coming to self-recognition through breakdown and attuned to imperceptible politics.

What I have demonstrated here then is a methodology that can be employed towards a form of knowledge that proceeds from an ontological position in which ‘knowing subjects are collaboratively linked to a material web of human and non-human agents’ (Braidotti, 2019: 101). This, of course, was always the case but a confluence of geophysical disasters has been necessary for us to begin to confront the entanglements with nature and machines that has brought us to doubt the viability of the human enterprise. Under lockdown conditions in the time of Covid-19 we have been forced to recognise that the spaces between bodies are matters of life and death and that the virtual spaces provided by networked computing are where we come closer while being further apart. We need no more stark reminder that, as Braidotti puts it, what we call the ‘self’ is ‘a moveable assemblage within a common life-space’ (2019: 158). This space enacts an enfolded cartography, producing unlooked-for realities, previously only considered as indicators of systemic failure, whose emergent forms we must learn to read. The aesthetics of retrieval describes how this reading might proceed.

### Notes

- <sup>1</sup> See Shaw *Posthuman Urbanism* (2018) for a more developed discussion of this idea.
- <sup>2</sup> This is true of many other applications which purport to simulate forms of reality. For a discussion of this in the context of facial recognition see Ramon Amaro’s ‘As If’: <https://www.e-flux.com/architecture/becoming-digital/248073/as-if>.
- <sup>3</sup> Betancourt (2017: 24) in *Glitch Art* suggests that the first was *Digital TV Dinner*, first broadcast in 1979.
- <sup>4</sup> Channel 4 revived Max briefly in 2007 to advertise their new digital channels.
- <sup>5</sup> See eg., the Future of Humanity Institute at Oxford University (<https://www.fhi.ox.ac.uk>) and the Lifeboat Foundation (which partly raises money through automatic donations via purchases on Amazon): <https://lifeboat.com>. See also Leo Hickman, ‘Bioengineer humans to tackle climate change, say philosophers’ *The Guardian*, 14 March 2012. Available at: <https://www.theguardian.com/environment/blog/2012/mar/14/human-engineering-climate-change-philosophy?newsfeed=true>.

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Images: Fig 1: *Max Headroom* (1987–88): Chrysalis/Lakeside & Lorimar Productions/Warner Bros. Fig 2: *Blade Runner 2049* (2017): Alcon Entertainment/Columbia Pictures/Sony. Fig 3: *Mr Robot* (2015–19): Universal Content Productions/Anonymous Content/NBC Universal Television.



## Competing Interests

The author has no competing interests to declare.

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