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Of books by:

Ian Campbell, Gerry Canavan and Eric Carl Link, Jim Clarke, William Davies, Tamysn Muir, Emma Newman and Rivers Solomon

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**Namwali Serpell:
Clarke Award Winner 2020**

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Editorial

Paul March-Russell

'In times of crisis', Frank O'Hara once wrote, 'we must all decide again and again whom we love'. O'Hara plumps for Hollywood but only after he has rejected small-press poetry magazines, learned periodicals, avant-garde theatre and grand opera: the importance, as is often the case in O'Hara's poetry, is the decision-making rather than the final verdict.

And we too, as the second wave of Covid-19 breaks upon the UK, are in a time of crisis. So, how shall we decide upon what we love? Science fiction, as discussed in the previous issue, has had a privileged role in imagining and responding to the current crisis and yet, as this issue's round-table argues, the history of sf is no longer a secure parade of mostly white, male names. Other traditions, other cultures, other media demand attention. If we can no longer decide upon an agreed history of the genre, how can we decide upon what we love about it?

Crises make manifest tensions that were disguised behind the veil of consensus. Covid-19 has revealed the socio-economic inequalities that Black Lives Matter has campaigned against for years, but without quite the recognition that the pandemic has brought to it. Similarly in sf, the consensus that governs its history (give or take the multiple claims of multiple starting points) has been slowly breaking down – the attempted coup by the Sad Puppies was one of its symptoms – but only now is that collapse coming into focus.

A wider perspective would reveal that the current state of affairs is as it ever was. The canonical image of genre sf that we have is the work of two or three editors (Hugo Gernsback and John W. Campbell most notably) but in truth, even within the closed compass of North American sf, there were other traditions, other possible pathways. The rediscovery of female writers, editors and fans is only one such hidden history. Returning to the source material (which is, incidentally, why archives are so important) reveals that the 'consensus' is a retrospective construct – at the time, 'science fiction' could have developed in any number of ways. And here I am only talking about North American sf: what about the contemporaneous traditions emerging in other parts of the world?

So, to know what we love is to return to the history *as it was* – to explore, to choose, to argue, as O'Hara contended, or indeed in any number of forums in sf magazines and fanzines. Most importantly, by deciding upon what we love by argument, we make a democratic choice – that is, we ultimately discriminate but we do so in the spirit of tolerance and open-mindedness.

Why is this important? In the wider world, democracy is under threat. By the time this issue is published, we will know who has won the most significant US

Presidential election for a generation or more. In the UK, as I write, attempts are being made to muzzle the freedom of schoolteachers, the press and the BBC. To exercise our powers of discernment, even in something as seemingly peripheral as sf, is to also exercise our skills in democratic decision-making: of exploring independently, of listening to others, and of making a rational decision based upon what we have learnt. Maybe, like O'Hara, we won't be able to decide which Tarzan actor we prefer the most, but to decide not to decide is itself an act of agency.

Why is this important specifically for sf? Because, just as there is no single history, so there is no single sf community. Different generations, often coming to sf via different routes, tend to talk at cross-purposes. Nowhere is this better seen than in the divide between the Hugos and the Retro-Hugos, the former indicative of the diversity to be found within contemporary sf, and the latter representative of the canonical history that has been handed down. The presence of both sets of awards reveals the tensions within current sf fandom and, in particular, the lack of dialogue between older and younger fans. Covid-19 has revealed generational inequalities, where the young have had to modify their behaviour for the sake of the elderly, a tension that may increase in future years as the population continues to age. For the hope of social cohesion, young and old people will need to speak more, so why not do that through something, such as sf, that they both profess to love?

This general issue contains both a review and a round-table discussion of the recently published *Cambridge History of Science Fiction*. I hope they act as a foretaste for our 'decolonising sf' issue next summer. I am delighted that one of Germany's leading sf writers, Andreas Eschbach, has contributed to the Fourfold Library while, in the centenary year of Isaac Asimov's birth and Karel Čapek's *RUR*, we have two articles on androids – in Philip K. Dick and the British TV series, *Humans*. We also feature articles on posthumanism, climate change fiction and financial speculation, specifically in the work of Cory Doctorow, with whom we will have an interview in the next issue. Our conference reports are back – although now reflecting upon the virtual experience. Which only leaves me to say that, in addition to our academic database providers EBSCO and ProQuest, online copies of *Foundation* are now available at <http://fanac.org/fanzines/Foundation/>

Novum Decay: Moving Beyond Humanism in *Source Code*

Jonathan Hay (University of Chester)

This article springs from the claim that representations of mundane human life are just as prominent as novums in contemporary sf, and that through their generative interplay the genre figures ‘a transient dreamscape for visitation by the (post)human mind, via which the reader gains an expanded perception of not only their own empirical environment, but also of posthuman possibility’ (Hay 2019: 31). The presence of the quotidian in sf confirms the capacity of the (post)human mind to transcend the presumptions of traditional humanism. By deconstructing the rhetorical role of novums in Duncan Jones’s *Source Code* (2011), I demonstrate that the novel content of sf fades intratextually, just as novums within the genre tend towards entropy intertextually; an accumulative process I shall term *novum decay*.

This thesis problematizes the popular notion that genre sf constitutes a linear, self-referencing schema, or ‘megatext’ (Brooke-Rose 2010: 243), which purportedly ‘works by embedding each new work, [...] as a self-structuring web of non-mundane signifiers and syntagms, in an even vaster web of interpenetrating semantic and tropic givens or vectors’ (Broderick 1995: 59). For Damien Broderick and others, sf’s rhetorical components are exclusively composed of novums. Yet, as Joanna Russ demonstrates, the proliferation of the sf genre itself invariably precipitates the intertextual ‘phenomenon of genre material wearing out’ (Russ 2007: 221), since novums cannot remain novel in a genre where their imaginative content is depreciated by overuse. This article accordingly expands upon Russ’s premise by challenging the centrality of the novum to Darko Suvin’s model of cognitive estrangement, and demonstrating its intratextual instability.

In *Metamorphoses of Science Fiction* (1979), Suvin famously theorizes that sf texts are fundamentally defined by their capacity to produce cognition of the unknown through the deployment of estranging novums. Suvin proposes that the novum is ‘always codetermined by the unique’, enabling it to delimit ‘relations basically new and unknown in the author’s environment’, and he accordingly extrapolates that the sf genre has an implicitly utopian political character (Suvin 1980: 64). ‘The Suvin Event’, as Gerry Canavan terms the seismic effect of his critical intervention, ‘has framed four subsequent decades of work in the field’ (Canavan 2016: xii). Much like Donald Wollheim’s teleological claim that sf ‘speaks of an infinite range that is open to humanity in the universe’ (Wollheim 1971: 117), Suvin’s seminal theory of sf is premised upon the assumption that the genre’s megatext proceeds towards the *telos* of ‘the destiny of humanity’ (Suvin and Angenot 1988: 13).

In a contemporary context, however, Suvin's eschatological emphasis on the novum as the centralising literary device of the sf genre is both outdated and overly prescriptive. Since the Suvinian paradigm assumes that all sf is 'essentially about grand narratives of science' (Keen 2019: 14), it valorizes a model of human exceptionalism. Yet, since the start of the twenty-first century, the 'concept of "human" has been broadly challenged, while "posthuman" and "transhuman" have become terms of philosophical and scientific enquiry' (Ferrando 2019: 21). Given the extensive challenge to the term 'human' by posthumanist thinkers such as Francesca Ferrando, N. Katherine Hayles and Rosi Braidotti, it is necessary to reconsider the extent to which Suvin's humanistic appraisal is still pertinent to contemporary sf.

The Novum

It remains widely accepted within sf criticism that novelty is the defining feature of the genre. For example, it has been variously argued that sf is reliant upon 'the critical power' of the novum (Rieder 2017: 4); that the genre 'literally distances the traveller from the familiar' (Seed 1995: x); that sf proves 'that we need not and should not settle for the familiar contingencies of everyday existence' (Freedman 2009: 70); that the genre 'depends on novelty' (Shippey 2016: 27); and that it 'invoke[s] a phenomenological world distinct from the quotidian environment' of the reader (Cline 2014: 252). To challenge the assumption that sf is implicitly 'humanistic' (Suvin and Angenot 1988: 45), it is crucial to problematize the category of the novum itself so as to generate a post-humanistic conception of the genre.

To that end, a number of critics have questioned the centralising role the novum plays within the model of cognitive estrangement. China Miéville, for instance, asserts that 'the cognition effect' is no more than an act of 'persuasion' in which the reader willingly succumbs to the rhetorical skill of the author rather than the scientific accuracy of the novum (Miéville 2009: 238). For Miéville, Suvin's scientific usage of the novum is not only a mystification but also ideological; it nostalgically echoes 'a strangely prelapsarian, often instrumentalized, science and bureaucratic rationality' (240). By contrast, Istvan Csicsery-Ronay proposes that in the hypercapitalist milieu of the twenty-first century the 'emergence of novums has accelerated to the point that they matter not just to academic philosophers and futurologists, but to people pursuing their everyday tasks' (Csicsery-Ronay 2011: 58). He therefore suggests that 'the novum, far from being at the front line of humanistic history, becomes an ironic model of quotidian reality' (59) when it appears within contemporary works of sf. Likewise, Rhys Williams concludes that sf 'is no longer capable of estranging us from the hegemonic discourse for which it operates as ideological cheerleader.

It is limited [...] by an orientation towards alterity articulated through an idealized imaginary of capitalist enlightenment and progress' (Williams 2014: 626).

Despite the insightfulness of these criticisms, the conclusion that sf's novel content has become intractably conservative as a result of its alliance to a grand narrative of technological, scientific and capitalist modernity is greatly reductive. Far from decentring the novum, such a criticism continues to privilege its defining role within the genre, albeit from a negative perspective. What is required instead is an expanded understanding of sf's rhetorical strategies that may make sense of why it retains its popularity within contemporary media. This is especially the case when so many of the technologies that sf once fantasized have now become ubiquitous, even banal, realities. At the same time, as once fantastical devices become pervasive aspects of our lived realities, so as human beings we increasingly interact with technology in an interstitial territory that can be best regarded as '(post)human' (Hayles 1999: 246).

Hence, whilst the repetitive, mundane or banal aspects of (post)human life are often a substantial aspect of realist texts, in works of contemporary sf these quotidian elements have a specialized function and are fundamental to the genre's drive toward cognition of that which is presently alien. Whereas Suvin states that 'the boredom of a nine-to-five drudgery relieved [only] by flashes of TV commercials' (Suvin 1980: 24) is anathema to sf, it is precisely this type of social lethargy that necessarily underlies contemporary sf's novums in order to focalize its posthuman impulse. Despite (or even because of) the perpetual anxiety of obsolescence, sf relies on the perpetual 'invention of new living metaphors that redescribe metaphor' and 'allow a new conceptual production to be grafted onto the metaphorical production itself' (Ricoeur 1994: 294). However, whereas for Paul Ricoeur metaphor is vital 'by virtue of the fact that it introduces the spark of imagination' (303), in sf, this spark has a finite lifespan. Since any novel defamiliarization is ultimately unsustainable, every novum the genre proposes is subject to decay, such that this process has become central to the production of new sf.

Novum Decay

The novums of sf texts are fundamentally unstable, decaying both intratextually and intertextually, an assertion which is underpinned by recent cognitive research. In a number of scientific studies, researchers have used functional magnetic resonance imaging technologies to measure the activation areas present within the brain during the activity of reading. In one such study, 'metaphor processing selectively activate[s] sensory areas in the modality from which the metaphors primarily derived their meaning' (Lacey et al 2012: 418), which for the reading of sf suggests that the reader's ability to cognitively

engage with science-fictional novums must necessarily be grounded in their understanding of familiar, mundane phenomena. In addition, 'the familiarity of sentences can affect speed and accuracy of processing' (Desai et al 2011: 2378), including familiarity with a given metaphor:

The target is understood in terms of the base domain through motoric simulations, which gradually become less detailed while still maintaining their roots in the base domain. The negative correlation of primary motor areas with metaphor familiarity and the activation of secondary motor regions for metaphors regardless of familiarity suggest a gradual abstraction rather than a switch in the processing mode. (2384)

These findings suggest that readers' cognition of metaphors depends upon 'a gradual abstraction process, whereby relatively detailed simulations are used for understanding unfamiliar metaphors' but 'these simulations become less detailed and involve only secondary regions as the familiarity increases' (2385).

Thus, when an sf work deploys a novum, the arresting metaphoricity of that novum invariably fades, from the moment at which the reader is able to cognitively comprehend its novel content in relation to his/her own reality, while the estranging quality of the novum also proportionately diminishes. The reader gradually approaches cognizance of the novum and, particularly in the case of texts where mundane signifiers are explicitly deployed alongside novums, the otherwise mundane elements function as a catalyst to the cognitive process which facilitates the reader's increasing comprehension of the science-fictional elements.

Therefore, in accordance with Viktor Shklovsky's assertion that defamiliarization functions to 'transfer the usual perception of an object into the sphere of new perception' (Shklovsky 2004: 19), textual representations of the mundane elements of the reader's lifeworld become crucial science-fictional devices in themselves. Accordingly, alongside sf's proliferation into the everyday cultural sphere and its attendant emergence as a mainstream genre, the diegetic worlds of many texts within contemporary sf have become increasingly saturated by mundane realism. This turn is conversant with but significantly broadens the scope of Geoff Ryman's 'Mundane Manifesto' (2007), which presumes that the genre's banal elements entirely reside within sf texts set exclusively 'on Earth' (Ryman 2007). Observably, a vast range of contemporary sf works regularly utilize mundane elements in order to facilitate their readers' cognitive engagement, and therefore gesture towards the (post) human character of the contemporary western lifeworld.

As David Roden states, since human 'technologies are intrinsically functionally indeterminate and multistable' (Roden 2015: 159), our highly

technologized lifeworld has become sufficiently everyday in its own terms, despite its immense range of technical complexities. Thus, many contemporary sf texts implicate their audiences in consideration of the potentiality of their posthuman futures by evoking the banality of their technological present in novel terms. The phenomenological process by which novums decay in the minds of their consumers is conspicuously illustrated, both structurally and visually, in the film *Source Code*.

The Quotidian

The opening panorama of *Source Code* is an extensive aerial shot, which portrays a cityscape indistinguishable from that of many contemporary US cities. Clearly, the film's setting is not intended to be immediately defamiliarizing, and so initially, its near-future depiction of (post)human life is far more symptomatic of films within the realist tradition than it is science-fictional. The pedestrian nature of the opening sequence of *Source Code* bears resonance with William Gibson's assertion that despite cyberspace having been the paramount novum of his *Sprawl Trilogy*, it has become just 'another part of the city' (Paikin) since the advent of real-life digitality. As Gibson emphasizes, the reader's relation towards the novelty which cyberspace originally encompassed has now been redefined by 'its ubiquity and the absolute quotidian banality of much of what [...] we do with it' (Paikin) in everyday life. Veronica Hollinger echoes Gibson's assertion when she states that 'the present has already been invaded by the future, has already become the stuff of science fiction' (Hollinger 2008: 246).

Correspondingly, *Source Code*'s opening draws a contrast between the routine familiarity of Chicago's cityscape, and the considerable posthuman morphology that it encloses on closer inspection. By presenting a multitude of cars, metal buildings and a train from an abnormal viewpoint, the aerial shot renders individual (post)humans invisible, offering a perspective from which we appear to be mechanical or technological entities rather than biological beings. This forced perspective implies that our species' interface with modern technology is extensive enough that 'the contours of our own extended bodies' can, in pragmatic terms, be 'found in our technologies' (Kozel 2007: 99). *Source Code*'s opening sequence therefore suggests that the periphery of the interface between our species and technology has blurred into indistinctness in the contemporary world, to the extent that the human/technology dualism is rendered invalid.

Through its mundane *mise en scène*, the film attains a defamiliarizing effect that exposes the already significantly posthuman nature of contemporary everyday life. As the opening of *Source Code* implies, the technological embeddedness of our species is already demonstrable in empirical terms. To take a related example, when walking, 'pedestrians [alter] their visual search

behaviour and adaptive gait when using their phone compared to no phone being present' (Timmis et al 2017: 17), which is also 'consistent with adopting an increasingly cautious stepping strategy which may serve to reduce the risk of tripping/falling' (17–18). As such, our species' interaction with mobile phones has over the course of forty years engendered an empirically demonstrable adjustment to the manner in which we have walked for millennia.

This finding draws a fruitful parallel with Hayles's suggestion that the co-constitutive relationship between our species and technology comprises 'a co-evolutionary spiral in which what we ma[k]e and what we bec[o]me' (Hayles 1999: 164) have become intractably intertwined. Furthermore, as proponents of substantivist theories of technology propose, technologies are non-neutral objects, and so the nature of our species metamorphoses in parallel with technological developments, since technologies 'are more than bundles of internal or external functions. They are materialized potentialities for generating new functions as well as modifiable strategies for integrating and reintegrating functions' (Roden 2015: 162). Indeed, we have reached the point where we cannot do without technologies; they are too firmly embedded in our everyday lives. We can therefore no longer be *we* without *they*, and hence the figure of the human has arguably been irreparably ruptured.

The indistinctness of the periphery between (post)humans and technology is made particularly apparent when Colter Stevens (Jake Gyllenhaal) wakes on what appears to be a train. Although the film's narrative opens *in medias res* on an ostensibly pedestrian train journey, Stevens's wide-eyed survey of his environment reveals that it is entirely unfamiliar to him, and that he has no residual memory of getting on board. Although puzzled about his amnesia, he continues to ride the train as it travels through the city streets of Chicago. The film's visual rhetoric remains entirely absent of science-fictional elements up until the point at which its first scene culminates with the train unexpectedly exploding in a giant fireball, at which point the mundane essence of its setting is inexorably shattered. As soon becomes apparent, the prior realist plausibility of what appeared to be a train journey is actually fabricated by a novum within the diegetic world.

The train is the centrepiece of a simulated iterative environment – the eponymous Source Code – within which Stevens's consciousness has already been immersed for an indeterminate amount of time. The train's mundane setting therefore becomes science-fictional each time subsequent iterations of the same simulation appear in the narrative, even as the Source Code's novel qualities become familiar to the viewer via its characteristically iterative role as a novum. Additionally, it is implied that Stevens's amnesia is a result of his mind having been wiped after numerous permutations of the same journey, in order

that he experiences it afresh. As his forgetting of prior iterations of the Source Code simulation is akin to the cognitive phenomenon of habitualization towards the repetitive and/or everyday, his plight is analogous to a western audience's own habitualization towards their technologized lifeworlds.

The film's eponymous novum is therefore neither novel nor mundane, but rather simultaneously novel *and* mundane. As its pseudoscientific rationalization within the film reveals, the Source Code technology co-opts a short-term memory track that briefly survives the brain's necrosis to create the virtual environment that Stevens recurrently finds himself within. Although its nature could easily be misconstrued, the 'Source Code is not time travel, rather [...] time reassignment' (Jones 2011), and *de facto* time travel remains as impossible in the film's diegetic world as it does in our own.

The Source Code is a governmentally developed and financed technology, utilized by a team of secret service operatives to mine the experiential data Stevens gleans from his recursive immersion within the memory track of a passenger killed in an act of terrorism, so as to prevent a subsequent attack. He is repeatedly re-immersed within the simulation until he succeeds in discovering the data that allows the US government to prevent the violent disturbance to everyday life that the second attack would otherwise comprise. Crucially then, although the Source Code qualifies as a novum in the Suvinian paradigm – as it distinguishes the film's diegetic world from our own – its technological novelty is deployed for a considerably pedestrian and bureaucratic purpose, and it has no broader impact on the lives of the (post)humans of the film's diegesis than maintaining political and social hegemony.

Later, Stevens regains consciousness in what appears to be his corporeal body, and finds himself strapped to a chair in a dark room. Source Code's operators explain to him that he 'will have eight minutes, same as last time' in his next immersion in the simulation. As the first narrated iteration of Stevens's death occurred less than seven minutes into the film, a considerable portion of his interaction with the Source Code during that iteration has been elided, so that there exists a rudimentary disparity between the film's plot and narrative.

The transition of Stevens's consciousness back into the realm of the Source Code is narrated by means of a shot of a quacking duck flying over a lake, replicated verbatim from the first narrated iteration. Whilst on board the train, the minutiae of his journey unfold in exactly the same manner that they did before; a passenger spills her coffee as she passes in the aisle; a ticket collector checks Stevens' ticket; and one commuter clumsily knocks a pile of papers out of the hand of another. The prominence of mundane components within the Source Code simulation facilitates a phenomenological dialectic between the audience's lifeworld and the film's. Additionally, the verbatim replication

of events in the narrative attenuates the novelty of the Source Code novum from the viewers' own perspectives. By implying that our everyday lifeworld is constantly encroaching into the realms of sf, the over-representation of the (post)human quotidian within the film links the sf world firmly back to ours, and *vice versa*.

Repetitiveness

Stevens experiences severe cognitive dissonance when he is returned to the simulation, and cannot compartmentalize the fact that he is experiencing a sequence of events that he has experienced before. He thereby proposes that 'It's the same train, but it's different', his desperate proclamation tacitly echoing Jacques Derrida's assertion that that which 'resonates like an old repetition [...] was already, but in an altogether different way' (Derrida 2006: 15). Stevens spends the second narrated iteration under the conviction that the mundane facade of the simulation is 'a distraction' (Jones 2011) from his mission of locating the bomb, thereby upsetting his avatar's colleague Christina (Michelle Monaghan).

By *Source Code*'s third narrated iteration, however, Stevens has come to recognize that each new permutation of the simulation encloses a reality equally as verifiable as its preceding ones, despite their ostensible similitude and corresponding lack of verisimilitude. This time, he begins by setting a timer on his avatar's watch; moves his foot away quickly enough that it does not get coffee spilt on it; produces his train ticket promptly; and entices Christina to detail the backgrounds of the commuters that she and his avatar regularly travel to work with. Through practice, he not only learns the sequence of events that transpire within the memory track but also how to manipulate his recursive experience in a manner conducive to his mission. Likewise, the film's viewers have now seen three iterations of the memory track within the Source Code novum, so that they are gradually habituated to its novelty.

As Hayles emphasizes, (post)humans regularly 'participate in systems whose total cognitive capacity exceeds our individual knowledge', and yet 'are capable of more sophisticated cognition than cavemen not because modern humans are smarter [...] but because they have constructed smarter environments in which to work' (Hayles 1999: 289). Our (post)human situation is accordingly an emergent phenomenon actualized by our creation of technologies which collectively surpasses the limits of our individual intellects, and the technological capacity of our species has cumulatively become greater than could be assumed by the sum of its component entities.

Therefore, the process of successfully navigating the technologized western lifeworld is managed by means of the individual's phenomenological ability to cognitively become habituated towards a manifold variety of technologies

that they are unable to understand. We may, for instance, use a microwave several times a week, but the majority of us would be clueless as to how to build one from scratch. When Stevens starts to manipulate the memory track's simulation, he demonstrates that the novelty of the Source Code has begun to decay from his phenomenological perspective, and yet crucially, the audience's own phenomenological perspective is implicated in the concomitant task of imaginatively assimilating the science-fictional aspect of *Source Code*'s eponymous novum.

Concordantly, the subjective and phenomenological nature of the audience's perception of the mundane aspects of their own lifeworld comprises a vital, intratextual component of novum decay. Although the Source Code is inaugurated as a novum at the start of the film, by the time its sixth and seventh observed iterations occur, they are reported in a massively elided form, and comprise less than ten seconds of its narrative apiece. The rendering of these later iterations assumes that the viewer has, by this point, become habituated to the idiosyncrasies of the recursive Source Code simulation, and hence, they will already have effectively assimilated its posthuman novelty. By the time he undertakes the final iteration of the simulation, Stevens has become resolutely habituated to the Source Code. During the span of this final iteration, he not only manages to locate and detain the terrorist, but also has time to woo Christina, make peace with his father and hire a comedian aboard the train to perform a set. Stevens's rapport with the technology means he is able to achieve an outcome that not only meets but also exceeds the scope of his narrowly defined assignment.

Alan Wall states that metaphors become exhausted when they have 'become so predictable that all the original defamiliarization has vanished. Then the metaphor has become a cliché and something new is needed to replace it' (Wall 2009: 33). His definition of metaphor as an inherently transient textual device seems especially tenable when applied to the schema of contemporary sf texts such as *Source Code*. Although discrete novums undergo novum decay intratextually, this only emphasizes that the posthuman drive of sf functions intertextually and cumulatively, so that 'the rapid exhaustion of a metaphor means that great progress is being made' (Jones and Wall 2009: 101). As is true for the Source Code, sf texts deploy novums which become less novel as their narratives progress until, entropically, their defamiliarizing effect on the reader has been exhausted.

The Everyday

Novums inexorably decay throughout individual sf texts to become what Shippey refers to as 'the datum', 'a discrete fact stated or implied in the passage' (Shippey 2008: 12); 'nearly all science fiction works have not one but many

nova [...] just as any paragraph of any non-science fiction work will contain much *data*' (Shippey 2016: 27). Data is immediately explicable to the reader and produces no defamiliarizing effect whatsoever. Although Shippey asserts that there exists a predilection towards novums rather than data in the sf genre, the two elements are concurrently extant and engaged within a complex dialectical accord. Whereas novums assert the significance of posthuman possibility, data stipulate the extent to which the prospective is embedded within the (post) human material present. The co-constitutive dialectic that exists between novums and data indicates the spuriousness of deterministic assessments of sf as an extended metaphor of linear technological progress.

Whilst the generative interplay between decaying novums and bare data maintains the functionality of the genre's posthuman drive, it simultaneously precipitates the fact that sf texts cannot establish novums which are too far removed from the technological horizon of the society which conditioned their textual production. As Fredric Jameson asserts, since total or radical otherness 'encourages visions of the far future in which we will have lost almost everything that makes us identifiable to ourselves' (Jameson 2005: 174), any depiction of true otherness within an sf text would necessarily be incomprehensible. Hence, representations of the audience's everyday lifeworld form an indispensable cognitive connection between the currently known and the posthuman aspect of sf.

Although in *Source Code* Stevens's decision to repeatedly enter the memory track is motivated by his desire to terminate the iterative cycle he is trapped within, he does eventually succeed and is rewarded accordingly. His release from recursive servitude within the simulation is cathartic and allows him to fulfil the film's 'heteronarrative' (Roof 1996: 108) by winning Christina's affections – an ending symptomatic of Judith Roof's assertion that protagonists in sf texts who are characterized by multiplicity must eventually be 'reduced to manageable singularity' (78). Yet, crucially, the text's eucatastrophe is brought about by Stevens's choice to remain a part of the simulation, drawing a drastically post-humane resolution to the film since, in the final instance, 'instead of seeking the release of death, he begins to pursue the possibility of a life somehow within *Source Code*, or within a parallel universe enabled by it' (Wright, 2018: 81).

Whilst the multiple use of close-up shots of cameras throughout the film foregrounds the ubiquity which technology already holds in our world, and echoes fears that 'our machines are disturbingly lively, and we ourselves frighteningly inert' (Haraway 2017: 309), *Source Code*'s conclusion confirms that our future is enhanced just as much as it is threatened by our technological interaction. As this analysis has suggested, the figuration of repetition as a narrative element in modern sf transcends the didactic and totalitarian role

by which repetitive schema often codified twentieth century dystopias. The repetitive schema of *Source Code* does not in the final instance embody the dystopic by eschewing characters' agency, but instead typifies a more nuanced figuration which suggests that the utopian is achievable through our everyday (post)human lives.

This is apparent in the manner by which Stevens gradually learns to accept the truths of his technologized lifeworld as he manipulates the memory track he encounters in the *Source Code* more and more skilfully, before eventually choosing to continue his existence within it. Likewise, although our increasing engagement with technology and virtuality indicates a significant paradigm shift in our recorded history, our (post)human perceptions of what comprises our subjective everyday lifeworlds will continue to morph alongside our interaction with initially novel technologies.

As Roden argues, 'whatever kinds of bodies or minds posthumans may have, they will have to be discursively situated agents practically engaged within a common life-world' (Roden 2015: 75). In this light, mundanity is – rather antithetically – the most posthuman article a given sf text may represent. As our (post)human condition can only be sufficiently understood through a bifocal lens which considers the contemporary world and our past heritage in aggregate, the predominance of novum decay in modern sf demonstrates the ways in which 'humanity' is always already becoming posthuman. Thus, the quotidian or repetitive elements of contemporary sf provide a recognizable and fundamentally (post)human foundation, from which the genre's novelties are able to depart with radical intention to form its overarching imaginative, visionary drive.

Conclusion

This article has demonstrated that, contrary to Suvin's model of cognitive estrangement, banality does not merely form an ancillary feature of contemporary sf but, rather, comprises a vital component of it. If our 'vision of the imagination, [can be] both enlarged and subtly, somberly transformed' (Alter 1978: 217) by great works of art, the manner by which sf texts expand the collective posthuman imagination through the process of novum decay is a hugely significant literary and cultural undertaking. Meanwhile, the sf genre maintains its axiological sensation of conveyed newness through the continual publication of new texts, so that its imaginative horizons develop continually in synergy with the concomitant development of (post)humanity.

Although Rita Felski is not discussing sf when she states that everyday life 'is, indisputably: the essential, taken-for-granted continuum of mundane activities that frames our forays into more esoteric or exotic worlds' (Felski 2000: 77), she astutely conjectures the evocative quality which mundanity actualizes

in dialogue with novelty within contemporary sf. As has been demonstrated, when novums decay in sf texts, the posthuman-imaginative aspect of those texts becomes familiar, and their novelty becomes phenomenologically contingent. The presence of novum decay within the genre therefore de-emphasizes eschatological readings of sf, and emphasizes the posthuman potential enclosed by the possibility of development beyond the imaginative horizons which condition any given work of sf.

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Utopia in Recent Climate Fiction: *MaddAddam*, *MAEVA!* and *New York 2140*

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Although climate can be an important part of fictional scene setting, in science fiction it is also a constituent element of world-building – think, for example, of the frozen landscapes in Ursula Le Guin’s *The Left Hand of Darkness* (1969) or, more recently, Paul McAuley’s *Austral* (2017).

‘Cli-fi’, as coined by Daniel Bloom in 2007, refers more specifically to fictions concerned with the effects of anthropogenic climate change, that is, to the literature of global heating (Merchant 2013). Such fictions in practice have overwhelmingly been dystopian (Milner and Burgmann 2020). Nonetheless, some cli-fi texts can be read as instances of what Tom Moylan once termed the ‘critical utopia’ in the double sense of Enlightenment critique and the critical mass required to produce an explosion (Moylan 1986: 10). Formally, however, the distinctiveness of critical utopias arises insofar as they reject the notion of utopia ‘as a blueprint’ whilst nonetheless preserving it ‘as a dream’. They therefore focus on the conflict between utopia and their ‘originary world’ and on ‘the continuing presence of difference and imperfection’ within utopia (10–11). Moylan subsequently observes that ‘critical’ can be used as ‘either a periodizing or an interpretive protocol, and dialectically as both’. He is wary of the second option because it can easily ‘aestheticize’ the concept into a purely formal category and thus suppress its ‘deep political motivation and intention’ (Moylan 2014: xxiv). No doubt, the historical preconditions for this kind of ‘criticality’ can indeed be identified and explained in socio-political terms, just as Moylan argues, but surely these need not be tied so definitively to any one time and place. I would argue that the developing climate crisis of the early twenty-first century has provided the global occasion for an emergence of critical climate utopias roughly analogous to those Moylan identified in the United States in the 1970s. The examples to be discussed here are: from Canada, Margaret Atwood’s *MaddAddam* (2013); from Germany, Dirk C. Fleck’s *MAEVA!* trilogy (2008–15); and from the USA, Kim Stanley Robinson’s *New York 2140* (2017).

MaddAddam

MaddAddam is the final part of a post-apocalyptic trilogy that began with *Oryx and Crake* (2003) and continued with *The Year of the Flood* (2009). Insofar as the series has a primary ‘novum’ (Suvin 1979: 63), this is the genetic engineering that allows OrganInc Farms to design the ‘pigoons’, intelligent, telepathic, genetically modified pigs, and Crake the ‘Crakers’, peaceful, herbivorous posthumans, immune to mosquito bites, who are occasionally sexually polyandrous but normally

sexually latent. Global heating is nonetheless present as the *mise en scène* right from the beginning of *Oryx and Crake*: ‘as time went on [...] coastal aquifers turned salty and the northern permafrost melted and the vast tundra bubbled with methane, and the drought in the midcontinental plains regions went on and on, and the Asian steppes turned to sand dunes’ (Atwood 2003: 27). As becomes apparent in *MaddAddam*, the fusion of oil and Christian religion represented by the Church of Petroleum is a key driver towards system collapse.

Set in the immediate aftermath of the first two novels, the Earth’s climate in *MaddAddam* remains damaged, but the success of Crake’s lethal JUVE virus has opened up the prospect for a very localized revival. So, as in the first two volumes, the key question becomes one of adaptation, initially negative but ultimately positive. The novel is framed around Toby, one of the two main protagonists in *The Year of the Flood*. Her love affair with Zeb, formerly Adam Seven within the religious cult known as the God’s Gardeners, reveals his backstory, which in turn leads into the story of how his half-brother Adam became the Adam One of the Gardeners. So, Zeb tells his story to Toby and she retells this story to the Crakers. *MaddAddam* is thus a story about storytelling, which ends appropriately enough with two short chapters entitled ‘Book’ and ‘The Story of Toby’, both concerned above all with the logic of narrative.

All this storytelling has two important functions. Extratextually, it fills in for the reader the gaps left by the first two volumes, explaining the connections between Adam and Zeb, the God’s Gardeners, the MaddAddamite scientists and Crake. This allows Atwood to pursue her satire of late capitalism and the pre-apocalyptic society. So, for example, in Santa Monica, ‘rising sea had swept away the beaches, and the once-upmarket hotels and condos were semi-flooded. Some of the streets had become canals, and nearby Venice was living up to its name’ (Atwood 2013: 168-9). Intratextually, however, it serves to demonstrate how Toby’s storytelling and its communal mythology can generate a community between the few surviving humans, the Crakers and eventually the pigeons. As Atwood reminds us at the novel’s outset, despite Crake’s attempt to rid the Crakers of symbolic thinking and music, ‘they have an eerie singing style [...] and have developed a religion, with Crake as their creator, Oryx as mistress of the animals, and Snowman as their reluctant prophet’ (xiii). All their religion now lacks is a written culture and a sacred book with which Toby eventually provides them. Her amanuensis is Blackbeard, the young Craker child, who regards her as a font of all wisdom and whom she teaches to write. He concludes the novel by reading ‘from the Story of Toby that I have written down at the end of this Book’ (388), which tells of Zeb and Toby’s deaths.

Storytelling aside, in the post-catastrophic present very little happens in *MaddAddam*: the Painballers continue to threaten the nascent community; Toby

tends her former lover, Jimmy-the-Snowman, back to health; humans and Crakers interbreed; humans and pigeons are reconciled around a mutual agreement, brokered by Crakers; Adam One turns out to be still alive but a prisoner of the Painballers; there is a final battle in which the community defeats the Painballers; and that is about it. But a utopia has been created nonetheless. Blackbeard reads from the Book, telling of how Crake and Oryx ‘made us, and made also this safe and beautiful World for us to live in’ (385). It is, however, a critical utopia marked by the differences between humans, pigeons and Crakers, and by moral imperfection, as in the sexual jealousies between Toby and the much younger and aptly named Swift Fox. More importantly, it is, strictly speaking, a posthuman rather than human utopia. For, as Toby explains to the Crakers:

The people in the chaos cannot learn. They cannot understand what they are doing to the sea and the sky and the plants and the animals. They cannot understand that they are killing them, and that they will end by killing themselves [...] Either most of them must be cleared away while there is still an earth, with trees and flowers and birds and fish and so on, or all must die when there are none of those things left. Because if there are none of those things left, then there will be nothing at all. Not even any people. (291)

So, Crake made the ‘Great Emptiness’ within which their community can flourish. In terms of the internal logics of Atwood’s trilogy, this eventual posthuman outcome makes perfect sense. As a real-world prospect it offers precious little consolation for the millions to be wiped out by Crake’s BlyssPlus pill, but the fictional logic is nonetheless impeccable. As the novel concludes:

Thank you.
Now we will sing. (390)

This kind of loosely posthuman (or non-human) outcome occurs elsewhere in recent climate fiction. In Frank Schätzing’s *Der Schwarm* (2004), the most commercially successful of German ecofictions, the planet is saved ultimately through the intervention of ‘die Yrr’, ‘Der sich seiner selbst bewusst gewordene Ozean’ [the ocean become conscious of itself] (Schätzing 2005: 965). In Jean-Marc Ligny’s *Semences* (2015), the third volume in his climate trilogy, humanity is finally displaced and replaced by ‘les fourmites’, a linguistic and biological cross between ants and termites, which have evolved to become capable of near-telepathic communication, not only with one other but also with humans. Craig Russell’s *Fragment* (2016), like *MaddAddam* an Anglophone Canadian text, ends in a similarly non-human utopian outcome, when ‘the Nation of Whales,

claiming ownership of everything outside the 200 mile coastal limits' is admitted to the United Nations (Russell 2016: 212). The closing line, 'It is time to sing again' (214), refers to whale song but nonetheless also has echoes of the conclusion to *MaddAddam*.

MAEVA!

Dirk C. Fleck has been perhaps the most determinedly utopian of all cli-fi writers in contemporary Germany. An environmental activist, professional journalist and sf writer, he won the Deutscher Science Fiction Preis in 1994 for *GO! Die Ökodiktatur* (1993) and again in 2009 for *Das Tahiti-Projekt*, the first in the *MAEVA!* trilogy. Since 1993 Fleck has been a supporter of the Equilibrist Society, founded by Eric Bihl and Volker Freystedt, the central idea of which is 'Lasst uns mit der Natur wirtschaften und nicht gegen sie!' ['Let us work with nature, not against it']. The trilogy itself comprises *Das Tahiti-Projekt* (2008), *MAEVA!* (2011), reissued as *Das Südsee-Virus* in 2013, and *Feuer am Fuss* (2015), and the Society actively promotes it on its website as 'Die Vision wird fühlbar' ['The vision becomes tangible'] (Equilibrismus 2017). *Das Tahiti-Projekt* is set in 2022, *MAEVA!* in 2028 and *Feuer am Fuss* in 2035, and in combination they recount the immediate future history of a world threatened by climate collapse, but ultimately saved by the Equilibrist notions propounded by Maeva, originally President of Tahiti, later head of the United Regions of the Pacific (URP), and then of the Earth. The URP develops initially as a loose ecotopian alternative to the UN, inspired by the success of Maeva's 'Tahiti-Projekt', but which soon opens itself up to sub-national regions like Alaska, South Tyrol, Dithmarschen and Alsace as well as to nation-states. As Maeva herself summarizes the aims of the Pacific-wide extension of the Tahiti Projekt in her opening address to the URP:

Zum ersten Mal in unserer Geschichte sind wir mit der selbst verursachten Zerstörung aller biologischen Grundlagen konfrontiert. Keine Generation vor uns hatte eine solche Bedrohung auszuhalten. Die eigentliche Frage, die wir uns also zu stellen haben, lautet: kollektiver Selbstmord oder geistige Erneuerung?
[For the first time in history we are confronted with self-caused destruction of all biological resources. No previous generation had to deal with such danger. The question we are faced with is: collective suicide or spiritual renewal?] (Fleck 2011: 65)

Spiritual renewal means, above all, a return to more traditional ways of life and to the wisdom of the shamans, as represented in Tahiti itself by the figure of Rauura. When the URP sends shamans out as missionaries to newly-recruited occidental regions, with the task of advising on how to recreate sustainable societies, the Lakota Sioux Running Wolf tells the Alsatians that 'SEIN ist ein

spirituelles Vorhaben, GEWINNSTREBEN ein materieller Akt. Ihrer Tradition folgend, haben die Indianer immer versucht, das bestmögliche Volk zu SEIN. Teil dieses spirituellen Prozesses war und ist es, Besitz wegzugeben' ['BEING is a spiritual intention, PURSUIT OF PROFIT a material act. Following their tradition, the Indians tried to *BE* the best possible people. A part of these spiritual processes was and is, to give away property'] (Fleck 2015: 182). Later, Ehawee, another Lakota Sioux shaman, explains that 'Dies ist im Prinzip die ganze Weisheit meines Stammes. Wenn die Verschmutzung der Erde rückgängig gemacht werden soll, müssen wir als erstes die Verschmutzung in unseren Herzen und Köpfen beseitigen' ['This is in principle the entire wisdom of my tribe. If the pollution of the Earth is to be made to recede, we have first to rid ourselves of the pollution in our hearts'] (305). For a shaman, albeit a professor, Running Wolf is thoroughly *au fait* with the western philosophical canon, citing Newton, Descartes, Locke, Adam Smith, Hegel and Marx as instances of 'alten europäischen Konflikt zwischen Sein und Gewinnstreben, man könnte auch zwischen SEIN und NICHTSEIN sagen' ['the same old European conflict between being and the pursuit of profit, one could also say between BEING and NOT-BEING'] (181–2). It is difficult not to read this as an instance of yet another cli-fi trope, a kind of primitivism that projects a western counter-ideal on to an idealized non-western Other.

Maeva herself is the trilogy's key political actor, whether understood as a concrete individual or as 'der Maeva-Mythos [...] im Cyberspace möglich geworden' ['the Maeva-Mythos [...] made possible by Cyberspace'] (Fleck 2011: 170). But its protagonist and sometime narrator is her much older lover, Cording, a German journalist who works for the British news magazine *EMERGENCY*. Their relationship can itself at times be read as an instance of eroticized primitivism since Maeva is young, beautiful and Polynesian, and Cording middle-aged, cynical and European. At the end of *MAEVA!*, Rauura and Maeva's brother, Omai, who are opposed to her role in the URP, stage a coup in Tahiti, banish her to the remote island of Rapa Iti and announce that she has been killed in a plane crash. Cording has also betrayed her by agreeing to spy on their behalf. This is the moment of greatest danger for Maeva, to which she responds in the most traditional of spiritual terms by receiving a full-body tattoo, thus becoming transformed into a Tupapa'u, or Tahitian mythical avenger. At the beginning of *Feuer am Fuss* she emerges from hiding, becomes reconciled with Omai, and sets out to strengthen the URP by winning over one of the more charismatic of the western mega-rich, Malcolm Double U. But Maeva and Cording are never reconciled: he is diagnosed with a fatal illness, flies to Mali where they had spent time together and walks off into the Sahara desert, effectively committing suicide.

Re-enthused, 'Die URP-Regionen nehmen inzwischen ein Viertel der gesamten Oberfläche ein' ['The URP-Regions now take up one quarter of the surface of the Earth'] (Fleck 2015: 208). The ecotopian restructuring of the Regions radically transforms their mode of agricultural production. In Alsace, 'Viele Bauern sind dazu übergegangen, wieder mit Pferden zu arbeiten anstatt mit Traktoren. Die Massentierhaltung ist abgeschafft, die überwiegende Zahl der Elsässer ist Vegetarier geworden'. ['Many farmers had already begun working with horses instead of with tractors. Mass animal husbandry has been abolished, the overwhelming majority of Alsatians have become vegetarian']. Moreover, 'Feldfrüchte und Bäume existieren [...] in freundlichster Partnerschaft. Auf den einst Tristen Ackerflächen wachsen nun Pappeln, Eichen und andere Bäume in langen Reihen' ['Crops and trees exist [...] in the friendliest of partnerships. On the once sad paddocks, poplars, oaks and other trees grow in long rows'] (315). Interestingly, this isn't primitivism – Fleck is at pains to stress that the Alsatians adopted such measures well before the arrival of the Lakota Sioux delegation – but rather a referring back to Europe's own pre-industrial past: one is reminded of William Morris's orchards near the site of what had once been Trafalgar Square (Morris 1977: 221–2). This transformation massively enhances the health and vitality of the planet: global CO² emissions decline, population growth decreases, and the URP is now financially secure.

Nonetheless, it is a critical utopia characterized by both difference and imperfection, as in the struggles between Maeva's cosmopolitanism and Rauura's localism. Indeed, Fleck's handling of alternative ecotopian visions is at times very astute. One of the trilogy's more interesting subplots is the encounter between the URP and the Californian eco-dictatorship ECOCA. The similarity between ECOCA and Ernest Callenbach's original *Ecotopia* (1975) is no doubt intentional, as is the commentary that likens it to Kampuchea under the Khmer Rouge (Fleck 2011: 246). In *Feuer am Fuss* Cording travels to ECOCA to report on the impending show trial of kidnapped former President Obama, charged with the capital offence of having given Monsanto free reign in the then United States. The trilogy's key weakness, however, is that its happy endings come far too cheaply, Cording's death notwithstanding. In the real world, not only is there no Maeva and no URP, Tahiti hasn't even gained independence from France. Nor do there seem to be many billionaires willing to fund experiments like the URP. In short, this trilogy's ideal society is 'utopian' in the pejorative sense of being hopelessly impractical. That its utopianism is projected on to an exoticized and eroticized non-western other merely compounds the problem. As Gabriele Dürbeck has observed, Fleck's 'depiction of Tahiti and the Tahitians is filled with a kind of problematic exoticism that jeopardizes the ecological worth and broad applicability of the book' (Dürbeck 2017: 326).

New York 2140

Kim Stanley Robinson's *New York 2140* (2017) is the latest in a series of attempts by its author at both utopia (*Pacific Edge* [1990], the *Mars* trilogy [1992-6], *Antarctica* [1997] and *The Years of Rice and Salt* [2002]) and climate fiction (the *Science in the Capital* trilogy [2004-7], *Green Earth* and *Aurora* [both 2015]). It is, however, the first of his novels to combine the two, so as to depict a specifically utopian outcome from global climate crisis.

Initially, climate change appears to function in *New York 2140* only as its dystopian *mise en scène*. By the early to mid twenty-second century, sea levels have risen by fifty feet, so that the whole of Lower Manhattan has long since been flooded. The buildings that remain standing are still inhabitable, their lower floors transformed into dockyards, the streets that once ran between them into canals traversed by vaporetos and water taxis. The city is as thoroughly capitalist as ever. As Jeffrey Rose ('Jeff') explains to his friend Ralph Muttchopf ('Mutt'), 'The prices are always too low, and so the world is fucked [...] We've been paying a fraction of what things really cost to make, but meanwhile the planet, and the workers who made the stuff, take the unpaid costs right in the teeth' (Robinson 2017: 4). The main plot seems at first to be a detective mystery about Mutt and Jeff's disappearance from their temporary home in a 'hotello' on the 'farm floor' of the old Met Life tower on Madison Square. But this turns out to be a MacGuffin, the trigger for a more important political narrative which moves the novel towards its eventual utopian climax. And that too is a result of climate change: hurricane Fyodor batters the city so badly as to prompt what amounts to a popular constitutional revolution.

The narrative is divided into eight parts, each subdivided into eight sections, each devoted to a particular character or characters: Mutt and Jeff, the two kidnapped 'coders'; Inspector Gen Octaviasdottir, a detective called in to investigate their disappearance; Franklin Garr, a market trader for the aptly named WaterPrice; Vlade Marovich, the manager of the building from which Mutt and Jeff disappeared; an anonymous New York citizen who explains periodically how the city works; Amelia Black, a 'cloud' star who heads an internet show about wildlife survival; Charlotte Armstrong, a lawyer defending the rights of immigrants; and Stefan and Roberto, two twelve-year old 'water rats' who, with their own scavenged boat, are in the business of submarine exploration. Inspector Gen, Franklin, Amelia and Charlotte are all Met Life tower tenants, Vlade also lives in the tower, and Stefan and Roberto scavenge around its periphery. The legal status of such property in the 'intertidal' is open to dispute, since it has in effect become a new commons. The Met building itself is a cooperative but some anonymous entity wants to buy it for twice its declared value, and is apparently also willing to sabotage the building by drilling holes

that will let water in to the basement floors. As the citizen observes, 'wherever there is a commons, there is enclosure' (210).

In Robinson's earlier *Science in the Capital* trilogy and its omnibus edition, *Green Earth*, Phil Chase, an environmentally activist Californian senator eventually elected to the presidency, had functioned as an idealized Al Gore figure. In *New York 2140*, the various inhabitants of the Met building turn out, by an analogous political logic, to be a composite Bernie Sanders. Vlade plays a crucial role in rescuing Mutt and Jeff from the sunken container in which they are imprisoned. Franklin advises Charlotte that a 'financial general strike' organized by the Householders' Union, could prevent a Government bailout of the banks (348–9). After the hurricane, Inspector Gen faces down the armed private security forces 'protecting private property' in Upper Manhattan (515). Amelia announces on camera that 'it's democracy versus capitalism, We the people have to band together and take over [...] Anyone who stops payment on their odious debts [...] immediately becomes a full member of the Householders' Union' (528). And Charlotte persuades her ex-husband, Larry Jackman, now head of the Federal Reserve, that bank nationalization should be the price for a financial bailout, and runs for Congress as a Democrat, campaigning against the banks: 'Make that whole giant leech on the real economy into a credit union, and squeeze all that blood money we've lost back into us' (554). She is elected, the banks are nationalized, Congress passes a 'Piketty tax' on income and capital assets and 'a leftward flurry of legislation' is 'LBJed through Congress' (601–4). The 'pushback' though is 'ferocious', 'because people are crazy and history never ends'; as the citizen warns, 'There are no happy endings! Because there are no endings' (604). But this is in fact as utopian an ending as any in recent climate fiction. It is complemented by a whole series of individual happy endings: Stefan and Roberto really do discover sunken treasure; Vlade and his ex-wife Idelba really do get back together; Charlotte really does strike up a successful romantic relationship with Franklin; the political battle for New York really is 'a Pyrrhic defeat' (590) in which 'the losers of a Pyrrhic victory [...] are really the winners [...] They lose, then they say to each other, Hey we just lost a Pyrrhic victory! Congratulations!' (598).

As with Fleck, the key weakness is that all this happiness is far too easily bought, most especially so at the political level. Robinson's first utopian novel, *Pacific Edge*, was a late addition to the critical utopian canon (Moylan 1995: 4), its ecotopian El Modena of 2065 characterized both by difference, most obviously that between Greens and New Federals, and imperfection, best represented in the plans to develop Rattlesnake Hill, the area's last remaining wilderness. However, as Robinson himself explains, his friend Terry Bisson alerted him to the book's key flaw, 'there are guns under the table' (Robinson

2016: 3), whilst Robinson acknowledges that he ‘had dodged the necessity of revolution’ (4). In *Green Earth*, politics is indeed paramount but politics of a kind that is deliberately non-revolutionary, in which a charismatic Democratic president saves the world. *New York 2140* resumes this political vision, its hopes now vested in radical Democratic congresswomen and the good fortune that the Federal Reserve might be headed by one of their ex-husbands.

But, as with Fleck, these hopes are clearly ‘utopian’ in the pejorative sense. The notion that either of America’s two pro-Big Business parties could ever be converted to eco-socialism is surely improbable. As Gore Vidal famously observed, ‘There is only one party in the United States [...] and it has two right wings: Republican and Democrat’ (Vidal 1977: 268). At one level, Robinson knows this to be the case: ‘We can’t imagine the bridge over the Great Trench, given [...] the massively entrenched power of the institutions that shape our lives – and the guns that are still there under the table, indeed right on the table’ (Robinson 2016: 8). The improbability is increased, moreover, by the fact that in the novel neither any significant changes to the American constitution nor to the banking system have been achieved between now and 2140. The President is still not directly elected, the Senate is still ludicrously unrepresentative, the House of Representatives is still elected by the anachronistic first past the post system, in short, it is still an eighteenth-century constitution. As for the banks, they’ve been bailed out by the US taxpayers three times between 2008 and 2140. Given institutional arrangements as sclerotic as these, which have survived and prospered during a fifty-foot rise in sea levels, how realistically likely is it that this could be effectively challenged as a result of one hurricane, no matter how devastating? Ultimately, the novel’s utopia is betrayed by its utopianism.

Conclusion

These climate fictions are each examples of what Moylan means by critical utopia. For Moylan himself the critical utopia is an inherently superior form to the classical utopia, precisely because it is built on an ‘awareness of the limitations of the utopian tradition’ and is therefore able to ‘render more recognizable and dynamic alternatives’ (Moylan 1986: 10–11). ‘In resisting the flattening out of utopian writing in modern society,’ he concludes, ‘the critical utopia has destroyed, preserved, and transformed that writing and marks the first important output of utopian discourse since the 1890s’ (43). For Moylan, all utopian and science-fictional writings ‘appear to concern themselves realistically with the future’ (35), but this is especially so for the critical utopia since it seeks precisely to identify more ‘recognizable’ alternatives to the status quo than those in the classical utopia. The critical utopia is thus necessarily subject to the apparently oxymoronic

requirement of utopian realism. Although the distinction between classical and critical utopia is well taken, it does not follow that a classical utopia, Morris's *News from Nowhere* (1890) for example, will necessarily be any the less 'realistic' than critical utopias like those examined here. As we have seen, these climate fictions achieve their utopian outcomes either by non-human intervention, which seems distinctly improbable, or by a sudden rush of revolutionary enthusiasm on the part of pre-existing institutions, which seems equally improbable. This improbability is a purely textual matter, of course, not a question of whether or not such ideas would or would not work in the real world, but rather that there is insufficient intratextual plausibility to the mechanisms by which the utopia is achieved within the novels. A direct comparison with *News from Nowhere* serves to make the point. Whatever we make of Morris's utopia, the processes by which it is achieved through the revolution of 1952 are entirely plausible, perhaps unsurprisingly so insofar as they both rehearse the real history of the Paris Commune and in some respects anticipate that of the Russian Revolution. The key issue here is what V.I. Lenin famously dubbed 'dual power', that is, the creation of alternatively legitimated alternative governing institutions with their own alternative armed forces (Lenin 1970: 48). For Lenin and most of his ideological successors, this was a uniquely Russian phenomenon, pertaining to the immediate struggle between the Provisional Government and the Petrograd Soviet during 1917. But in reality almost all major revolutions have been predicated on similar institutions: the Commons and the London Trained Bands, later the New Model Army, in England; the Provisional Congresses and the Continental Army in America; the National Constituent Assembly and the National Guard in France. Here, Morris's own socialism turns out to be oddly astute. So, in *News from Nowhere*, the ruling class Parliament and Government are directly challenged by the working class Committee of Public Safety. As Old Hammond is at pains to remind William Guest:

One claim [...] was of the utmost immediate importance, and this the Government tried hard to evade; but as they were not dealing with fools, they had to yield at last. This was the claim of recognition and formal status for the Committee of Public Safety, and all the associations which it fostered under its wing. (Morris 1977: 312)

In plausibly realist fictions, as in historical reality, dual power in this sense seems to be the necessary corollary of Bisson's sad truth that there are indeed guns under the table. What contemporary climate fictions appear to lack, as a means to substantiate their utopianism, is a clearly articulated commitment to revolutionary change.

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Call for Submissions

Decolonising Science Fiction

In the wake of the worldwide protests after the killing of George Floyd, and the toppling of statues implicated in the legacy of the slave trade, we propose a special issue of *Foundation* on the topic of 'decolonising science fiction'. As John Rieder and others have argued, the emergence of sf as a genre is embedded in colonial discourses of the late nineteenth century. The pursuit of new frontiers in outer space, within the Earth or under the oceans not only mirrored 'the scramble for Africa' but was also informed by the racist and pseudo-scientific ideologies of the period. In more recent years, authors such as N.K. Jemisin, Jeannette Ng and Tade Thompson have sought to confront sf with the racist legacy of its origins. Afrofuturism, expressed popularly in films such as *Black Panther* and the music of Janelle Monáe, is only one of the ways in which artists of the African diaspora are reimagining sf. We argue, though, that the decolonisation of sf goes beyond Afrofuturism and necessitates other indigenous futurisms. At the same time, we also need to consider the work of white authors (Gwyneth Jones' *White Queen*, Geoff Ryman's *Air* or Lavie Tidhar's *Central Station*) who are engaged in critiquing the Anglo-American tradition. Lastly, the intersectionality of critical race studies necessitates that we also consider decolonisation not only in terms of race but also in the intersections with gender, sexuality, class and the (dis)abled body.

Topics may include (but are not limited to) the following:

- Race and racism in science fiction
- Critical race studies and the history of science fiction
- Institutional racism in awards, publishing, fandom and sf criticism
- Afrofuturism and indigenous futurisms
- Utopia and the 'decolonisation of the mind'
- Hauntology and 'lost futures'
- 'Womanism' and Fourth Wave Feminisms
- Intersectionality – race, gender, sexuality, class, disability
- Sf and border theory
- Teaching a decolonised science fiction curriculum

Submissions should be approximately 6000 words long and written in accordance with the style guide (see www.sf-foundation.org/journal). This special issue will be published in August 2021; entries should arrive *no later than* Monday, 4th January 2021. Please send your article to the journal editor at paulmarchrussell@gmail.com

The Biopolitics of the Android in *Humans*

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Critical discussions on fictional doubles tend either to rely upon theories such as psychoanalysis and Sigmund Freud's concept of the uncanny, postmodern theory and Jean Baudrillard's concept of the simulacrum, or cultural theories of identity and representation that view the double as a metaphor for the marginalized Other. This article seeks to complement these approaches by drawing upon theories of biopower and biopolitics in relation to the British TV series, *Humans* (2015–18). Biopolitical theory stems from the work of Michel Foucault and has been developed further by theorists such as Giorgio Agamben, Judith Butler, Nikolas Rose, Roberto Esposito, Antonio Negri and Michael Hardt, among others. Foucault's work initiates a theory of political governance that explores the historical transmutation of power during modernity, from the use of repression, coercion, violence and fear of death through to the monitoring, management and optimisation of health and life itself. At first, it may seem inappropriate to apply this theory to a work of science fiction about mechanical rather than organic life. But Foucault's work itself illuminates the relevance since, as I outline below, he underscores the extent to which the human body is perceived as a machine to be designed, regulated and optimized within biopolitical discourses. Relying on his theory, this article explores the ways in which androids may be read as metaphors for the human and social body subjected to the operations of biopolitical control.

Broadcast on Channel 4 and co-produced with the American network AMC, *Humans* is set in an alternative Britain where androids – called 'synths' – are designed, sold and used as servants. The plot juxtaposes the lives of one group of humans, the Hawkins family, with a surrogate family of five synths who become sentient. Until its cancellation in 2018, *Humans* was Channel 4's most successful original drama in the last twenty years. According to producer Sam Vincent, part of its strength was 'its ability to explore contemporary issues in an indirect way, via the alternative universe it's set in' (qtd McIntosh 2018). Its success depends upon achieving a sense of what Darko Suvin describes as 'cognitive estrangement', whereby the familiar settings of contemporary Britain are rendered uncanny through the creation of the synths: the 'city, suburban, and rural landscapes are quotidian, though the synths glide through them eerily' and their 'shockingly bright eyes and their physical movements mark them as uncanny entities' (Holmstrom 2019: 134). But, even more pertinently, the success of *Humans* lies in its preoccupation with 'the quintessential myth of contemporary Technoculture' (Csicsery-Ronay 2008: 262), the technological Singularity. Although the concept originated in the 1950s with the work of

mathematician John von Neumann, it gained renewed currency after a 1993 address by the science fiction writer Vernor Vinge at the NASA Lewis Research Institute, where Vinge anticipated ‘the end of the human era’ at some time between 2005 and 2030, when technological or biological ‘superhuman intelligence’ will ‘drive progress’, replacing human life as we know it with some new form of superhumanity at ‘a point where our old models must be discarded and a new reality rules’ (Vinge 1993). Since then, the concept has received increasing attention within technoscientific speculation and speculative writing to the extent that the ‘post-Singularity narrative’ has become ‘one of the most noteworthy features of contemporary sf’ (Landon 2012: 5). *Humans* positions itself firmly within this tradition from its very first episode, when Prof Edwin Hobb (Danny Webb) directly refers to von Neumann and describes the synths as ‘the Singularity’, which he defines as ‘the inevitable point in the future when technology becomes able to improve and reproduce itself without our help’.¹ Since Hobb defines the Singularity in terms of the *reproducibility* of future technology, it has echoes with concerns that are distinctly biopolitical. The question of the reproduction, the ‘continuation of the species’ as one of the leaders of the synths, Anatole (Ukweli Roach), describes it in season 3, becomes a more prominent theme as the series develops, even as it gets entangled with other subplots involving debates on whether sentient synths constitute ‘true life’, life that is worth protecting or life that is expendable. In this thematic interest, the series also encourages a reading with regard to the work of Giorgio Agamben and his theories of ‘bare life’.

Last but not least, the drive towards the Singularity is accompanied by another development in the series: while the original focus of the plot is on the repercussions of the presence of synths for the dynamics of the patriarchal middle-class family, by the end of its third season the focus shifts to the implications of the existence of synth communities for the integrity of the nation-state. Synths, by that season, stand as metaphors for race and immigration – quite characteristically, Peter White’s review of the third season specifically describes the show as ‘Terminator meets Brexit’ (White 2019). By its end, the series has become ‘less about human frailty and AI technology gone awry than a meditation on immigration, terrorism and fear of The Other’ (Tate 2018). The original portrayal of the two sets of characters – humans and androids – as two different types of family gives way to debates surrounding ethnic and racial difference. So, if the gradual achievement of sentience is accompanied by an increasing shift of focus from class to race, the orientation of the series seems distinctively biopolitical, as it seems to suggest that ‘true’ life is racialized life, that the defining category of life itself is race – the category that ‘has been one of the central poles in the genealogy of biopower’ (Rabinow and Rose 2006: 205).

In Foucault's original conception, the term 'biopower' refers to a form of control that emerges gradually from the Renaissance onwards and is characteristic of modernity. Pre-modern power relied upon the use of coercion, violence and the threat of death exercised by the sovereign, who had the right to decide over the life or death of their subjects. The decline of feudalism and the emergence of the centralized nation-state led to the need for a new form of power that is more benign yet no less effective, one that is exercised through the preservation of life and the management of populations: 'a power that exerts a positive influence on life, that endeavours to administer, optimize, and multiply it, subjecting it to precise controls and comprehensive regulations' (Foucault 1978: 137). Historical developments during the eighteenth century that Foucault identifies as formative to the emergence of biopower include: policies of intervention in birth rates and public hygiene; management of epidemics and common diseases; measures to coordinate medical care; and mechanisms of insurance for accidents and old age. These are, in the words of Paul Rabinow and Nikolas Rose, new 'strategies for intervention upon collective existence in the name of life and health' (Rabinow and Rose 2006: 195) that signal 'the birth of biopower in modernity', 'the point at which the biological life of subjects enters politics and belongs entirely to the State' (200). Sherryl Vint suggests that 'life itself becomes the object of political governance, and political governance becomes the practice of steering the biological life of individuals and species. Technoscience, sf speculation and biopolitical practice converge in this context' (Vint 2011: 161).

The relevance of theories regarding the politicization of health, life and human biology to AI fictions becomes clearer when considering the two dimensions that Foucault identifies as fundamental to the crystallisation of biopower, one that focuses on the material body of the individual subject and another that focuses on the social body and the managed citizenry. The first dimension is the most illuminating in this context, because what Foucault refers to as 'anatomo-politics' perceive the human body 'as a machine: its disciplining, the optimisation of its capabilities, the extortion of its forces, the parallel increase of its usefulness and its docility, its integration into systems of efficient and economic controls' (Foucault 1978: 138). It is not just that the synths can be read as material embodiments of this abstract perception of the human body, in accordance with the reliance of sf on 'discourses of material symbolism' (Roberts 2000: 30). There is also a sense of historical continuity insofar as this perception emerges in the same period when 'literally hundreds of mechanics attempted to construct human automata' whose performances became 'a major attraction in the courts and cities of eighteenth-century Europe' (Huysen 2000: 202). According to Andreas Huyssen, this trend follows from a materialistic view of the human body as 'a machine composed by a series of distinct, mechanically moving

parts' (202), a view established by the seminal *L'Homme Machine* (1747) by Julien de la Mettrie, who claimed that humans are a 'self-winding machine, a living representation of perpetual motion' (Mettrie 1994: 17). Foucault himself specifically refers to those 'celebrated automata' as 'political puppets, small-scale models of power' (Foucault 1977: 137) of the disciplinary type emerging during the eighteenth century. What Huyssen describes as a 'culture of androids' then declines at the 'subsequent introduction of labouring machines, which propelled the industrial revolution' (Huyssen 2000: 203), whereas the android is appropriated by literature and presented as a nightmare or threat to human life in works by E.T.A. Hoffman and Edgar Allan Poe, among others. Huyssen's discussion highlights the biopolitical subtext of this trend insofar as 'this literary phenomenon reflects the increasing technologisation of human nature and the human body which reached a new stage in the early nineteenth century' (203). In our present moment, contemporary AI fictions literally embody a 'fundamental shift [...] in the biopolitical strategy of technical societies' (Bogard 2008: 188). If nineteenth-century hospitals exerted their control over human life through the study of dead corpses, contemporary disciplines such as biogenetics and AI research expand the exercise of biopower 'in the direction of controlling life from its inception rather than from its end' (188). Fictions about clones, androids and cyborgs narrativize this latest iteration insofar as they are fictions 'about the *birth* of zombies, not their return after death' (194).

The second dimension of biopower that Foucault discusses concentrates on the 'bio-politics of the population', specifically on 'the species body, the body imbued with the mechanics of life and serving as the basis of the biological processes: propagation, births and mortality, the level of health, life expectancy and longevity' (Foucault 1978: 138). Even if the question of the survival and reproduction of synths as a new species is a theme explored mostly in the final season, this theme is also in line with a pervasive preoccupation in *Humans* with the ways in which the existence of sentient synths complicates established perceptions and processes of birth, motherhood and care; of childhood, aging and obsolescence; and of death, memory and loss. Both dimensions that constitute modern biopolitics as theorized by Foucault find their place not only in *Humans* but also in twenty-first century technoculture where, according to Vint, 'both of these biopolitical objects are thoroughly colonized by subjects which once belonged entirely to the fictional realm' (Vint 2011: 161), subjects such as embryonic stem cells, brain-dead patients or, in the case of *Humans*, sentient androids, subjects whose constitution challenges the very definition of what counts as life or death in the first place.

The significance of biopower in the dystopian vision of *Humans* is evident since its first episodes, which explore the consequences of the synth for the

dynamics of the patriarchal middle-class family that, as Foucault observes in his essay 'Governmentality' (1978), has served as a 'privileged instrument for the government of the population' (Foucault 2002: 216). As Rémi Lenoir and Robbie Duschinsky explain, the family has 'played a significant role in the construction of middle-class life' and 'it has been implicated in the identification of each human subject as in possession of a "personal identity"' (Lenois and Duschinsky 2012: 19). The impact of the purchase of a synth on internal family dynamics is a recurring theme of the first season, even for characters outside the Hawkins family: DS Pete Drummond (Neil Maskell), for instance, feels estranged from his wife Jill (Jill Halfpenny) who relies more on Simon (Jack Derges), the synth sent by their insurance company, to look after her following a disabling accident. The very starting-point of the plot is the dysfunctional state of a family that makes the purchase of a synth seem a necessity. This role of the android is obvious from the opening credits of the first season, which include an advertiser's voiceover addressing the audience: 'Could you use some extra help around the house? Introducing the *first* family android!' The plot then begins when the father, Joe Hawkins (Tom Goodman-Hill), decides to buy a synth that will cater for household responsibilities because his partner Laura (Katherine Parkinson) is a successful lawyer whose work commitments prevent her from spending time at home and with her family. Buying a synth is '*the* best thing you will do for your family', says the salesman (Dan Testell) to Joe, who chooses a female synth, soon to be named Anita (Gemma Chan) by his youngest daughter, which is configured to a 'standard domestic profile that will cover all your basic housework'. This moment introduces a major theme of the first season that is indicative of the biopolitical orientation of the series, the conflict between biological motherhood and commodified domestic care: the early episodes show Laura feeling threatened by Anita's effortless domesticity and the increasing attachment that Sophie (Pixie Davies) feels for her. Anita cleans, tidies up, does the laundry, prepares breakfast 'the way it's supposed to be', as Joe puts it. In this respect, the series explores the potential impact of advances in AI and robotics on traditional discourses of motherhood. *Humans* directly engages with debates that have been ongoing within the feminist movement since the 1970s, such as the 'potential for women to find their professional voices and forge a career while wearing the mantle of motherhood' (Borisoff 2005: 1). The first season of the series most directly relies on the female android in order to engage with further feminist themes, such as the objectification, sexualisation and abuse of women: Anita is used in 'adult mode' by Joe and lusted after by his son Toby (Theo Stevenson), while the series also introduces Niska (Emily Berrington), a synth working as a prostitute who is not only sexually harassed by her creator but also abused and traumatized by her male clients. Niska escapes

after murdering a client who wants her to role-play as a scared young girl; she turns to the brothel's madam and says: 'Everything your men do to us, they want to do to you'. In this narrative strand, the series is preoccupied with the role of the android as 'fembot', a feminized and sexualized machine, resembling a woman and replacing her in romantic and sexual relationships, familiar from such films and TV series as *Blade Runner* (1982), *Ex Machina* (2014) and the contemporaneous reboot of *Westworld* (2016-).

The maternal subtext underlying the narrative of the female android is developed later in the series, as Anita turns out to be associated with motherhood in another sense. The plot reveals that her real name is Mia, and that she was kidnapped from her group and had her memory wiped so that she could be remodelled and resold on the black market. In fact, it is revealed that Mia was one of a number of synths created by David Elster (Stephen Boxer) to look after his son Leo (Colin Morgan). Towards the end of the first season, Mia, who has regained consciousness of her real identity, admits to Laura that she was made to love Leo as a mother but, at the same time, she admits: 'Being here, I understand what it means to be a family'. This is a strange statement to make when bearing in mind that the Hawkins are portrayed as a dysfunctional family throughout the entire season. But even with all its dysfunctions, the patriarchal middle-class family remains a standard reference point throughout this season that may be described as a 'synth *Bildungsroman*' whereby an inexperienced sentient android is indoctrinated into the values, patterns and lifestyles of this social class. Synths, by contrast, are portrayed as a disenfranchised working class employed to perform a very specific type of labour: one of the very first scenes of the series shows Laura returning from a business trip and walking next to synths working as ticket inspectors, cleaners, or news vendors. Typically, scenes with the Hawkins are set within their middle-class household, whereas scenes with the synths are set in parking lots, garages, railyards and abandoned factories. The distinction between human and android is thus also configured as one between middle-class and working-class labour, a reading confirmed by the last scene of the first episode, in which robotics expert Dr Ji Dae-Sun (Akie Kotabe) suggests that synths will socially liberate 'the woman in China who works 11 hours a day stitching footballs, the boy in Bangladesh inhaling poison as he breaks up a ship for scrap, the miner in Bolivia risking death every time he goes to work'.

If the competitive relationship between Laura and Anita during the first few episodes explores anxieties about the commodification of maternal care, that season also expands that interest to areas where care is institutionalized by the state through the use of synths. The subplot involving Jill is one instance of the ways in which the series explores the use of AI for biopolitical practices

such as insurance and medical care. A more central subplot involves George Millican (William Hurt), who suffers from memory loss and tremors following a stroke and is visited by his case worker Lindsay Kiwanuka (Ellen Thomas) in order to review his 'assigned care unit', an original 'D-series' synth that he is legally obliged to have replaced with an upgraded model. The care services are portrayed as monitoring and disciplining their clients; Millican refers to them as 'Nanny State Gestapo' and his new synth Vera (Rebecca Front) as 'not a carer' but 'a jailer'. Through these subplots, *Humans*' preoccupation with biopolitics emerges as symptomatic of an era of 'bio-capitalism' that industrializes 'the (re) production and care for human and non-human life in all its natural and cultural aspects' (Klinger 2018: 324).

This theme is also addressed in the second-season storyline, in which AI scientist Athena Morrow (Carrie-Anne Moss), who has been working with limited state funding, eventually agrees to work for the wealthier global corporation Qualia. Whereas this subplot explores the tensions between the biopolitics of the nation-state and those of corporate institutions, it also reveals a further interest in the question of embodiment: Athena has managed to upload the consciousness of her daughter Jenny prior to her death and is currently conducting research on transferring that consciousness to a new body. This storyline follows conversations between Athena and her daughter's consciousness, referred to as Vee (Chloe Wicks), stored in a computer terminal. The project leads to a series of failed attempts to download Jenny to a synthetic body until Vee tells Athena that she prefers to transfer to another network: 'I began as Jenny. [...] But I'm not her. Not anymore. I'm something else'. Embodiment becomes an even more prominent theme of the series through the character of Karen (Ruth Bradley), a sentient synth who has lived separate from the rest of the group, 'passing' as a human police officer, DI Voss, and who ultimately strives for embodiment as a human being. Karen is revealed to be the synth created by Elster to replace his dead wife Beatrice and be a mother figure for Leo. When Leo rejected her, Elster, realizing he had gone too far, tried to kill Karen but couldn't do it, so told the rest of the synths that Karen was dead before committing suicide. During the first two seasons, Karen has a relationship with her colleague Pete but struggles to come to terms with her android self and her relationship with a human. For example, although in episode 3.1, Karen describes the human body as 'wasteful, chaotic, expressive', in episode 2.5, she exclaims, 'I'll never have a child. We'll never grow old together'. Two episodes later, Karen approaches Athena and asks her to transfer her consciousness to a human body: 'I don't want to wear a dead woman's face anymore. [...] I can't eat, I can't dream, I can't have a child. I can't die'. The contradictions and emotional tensions within the synths' relationship to corporeality and embodiment, rather than their

technological superiority and sophistication, is most indicative of the central place of biopower in the series' dystopian vision.

Karen's tragedy is set against issues directly relevant to the biopolitical concerns that inform the series, such as corporeality and embodiment, life and death, motherhood and reproduction, but also aging and obsolescence. These last two themes occur from the beginning of the series, with the subplot involving Millican's attempts to prevent the replacement of his old malfunctioning synth, Odi (Will Tudor), because he has become attached to it for retaining memories of his dead wife. The introduction in the second season of synthetic children manufactured and sold by Qualia develops the theme of aging further. Karen adopts one of the children, Sam (Billy Jenkins), and develops a maternal affection towards him. Karen realises, however, that she cannot put herself in harm's way for Sam if he is under threat due to a 'block' that Elster added to her root code in order to ensure she would not take her own life as Beatrice did. For Karen, the fact that she cannot sacrifice herself for Sam means she cannot be a true mother, in a plot detail that reproduces what Sarah Arnold describes as the discourse of 'the Good Mother', 'a particular and popular discourse of motherhood that valorizes self-sacrifice, selflessness and nurturance' (Arnold 2013: 37). Karen keeps Sam's existence secret from the public, but in episode 3.4, they find themselves in the midst of a hostile crowd that suspects the child may be an android. Karen reveals herself to be a synth in order to distract them so that the child can run away, and she is beaten to death, thus sacrificing herself in a gesture that makes her feel more authentically human. This closure, however, is nothing but another iteration of what Berit Aström terms 'the dead-mother trope' that is symptomatic of the 'symbolic annihilation of mothers on film and television' (Aström 2015: 597). After Elster's and Millican's wives, Karen becomes one more of those 'mothers [that] are routinely removed from narratives, through the re-circulation of a set of themes and clichés, forming a very resilient trope of the dead/absent mother' (594).

The third season redirects this preoccupation with the politics of reproduction away from issues of class and gender and more towards questions on the survival of the species, in which all the synths who were awoken after Day Zero act as metaphors for race and immigration. In a sense, this metaphor had always been visible from the beginning of the series via the casting decisions made for the characters, in accordance with Channel 4's minority mandate: the synth characters are an ethnically diverse cast whereas all major human characters are performed by white actors. But even in its engagement with this theme at the level of plot, *Humans* reproduces major themes and motifs identifiable in narratives of the racial Other: direct references to Anita as a 'slave' by Mattie in episode 1.1; imagery of handcuffs in a scene where a

synth is locked in a wardrobe by two kids who are harassing her at the moment when she gains consciousness in episode 2.5; and scenes of synth lynching that encourage direct comparisons with the jazz song 'Strange Fruit' (1939) in episode 3.1. In the same episode, we see that children at school, like the one that Sophie attends, are taught to discriminate between 'safe' and 'dangerous' synths by the colour of their eyes, a physical discrimination that is reproduced three episodes later, where docile, orange-eyed synths are not allowed in the railyard where sentient, green-eyed synths are based, because this might be seen as offensive and disrespectful. Further patterns of racist discourse that are replicated in *Humans* include the use of insulting nicknames for the racial Other, like 'dollies' or 'Barbies' – expressions described as 'robophobic' – or the description of humans by some synths as 'soft-brains', which is described as an 'anthropophobic' type of language.

The race metaphors become even more pronounced through the reiteration of typical arguments related to fears of immigration, whereby the replaceability of human labour by mechanical labour and its implications for efficiency and cost intersect with arguments about immigrant cheap labour. For instance, in episode 1.5, a policeman tells the two officers that if Niska hurts one more person, they will be replaced with a synth twice as pretty and at a fraction of the cost. Similarly, when in episode 2.2, Ed (Sam Palladio), who owns the café where Mia works, tells his employee Danny (Eric Kofi-Abrefa) that she will do the job better and at a lower cost, Danny jokingly accuses Ed of 'anthropophobic discrimination'. Joe is also made redundant as he can be replaced by a synth and has to join a 'back-to-work' scheme, whereas episode 3.1 includes a scene with a homeless man on the street holding up a sign reading 'Synth took job'. The metaphor is further developed when green-eyed synths are reported arriving in Britain by sea because, as one of them tells Mia and Niska, 'we're being purged in our own country but heard there were safe places for our kind here'.

Furthermore, through the use of specific characters and plot details, the series also dramatizes the effects of governmental policies, such as assimilation, segregation and integration, in response to multiculturalism. The second season already includes anti-synth pressure groups with titles such as 'We Are People' and anti-synth rallies resonating with slogans such as 'Humans First' or 'Flesh and Blood'. By the time of episode 3.2, news bulletins announce that Scandinavian countries are trialling integration with synths. The second season ends with Joe leaving his family in order to move to a synth-free community, the village of Waltringham, described by Laura as a 'backward-looking bubble pretending the future's not happening'. But it is mostly at the level of characterisation that different strategies towards diversity are represented: Mia believes more in integration with humans whereas Niska is the most radical of the original group

of synths, who is more in favour of segregation and the celebration of difference. As the series expands beyond the original synth characters, so two factions of synths emerge: one, led by Max (Ivanhoe Jeremiah), preaches non-violence and reconciliation in ways reminiscent of Martin Luther King, whereas the other, led by Anatole, endorses violent protest and the separation from humans in an echo of the politics of Malcolm X.

The extent to which the representation of the android as a metaphor for the racial Other is informed by biopolitical discourses is highlighted by the fact that what does unite the two leaders is the pressing issue of the reproduction of their species. At the start of the third season, Max gloomily speculates upon the extinction of the synths because their bodies are finite and they cannot procreate: 'In fifty years we'll be gone'. For Anatole, in the new world that he envisions, where synths will be in power, the first thing he suggests they will need to focus on is 'the question of reproduction. The creation of new consciousness. The continuation of the species'. These anxieties become more prominent during this last season because, after Day Zero, synths have been segregated by the state in separate spaces, such as abandoned railyards, and are denied access to spare parts or electrical power. The state has thus adopted a policy that relies on a type of power that operates not through 'the right to take life or let live', which was the power of pre-modern thanatopolitics, but through 'the right to make live or let die', which is the operation of biopower (Foucault 2003: 241). These creatures have therefore been reduced to what Giorgio Agamben calls 'bare life', expendable life, the life of the *homo sacer*, the type of individual whose killing may be deemed as neither homicide nor sacrifice. Agamben draws a distinction between two different forms of life, *zoē* and *bios*: *zoē* refers to 'the simple fact of living common to all living beings (animal, men, or gods)', whereas *bios* refers 'the form or way of living proper to an individual or group' (Agamben 1998: 1). If *bios* refers to legitimized social life, then *zoē* refers to animal life, life reduced to its pure materiality or, in Agamben's terms, 'bare life'. Biopolitics, for Agamben, consists precisely in 'the politicization of bare life' (4), whereby the state maintains its power through the violent exclusion of specific individuals and populations. A person who is forcibly reduced to *zoē* becomes, for Agamben, a 'homo sacer', a category he borrows from Roman law that refers to someone who 'may be killed and yet not sacrificed' (8), whose 'entire existence is reduced to a bare life stripped of every right by virtue of the fact that anyone can kill him [sic] without committing homicide' (183). For Fani Cettl, writing on the biopolitics of *The Hunger Games* (2008), 'the decision on which human life is made expendable depends on deciding which humans in the polis are marked as less valued than human and thus closer to the supposed animal or natural life or *zoē*' (Cettl 2015: 142). Since the state's actions toward the

synths treat them in animalistic terms, it is possible to extend this argument to artificial forms of life.

There is already a set of dystopian fictions that portray doubles, such as clones, as material embodiments of bare life. Recent examples include Kazuo Ishiguro's *Never Let Me Go* (2005) and Michael Bay's film *The Island* (Bay 2005), where clones are created and their organs harvested for a world that operates according to 'a form of power that does not need to exhibit force' (Fisher 2012: 31). *Humans*, on the other hand, includes efforts to recognize sentient synths as creatures that not only possess *zoē* but also *bios* through subplots such as the one in the beginning of the second season, when Niska requests that she be put on trial like a conscious, sentient creature, or the one of the third season that involves the commission by the British government of an independent inquiry after Day Zero, with the aim of issuing a binding recommendation on the treatment of conscious synths. Accordingly, the impending extinction of synths is portrayed precisely through their forceful reduction to *zoē*. Large-scale genocide becomes a major plot theme in the third season, through the government's 'Project Basswood': a plan to cut the power to all synth communities, preventing them from recharging, followed by the sudden restoration of power in the hope that an electrical surge will overload their chargers, thereby committing mass genocide. Behavioural scientist Neil Sommer (Mark Bonnar), who is involved in the project, justifies it to Laura in terms that make the allusions to race, immigration and the nation-state even more pronounced: 'The British people have the right to defend their communities'.

Although the cancellation of *Humans* has left the narrative hanging, at the same time its three-act structure and the gradual shift of attention from the individual to the community gives the series a coherence that might have been elaborated if the series had continued. In its exploration of the pervasiveness of biopower in dystopianism in general, and in the figure of the android in particular, *Humans* is indicative of contemporary trends in dystopian fiction. A reading of the series only encourages the need for further research on the relations between biopolitics, sf and dystopia.

Endnote

¹All subsequent reference to the series episodes will take the form of season and episode number (e.g. 1.1).

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Do Bounty Hunters Dream of Black Sheep?: Reading Race into Philip K. Dick

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The TV set shouted, '—duplicates the halcyon days of the preCivil War Southern states! Either as body servants or tireless field hands [a] loyal, trouble-free companion' for all settlers.

'I think what I and my family of three noticed most of all was the dignity... Having a servant you can depend on ... I find it reassuring'.
(Dick 1999: 16–17)

No, not a neo-Confederate promise to secessionists fleeing a multicultural United States and a testimony from a happy slave-owner, but a fictional advert promising a robot slave to any human prepared to abandon a post-apocalyptic America for a new settlement on Mars, backed up with a Martian emigrant extolling the virtues of her robot factotum. Like many of Philip K. Dick's novels, *Do Androids Dream of Electric Sheep?* (1968) offers a philosophical exploration of such themes as consciousness, emotion and the nature of humanity. As important, it operates as a commentary on the response of slaves to servitude and as a quasi-slave narrative that sheds light on race relations in the United States.

Thanks in part to its film adaptation as *Blade Runner* (1982), *Androids* has received reams of critical analysis. It has been read variously as a 'meditation on the presence of evil in the world' (Rossi 2011: 170), a defence of empathy (Rhee 2013), an allegory for autism (Morton 2015), an interface between humanity and technology (Sims 2009), a study in entropy (Palmer 2003) or posthumanity (Galvin 1997), and a critique of either scientific racism (McNamara 1997) or 'speciesism' (Barr 1997). Yet, despite Darko Suvin's observation that Dick 'always speaks directly out of and to the American experience of his generation' (Suvin 1975), few have examined *Androids* through the prism of contemporary American race relations. Peter Fitting briefly mentions the possibility that the androids might be black (Fitting 1987: 343–4) while Christopher Palmer touches on the novel's relationship with the American Civil War Centennial and the civil rights movement (Palmer 2003: viii). This oversight may be because none of the characters are explicitly black, as for example in *Counter-Clock World* (1967) (see also Jakaitis 1995), but it is even more surprising when one considers that the novel yokes the condition of the androids to the historical legacy of slavery. This reading becomes more complicated if readers also consider the book's relationship with the African American presence in the San Francisco Bay Area, the setting for the novel's action. The specificity of both geographical location and temporal proximity

to the lives of its readers (the novel is set in a near-future 1992) encourages consideration of the novel's interrogation of contemporary race relations in the city, which itself deepens the novel's construction of space and its presentation of the role of the suburbs amid periods of racial turmoil.

As Gregory Rutledge observes, the science fiction ghetto in which Dick wrote suffered from white normative assumptions about society: the futures it imagined reflected the predominance of white authors and readers within sf of the 1960s. African Americans, meanwhile, were 'akin to *aliens*' (Rutledge 2000: 130). With the exception of the renegade leader, Baty, who possesses 'Mongolian features which gave him a brutal look' (Dick 1999: 130), Dick offers no racial description of the androids. Dick plays upon the assumptions of his predominantly white readers that the Nexus-6 androids are also white since, on the most simplistic level, they look like everybody else. He suggests that market competition for androids among settlers led to the creation of the Nexus-6, hinting that human settlers desired androids that looked indistinguishable from themselves (Dick 1999: 15; 26). Metonymically speaking, however, the androids are black but 'pass' for white.¹

In order to uphold this argument and to understand Dick's relationship with the racial politics of his time, his own history prior to the novel's completion needs evaluation. This opens up discussion of the novel's depiction of racialized characters and race relations, leading to the suggestion that the novel renders the reader complicit in the crimes committed in the defence of human (white) supremacy. Although *Androids* is not a 'civil rights novel', it plays on three themes in African American history. The first is the role of slave insurrections in white psychology and the fear of almost superhuman, hyper-violent black men in leading such rebellions. Baty can be viewed as a simulacrum of an African American radical leader, thus presenting the novel as an expression of white fears of African American insurrection. The second stems from the post-bellum period through to the early twentieth century, when light-skinned African Americans were able to 'pass' as white. The androids' attempts to pass as human underscore the book's presentation of white fears of black infiltration and of the androids' humanity. The third – the acceleration of urban racial integration in the 1960s – is mediated through the novel's use of physical and colonial spaces that again articulate white concerns over integration and collapsing racial boundaries. Here, the novel's racial subtext implicitly questions whether the civil rights legislation of the 1960s offered any changes to the material circumstances experienced by African American people. However, like Donna Haraway's cyborgs that break down gendered and human-robot boundaries (Haraway 1991: 150–1), Dick's androids break down boundaries between the races. Haunted by their proximity to but also their distance from humans, they are harbingers of a new, integrated future.

Dick and Civil Rights in the 1960s

Dick wrote the novel in one of his fevered rushes during 1966 while living in San Rafael, Marin County, fifteen miles north of San Francisco (A. Dick 1995: 132; Sutin 1994: 149, 307). It is inconceivable that Dick would have been ignorant of the contemporaneous African American civil rights movement. Two years earlier, in 'Nazism and the High Castle' (1964), he had written of the men who bombed the 16th Street Baptist Church in Birmingham, Alabama, which left the fourteen-year-olds Addie Mae Collins, Cynthia Wesley and Carole Robertson, and the eleven-year-old Carol Denise McNair dead: 'If we, you and I, could catch the white bastards – or rather just plain bastards – who did it, we would work just as much and quick vengeance on them as any Negro mob would or could' (Dick 1995: 116). Dick's use of the superannuated word 'Negro' firmly positions him within the liberal racial ideology of the early and mid-1960s, backed up with his then wife's insistence that he nominated Martin Luther King as a write-in candidate for the 1960 presidential election (A. Dick 1995: 62, 67).

The broad contours of the civil rights movement are familiar enough not to need recapitulation here. Three key issues are germane to *Androids*, however. First, following the massive gains of the 1964 Civil Rights Act and the 1965 Voting Rights Act, civil rights activists increasingly turned their focus to issues beyond the legal segregation of African American citizens. The Watts Rebellion of August 1965 focused the nation's minds on the failures of civil rights legislation to alleviate the poverty, social exclusion and other ills that faced inner-city residents. It was followed by a major campaign by Dr King and the Southern Christian Leadership Conference (SCLC) to protest urban housing and employment discrimination. This placed the focus of civil rights activism on northern urban centres, encouraging white residents of these areas to stop considering racism as purely a southern phenomenon and prepare themselves to integrate. Second, Malcolm X's assassination in February 1965 and a major civil rights campaign in Alabama during summer 1966 brought Black Power to the nation's attention. Soon afterward, the Black Panther Party formed in Oakland and began to garner attention. Black Power activists offered a sterner vision of white America's failings than Dr King and the SCLC. Following Malcolm X, they were less likely to advocate non-violence as a core strategy and instead asserted their rights to self-defence in order to protect themselves from white violence. This more assertive stance unsettled white liberals (see, for example, Roberts 1966). The national prominence of the Alabama Governor, George Wallace, forms the third issue. His ability to tap into many white Americans' sense of betrayal was rooted in racism and the seething resentment of whites towards the fact that black Americans were moving beyond the ghettos into 'white' streets, schools and neighbourhoods. He appealed to Americans

who lived close to the inner cities, on integration's frontline. Such whites felt threatened by open housing, and thought that an influx of black neighbours would debase the neighbourhood and depress housing prices (Carter 1995: 208–15). In September 1966, soon after Dick completed *Androids*, these influences coalesced. Police officer Alvin Johnson shot a teenager, Matthew Johnson, in Hunters Point, San Francisco's predominantly African American area, killing him. Local residents expressed their anger over subsequent days, damaging property, looting and injuring various people in the surrounding area. Officer Johnson was never prosecuted (Agee 2014: 169–71).

Preoccupied with the Vietnam War, Dick recalled that in 1966 he was 'revolutionary and existential enough to believe that these android personalities were so lethal, so dangerous to human beings, that it ultimately might be necessary to fight them. The problem in killing them would then be: "Would we not become like the androids in our very effort to wipe them out?"' (qtd Sammon 1996: 16–17). Whilst Dick's opinion superficially presents *Androids* as an anti-war statement, beneath this lies a more profound engagement with race. As the Black Panther Party noted soon after Dick completed his novel, white racism was at the heart of the Vietnam War; white America treated both the Vietnamese and black Americans as second-class humans, ripe for exploitation or destruction (Anon 1967: 3). Yet the mere fact that he lived during a period of racial tumult, both locally and nationally, should lead readers to wonder about the extent to which such events fed his unconscious imagination. As Fredric Jameson suggests, writers often express the inexpressible using aesthetic methods such as science fiction (Buchanan 2006: 16–17); the same might be said of the relationship between their unconscious and their work.

Due to their mass production, the androids appear interchangeable to the humans. Once they become aware of the androids' origins, they tend to measure them against what it means to be human, which is to say, a predominantly white, male, heterosexual conception of humanity. On Earth, the androids are not even elevated to second-class citizen status, and are below even sub-optimal humans such as J.R. Isidore: 'we're not even considered animals [...] every worm and wood louse is considered more desirable' (Dick 1999: 105). The othering of the androids serves to unify human society against them: even Isidore comes to side with his material oppressors, although Deckard represents but one arm of a vestigial society that denigrates him as a so-called 'chickenhead'. Isidore's circumstances echo those of poor whites in the antebellum period, encouraged by an appeal to shared phenotypes to defend a social, legal and political apparatus that did little to benefit their material condition.

The androids occupy a liminal position on Earth, both visibly 'alive' and politically and legally 'dead', because they are not an official form of life. This

renders their existence akin to that of African Americans, who lived in a white supremacist society reliant on a heavily policed division between white and black. In order to reinforce a psychological distancing from his task, Deckard and his fellow humans talk of 'retiring' androids rather than killing them. Because their lives comprise only work, their retirement equals death; yet as not-quite-humans who do not 'live', they cannot 'die'. This opens up a moral ambiguity that firmly indicts the reader in reconfiguring the killing spree of the novel's white hero as a peaceful ushering towards a relaxing superannuation. Deckard, like the vast majority of white murderers of African Americans, may kill freely without fear of punishment. His state-sanctioned, religiously approved power over life and death renders him an embodiment of what Achille Mbembe terms 'necropolitics': he possesses the ability to define who lives and who dies as the ultimate expression of sovereignty (Mbembe 2003).

Slave Insurrections and the Android Nat Turner

Dick's racializing of Baty as a brutal Mongolian, coupled with his leadership of a murderous group of mutineers, encourages the reader to engage in a form of racial profiling, further cementing him as a threat to white society. His is a racialized condition, one that maps the policing of racial identity (in the world of the reader) onto political and philosophical conceptions of life itself (in the storyworld of the novel).

Since Baty is the leader of a revolutionary group and an escaped slave, comparisons with a series of African American leaders are unavoidable. Most obviously, Baty is suggestive of Malcolm X. In his willingness to use violence in order to protect himself and his comrades, Baty reflects Malcolm X's insistence on the right to self-defence. Like Malcolm X, he possesses a single-minded focus on android (black) life, even if it leads to an indifference towards human (white) life. On a more philosophical level, Baty's worldview reflects one of the key ambitions of African American activists of the 1960s: to convince white America of their shared humanity. Civil rights protesters were encouraged to look assailants in the eye should they find themselves under physical attack from segregationists, a tactic designed to force the racists to accept the protesters' humanity (see, for example, Hogan 2007). Baty's leadership of the androids is predicated on similar grounds: by entering the home of (white) humanity, they assert their right to life rather than being automata or second-class citizens. As important, each looks Deckard directly in the eye before he kills them. Yet this notion of android humanity is always precarious. Their occupation of a liminal life – almost but not quite human, subject to but not protected by human laws, given memories of an early life but not physically born – exacerbates this precarity. As Deckard's occupation reveals, they are subject to extrajudicial

death at the hands of a human who will suffer no consequences for they exist outside the political sphere.

At a deeper historical level, Deckard himself identifies Baty in terms associated with slavery. Reading his case record, he notes Baty's occupation: a pharmacist. Deckard finds this unlikely, surmising that somebody as powerful as Baty was much more likely to be a 'field hand' who dreamed of a 'better life, without servitude' (Dick 1999: 157–8). Baty, then, recalls Nat Turner, who led a slave revolt in Virginia during 1831, thus embodying white fears of the black male revolutionary. Turner claimed to have had visions of the world before he was born and that he knew he was destined for greatness from an early age. 'Wrapp[ing him]self in mystery' (Turner 1831), he professed to periodic visions of God's spirit urging him towards his destiny as a revolutionary leader in a coming war for the soul of America. His *Confessions*, dictated to the white attorney Thomas Gray, presented the revolutionary as a multifaceted 'griot [...] orator, folklorist, preacher, and militant' (qtd Bernier 2012: 106). Even the nineteenth-century white historian William Drewry commented on Turner's 'considerable mental ability and wide information', suggesting that his intelligence was as significant as his mysticism (95). Like Turner, Baty gathers a group of slaves, kills some settlers and escapes their plantation. Similarly, he has 'mystical preoccupations', and according to his police file, an ideology centred on 'the sacredness of so-called android "life"' (Dick 1999: 157–8). He becomes adroit at turning the violence he experienced as a slave onto his oppressors, and like Turner, possesses an uncannily powerful intelligence. Although identified as East Asian, Baty's features are not clearly described; like Turner, his face remains mysterious, ambiguous; even unknowable. Both embody a new model of (black) humanity that (white) humans are unable to comprehend, let alone condone.

Like Turner though, Baty fails but his attempted insurrection exposes the racist structures of (white) human society. Consequently, even though he leads a group of only eight, and will expire within four years of his construction, Baty must be executed as quickly and as covertly as possible. *Androids'* policing draws on long-term trends in white responses to African American resistance and power. As Steve Martinot and Jared Sexton observe, "the foundations of US white supremacy are far from stable. Owing to the instability of white supremacy, the social structures of whiteness must ever be re-secured in an obsessive fashion' (Martinot and Sexton 2003: 179). Read this way, Deckard can only be viewed as a slave-catcher, although Dick invites his readers to identify and sympathize with him despite his ennui, cynicism and rampant consumerism. The (white) reader's identification with Deckard works to indict him/her in supporting the ethnic cleansing of the androids, of a campaign designed to rid

society of folks unlike themselves. The novel thus challenges its readership's preconceptions of integration, racism and race.

Android Humanity and 'Passing'

The androids' attempts to blend into white society add a further dimension to the novel's racial subtext. Taking advantage of their phenotypes, they attempt to 'pass' as human on Earth, befriending Isidore and taking on regular jobs. 'Passing' was a late nineteenth/early twentieth-century tactic in which light-skinned black men and women attempted to blend into white US society, a place where white people were not judged by their skin colour but rather by the content of their character, achievements and intelligence. In many ways, passing constituted an attempt by people whose humanity was denied to appropriate their own human right via a public performance of whiteness. As Werner Sollors points out, in segregated America, passing was considered a threat to social order, not least because those who passed destroyed any notion that race had any biological meaning (Sollors 1997: 247–55).

On Mars, the androids are a slave population. Their ability to respond to humans as if they were themselves human is a major asset, enabling a human settler to settle into a life far away from Earth, whilst also ensuring their continued subjugation. Their life spans are kept short for two reasons: first, to manufacture demand for new product and keep the Rosen Corporation profitable, which is so enmeshed in the colonization project that the fate of one is dependent upon the other. Second, their short lives theoretically ensure that they don't learn enough self-awareness and cunning i to resist their servitude. In practice, though, the androids suffer very real human emotions such as loneliness (Dick 1999: 128). Their quest for freedom is also a quest for real, meaningful contact amid their growing awareness of the artificiality and meaninglessness of their lives. Thus, even as their experiences make them more human as they age, they remain haunted by their artificial conception and the knowledge that any skills they possess are programmed rather than acquired: hence their preparedness to risk early termination in order to pass as human.

This is heartbreakingly detailed in the fate of Luba Luft who uses her vocal skills to become a German opera singer. Before meeting her, Deckard boasts to himself that his appreciation of opera elevates him above his colleagues. A rehearsal of *The Magic Flute* moves him to tears before he reflects on an android becoming the opera's Pamina, the daughter of the Queen of the Night whose union with the opera's hero, Tamino, heralds a new age of harmony: 'A little ironic, the sentiment her role calls for. However vital, active, and nice-looking, an escaped android could hardly tell the truth' (84). Even though Deckard knows Luft is a fake human, his affect – dictated by his eyes and ears – initially

overwhelms his cognizance. Such a response, acknowledging the emotions generated by her singing while remaining steadfast on her inferiority, echoes the white response to another arena in which African Americans were implicitly encouraged to demonstrate their humanity: popular song (Hall 1992: 27). This expression, however, surely converted some listeners' attitudes, as the former slave Frederick Douglass noted: 'I have sometimes thought that the mere hearing of those [slave] songs would do more to impress some minds with the horrible character of slavery, than the reading of whole volumes of philosophy on the subject could do' (Douglass 1997: 18–19). Only Deckard's prior awareness of Luft's android status prevents him making a similar acceptance. Without it, her singing voice would have enabled her to pass as human.

After escaping from Deckard, Luft heads to a museum, where she is apprehended at an Edvard Munch exhibition. Deckard and his temporary companion, Phil Resch, ponder Munch's *The Scream* (1893), with Resch observing that an android must feel a little of the existential horror of the painting's subject. As an expressionist painter, however, Munch suggests that the entire world is saturated with the emotions of the subject. Resch fails to comprehend the significance of Munch's artwork: the protagonist's horror overcomes the entire world. In this, the painting operates metonymically, as a reflection of the androids' lives and of their threat to Earth society should they remain. Deckard and Resch apprehend Luft in front of *Puberty* (1894), another Munchian investigation into the anxiety inherent in human existence. Like the painting's subject, Luft is exposed to the male gaze, fragile and defenceless, the shadow of death looming over her. She requests a copy of the painting: another signifier of her developing humanity. Her identification with Munch's dread is at once a reminder that her whole existence is dictated by her status as *homo sacer*, and an articulation of her humanity, since she desires a permanent reminder of an artwork that possesses emotional resonance. Yet, adding to the sad irony and pathos of this moment, everybody knows that this is a copy, albeit one that, unlike the android simulacra, is based on a real original. Significantly, Resch kills Luft soon after Deckard gifts her a book of Munch's collected works in a gesture of kindness and empathy that Resch cannot comprehend. She dies screaming, reminding Deckard of Munch's masterpiece, and readers of Munch's suggestion that the individual's internal horror will poison the rest of the world.

Before her death, Luft goads Resch, angrily lamenting that she spent her entire time on Earth 'imitating the human [...] acting as if I had the thoughts and impulses a human would have. Imitating, as far as I'm concerned, a superior life form' (Dick 1999: 115). Here she touches on one of the core psychological problems of the person who passes. The entire process is predicated on the

overarching assertion of the equality of black and white within a world that insists on the inferiority of the former (the identity given to them) and the superiority of latter (the identity they adopt). Such a complex psychological state inevitably creates its own burdens, which partially explains why so many androids meet their fate with resignation and relief. Luft's lament, however, reflects debates within the civil rights movement, namely whether its strategy should be to integrate into (white) America or move along its own path, aware that they would be integrating, as James Boggs wrote in 1969, into a 'burning house' (Boggs 2011: 207). The increasingly blurred boundaries between human and android (white and black) – a consequence of the Rosen Corporation's fidelity to capitalist impulses without regard to the human consequences – render her murder essential, even though Deckard complains, 'I don't get it; how can a talent like that be a liability to our society?' [...] She was a wonderful singer. The planet could have used her. This is insane' (Dick 1999: 117).

Race and Affect in the Voigt-Kampff Test

As Deckard tells Resch, the Voigt-Kampff test – the method for determining android from human – relies on unconscious human responses to provocative stimuli: 'Reaction time is a factor' (120). The testing equipment senses the speed of capillary dilation on the face – in simple terms, blushing – a reaction that cannot be controlled consciously. Android technology has not yet matched the speed of this affective response; the gap between human (unconscious) and android (conscious) reactions enables Deckard to differentiate between the two. In this, Dick anticipates the affective turn that accompanied neoliberalism: the neoliberal subject must not only think, it must *feel* (Gill and Kanai 2018: 320–1). Suffering from a 'flattening of affect' (Dick 1999: 33), the androids cannot emote quickly enough to be considered human; they are relegated to the status of disposable workers for neoliberal capitalism. Affect thus elevates the human above the slave, and offers the potential for a life without work; meanwhile, the slave's failure to match their epistemological understanding of experience with an ontological feeling supposedly demonstrates their inhumanity. They might consider themselves human but their delayed feelings betray them. Conversely, to Deckard, they might appear human but the Voigt-Kampff test gives him the intellectual awareness that they are not.

However, as the death of George Floyd has confirmed, police officers reflect the tendency of white people to see black faces through racist prisms, including misidentifying items held in their hands as weapons. This is particularly prevalent when they only have a short period of time in which to make the decision (see, for example, Payne et al 2002). This inability to comprehend the outward display of android (black) emotions necessitates a

technological solution in order to police the boundary between human (white) and android (black). The Voigt-Kampff test thus racializes its subjects, affording the bounty hunters the power to classify (racial) categories *and* determine who is criminal simply through the terms of their existence: 'blackness has become an ontological crime, a crime of *being*' (Torres et al 2017: 1120). The bounty hunter determines the boundaries between the races including the potential for accidentally, or indeed deliberately, exterminating those considered sub-standard. Earth's population must therefore trust in the incorruptibility of the bounty hunter, and his willingness to subsume his subjectivity within the test's objective findings about the androids' subjective responses.

As Douglass bitterly noted, slave-owners became excellent students of human nature:

They have to deal not with earth, wood, or stone, but with *men*; and, by every regard they have for their safety and prosperity, they must study to know the material on which they are to work. So much intellect as the slaveholder has around him, requires watching. Their safety depends upon their vigilance [...] They watch, therefore, with skilled and practiced eyes, and have learned to read, with great accuracy, the state of mind and heart of the slave, through his sable face. (Douglass 2003: 202)

Douglass thus reminds us of the slave-owners' tacit acceptance of their chattels' humanity even as they denied it to them through the institution of slavery. This knowledge of the slaves' human nature was essential in the pursuit of escapees, and similarly implied acceptance of the slaves as human beings. In the novel, without the ability to 'read' android faces, bounty hunters must rely on the test in order to understand the inner life of the android. As important, Deckard must appreciate the humanity of the androids in order to track them successfully; hence, his success connotes acceptance of their human qualities irrespective of the test's findings.

Resch suggests to Deckard that he cauterize his burgeoning empathy for androids by sleeping with Rachael Rosen, mistaking this empathy for mere lust. His updating of the callous attitude towards female slaves by white male owners, who would use their power to rape with impunity and treat such assaults as a perk of ownership, leads Deckard only to wonder if Resch is the more effective bounty hunter. Following Resch's urging, Deckard manufactures a situation in which he and Rachael might have sex, despite such congress being illegal. Deckard's mastery though, indicated by his objectification of Rachael's physical appearance, is countered by her sexual agency, in which she orders him to bed. It transpires that Rachael has been programmed to seduce the bounty

hunters, prompting enough psychological torment that they are unable to kill the androids before being killed themselves (Resch being the sole exception). In advising Deckard not to consider his actions, Rachael performs another act of passing, encouraging him to rely on only his senses: she looks, sounds and feels human; only his intellectual awareness of her fabrication prevents him accepting her as such. Rachael not only imitates the human but also prompts the human to accept this imitation, reiterating the novel's suggestion that feeling is superior to thinking. Numerous problems emerge here, not least the racist assumption of black hypersexuality and the allusion to the anti-miscegenation laws that were designed as a 'founding gesture of whiteness' and a component feature of white supremacist dialogue (Sexton 2003: 246).

In transgressing this boundary, however, Deckard is not merely breaking down human-android barriers or, in dialectical terms, creating a new synthesis of human-android. As these episodes suggest, the androids' passing proves profoundly destabilizing for Deckard, charged as he is with defending the (racial) purity of humanity. It reinforces the novel's irony in that what made the androids so successful necessitates their ultimate destruction. This irony is intensified by Deckard's increasing awareness that the process of hunting fundamentally alters the androids' behaviour, much like George Zimmerman's stalking of Trayvon Martin prompted an entirely understandable response that Zimmerman used as a pretext for killing the younger man (Torres et al 2017: 1117–19). The androids exhibit a painfully natural, flight-or-flight response to their predicament. So, even as the Voigt-Kampff test supposedly reveals their lack of humanity, their very humane response to the existential threat to their own lives undermines the test's findings. They might not possess true empathy for living beings but their behaviour is ultimately very human.

The Spatial *Androids*

Reading the androids as slaves also begs consideration of the novel's relationship with colonialism and the concept of physical space. This adds extra depth to the novel, first in terms of the imperial relationship between Earth and Mars, and second in its presentation of the frontline of integration between these two locations. These spaces have been produced by social and political action; the former in the novel's diegetic world and the latter both in *Androids* and Dick's real-life world. In transgressing the boundaries between the imperial centre and the periphery, the androids threaten to bring Mars's social structure (defined by slavery) to Earth, forcing its residents to come to terms with the moral and ethical implications of the imperialist-capitalist project.

As important, the San Francisco of the novel is much like the San Francisco of 1966, facing integration at the hands of agents who have no faith in the

willingness of the current residents to comply. As Luft suggests, Baty's group is not concerned with destroying human society as they see it. Instead, they merely want to fit into Earth life before they expire. Their destruction serves as a powerful reminder of white American attitudes towards integration, echoing the violence meted out to civil rights marchers in Chicago during 1966 or George Wallace's promise to bring Alabama law to the nation and put 'a bullet in the brain' of anybody prepared to engage in urban unrest (Carter 1995: 367). The novel thus reflects the fears of many northern whites who saw the Watts Rebellion symbolically bring the racial violence and strife of the civil rights movement into northern urban centres.

Yet these were not generalized fears. In 1963, soon after 30,000 people marched through San Francisco to declare their support for civil rights, James Baldwin visited to film a documentary about the city's racial tinderbox. First broadcast on February 4, 1964, *Take This Hammer* included a series of discussions between Baldwin, his hosts and residents of the predominantly African American Bayview-Hunters Point area. The local activist Orville Luster stated that African American San Franciscans were 'trying to find [their] place... This is one of the problems... What place is there for me?': a statement that Dick's androids might themselves have made. Meanwhile, one resident put his fellow San Franciscans' situation in starker terms by suggesting that only violent revolution could bring change: 'Let everybody bleed a bit'.

Deckard, meanwhile, is told by a fellow bounty hunter that 'we stand between the Nexus-6 and mankind, a barrier which keeps the two distinct' (Dick 1999: 121). His role in policing this frontline of integration is to confront (black) androids heading into (white) northern urban centres, and in line with the prevailing sociological assumptions, prevent them degrading white society. Detaching himself from his emotions, he objectifies the androids, focusing on their crimes and failure to empathize with living beings, rather than the potential that these crimes constituted the agonized last resort of an oppressed race. Read alongside the extra-legal killing of Matthew Johnson, this again racializes the androids, reminding readers of the dehumanization central to American policing of the inner cities.

Androids's spatial qualities manifest themselves best in its treatment of an android ghetto within San Francisco and its representation of suburbia. This ghetto exists in an anomalous space: 'a closed loop, cut off from the rest of San Francisco. We know about them but they don't know about us' (106). Notwithstanding the practical questions generated by the ghetto's existence, it symbolically parallels the physically and psychologically excluded Bayview-Hunters Point. Bounded by Highways 101 and 280, Bayview-Hunters Point was dominated by shipyards until deindustrialization took hold after World War

Two. Federal policy facilitated white flight from the area, which was roughly balanced between black and white residents in 1960, but became almost 75% African American by the end of the decade, with an unemployment rate three times higher than the wider Bay Area. During the mid-1960s, 'dominant representations of Bayview-Hunters Point, in official reports, news media and popular culture, depicted the area as isolated from the rest of the city, not as a result of economic or political inequalities as Bayview activists were arguing, *but due to its perceived cultural and racial difference*' (Dillon 2011: 18; emphasis added). Such representations posited a close relationship between the area's social problems and the race of its residents, othering and objectifying black San Franciscans because they supposedly lacked the moral and social qualities of white Americans. This reinforced both the isolation of Bayview-Hunters Point that Baldwin observed and the refusal of whites to acknowledge the existence, let alone the humanity, of their fellow residents.

Consequently, Deckard's surprise at discovering this ghetto reflects that of many San Franciscans who watched *Take This Hammer* or who remained ignorant of black San Francisco until the Hunters Point uprising. Analogous to real-life suburbanites, Deckard robotically drives his (hover)car into the city, heads home exhausted at day's end, while his wife's social isolation is alleviated only by the opiates of the novel's ersatz religion, Mercerism, and a mood manipulation organ. Like all the remaining humans, they compulsively watch Buster Friendly, the one surviving TV programme that acts as a further reminder of their uniformity, meaninglessness and failure to escape. Deckard envies the riches that come to his immediate superior, who lives in an upscale area of San Francisco, and casts envious eyes at his neighbour's horse, much like 1960s suburban men might covet a new car. Eternally desirous of a real animal to supplant their electric sheep, the pair are caught in the 'bland ritual of competitive spending' (Mumford 1961: 494), facilitated only by Deckard's skill at killing androids. Yet Deckard's occupation itself thwarts their greatest desire – that of escape to Mars – and thus ironically binds them to their unfulfilling suburban life; indeed, their consumerist ecstasy comes to an abrupt end when they comprehend the burden of the repayment schedule.

In 1960s America, suburbia represented a location for middle-class whites to group together, a place to reassert individual property rights, privacy and the right not to engage with social undesirables, notably the poor and the black. The Baty group hides in a suburban building that, due to radioactivity, has been abandoned by all its human inhabitants except Isidore. The impact of this plot development operates primarily at a non-diegetic level. Thus, this depopulated suburbia of the future is metonymically the suburbia of the 1960s, integrated by a group of (black) sub-humans; the androids' invasion is hugely disturbing

because it constitutes a subversion of and challenge to suburbia's homogeneity, demolishing the physical, economic and psychological barriers established by suburbanites to separate themselves from the urban world that they wished to leave behind.

As a private space, Isidore's building occupies an even more problematic position than public spaces in terms of the androids' incursion into white society. As civil rights activists discovered, desegregating public accommodations involved major struggles at national, local and state levels; desegregating housing proved even more difficult (see, for example, Cook 1998). The ease with which the androids insert themselves into a private housing development, meanwhile, portends wider patterns of integration. The androids even threaten a further, double transgression. In setting up camp in Isidore's conapt, they recreate a family unit. Baty is the masculine head of the household; Irmgard very much plays his wife. Pris, meanwhile, acts like a curious and unworldly daughter in her attempts to manipulate Isidore. While Isidore accepts them into his house, he is clearly the junior partner: the androids have adopted him. Deckard must ensure that this nuclear family never settles into domestic life; that a (white) human never becomes subordinate to a (black) android, let alone be 'adopted' by a (black) android family. Deckard must consequently reassert (white) human superiority by destroying an incipient integrated family.

Yet, ironically, the androids find suburbia a suffocating trap. The places where the androids search for freedom in fact become their coffins: Garland is killed at work; Luft in the museum where she seeks succour; Polokov on his apartment roof; and the others in their suburban refuge. As sub-humans, their privacy rights do not exist; as terrorists, they must be destroyed. Their attempt to become suburbanites fails due to the panoptic surveillance and overwhelming power of white supremacy. What began as a new way of life, freed from the drudgery of work, became a fight to the death. Lewis Mumford's argument that the suburbs constituted 'what was properly a beginning was treated as an end' never appears as poignant as when applied to the androids (Mumford 1961: 494).

The Final Reckoning

As ever, Dick has a final trick up his sleeve. Luft upbraids Deckard for his failure to betray any emotion at her impending demise. Logically, she argues, this lack of empathy for another living being suggests that he is an android himself. Taken aback at this extraordinary assertion of android humanity, Deckard descends into an existential crisis. He eventually concludes that the androids possess the right to life, a decision that confirms the meaninglessness of his job. He understands that, as living beings, the androids were compelled to escape Mars and belatedly embraces Isidore's willingness to accept the androids as humans

and openness to their plight, despite their (computer-driven) flaws. After all, any enslaved human would wish to do the same.

When told that they took 'unlawful flight', he thinks to himself: 'To save their lives' (Dick 1999: 151). He eventually accepts that Baty led the androids to Earth because, like him, they had dreams of the future. He realizes that his job 'require[s him] to violate his own identity' and that he must reach out to other beings in order to become truly empathetic (152). Deckard concludes that his success in killing all the androids is a defeat, which prompts him to declare his retirement amid the triumph of his anomie: 'Where I go the ancient curse follows [...] I am required to do wrong' (193–4).

Deckard experiences a final revelation when he heads into the Oregon wastelands, far away from the integrating city. Buster Friendly has revealed that Mercerism is a swindle, symbolically shattering the boundaries between human and android. Deckard needs the distance from the troubles to accept this new future and come to an appreciation that all living beings possess a soul. Sleep-deprived, he thinks he has become Mercer and believes that he has found a live toad, despite knowing that they became extinct years ago. Even his wife's discovery that it is indeed a fake fails to thwart his devotion to it, and thus to a new understanding of humanity: 'The electric things have their lives, too' (208).

Dick's novel ends on this transcendent note: even artificial life is life itself. A racial reading of *Androids* similarly prompts readers to accept African American equality and worry less about the impact that integration might have on their lives than the impact their racism might have on themselves and the world around them. Baty and his friends have essentially sacrificed themselves in order to bring about a new post-human (or post-racial) era. This racial reading therefore intensifies one of Dick's signature themes – the nature of humanity – to the extent that the novel becomes more humanist even as it anticipates a post-human future. At the political level, it reveals the psychological damage that racial categorization does both to the oppressor and the oppressed, suggesting at its end that a race war offers no true resolution: only accepting human equality will enable white Americans to sleep peacefully. It is as if Dick echoes Baldwin in revealing that, by degrading the androids, humans succeed only in debasing themselves; that Deckard – and hence all his fellow humans – can only liberate themselves by liberating the androids. The androids forced Deckard to look them in the eye to prove their humanity, prompting him to look into himself and question why he is policing this boundary so violently. By erasing the boundaries between slavery and freedom, and by confronting (white) human supremacy at its source, the androids fulfil Baldwin's maxim that 'the power of the white world is threatened whenever a black man refuses to accept the white world's

definitions' (Baldwin 1998: 326). To paraphrase Baldwin, they force Deckard to comprehend that they were not the androids, but him, that the boundaries between human and android, black and white, were artificially constructed in order to uphold a profoundly inhumane social system.

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Endnote

¹I use 'black' in the sense in that it is a socio-political construct, 'created as a political category in a certain historical moment', namely the 1960s. As Stuart Hall remarked to his son, 'I'm not talking about your paintbox, I'm talking about [inside] your head' (Hall 2019: 75–6). I flip this to signify that the androids are 'black' in other peoples' heads.

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Estranged Entrepreneurs and the Meaning of Money in *Down and Out in the Magic Kingdom*

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At the moment, there are at least three ways of thinking about what money is – not just what it has historically done, or what it tends to do, or how to get more of it – but what money really *is*. These approaches are chartalism (also known as the state theory of money), the commodity theory of money, and the credit theory of money.¹ Thinking about the nature of money is useful for a number of reasons, including healthy suspicion of the definitions offered by mainstream economics textbooks (money as a mysterious ‘x’ at the intersection of the functions of money), or as an important step in trying to imagine future societies *without* money. Unless we know what money is, how can we be sure it has gone away? This article offers speculative fiction as a complementary way of thinking about the nature of money, especially in relation to the figure of the entrepreneur, drawing primarily on Cory Doctorow’s *Down and Out in the Magic Kingdom* (2003), and just a little on Terry Pratchett’s *Making Money* (2007).

It also emphasizes the credit theory of money; but first, let’s quickly describe the other two. For chartalists, money is above all an institution imposed by an authority, usually a sovereign. By imposing a tax debt that must be paid with some particular thing, the sovereign can kickstart a generalized desire for that object. That particular object can then evolve into the standard means of exchange. For commodity theory, a pre-eminent authority is not really necessary. The idea here is that money emerges when something gradually becomes so prized and sought after – gold, cigarettes, fish, nails, tea, cat pics – that it becomes a medium of exchange for all other commodities. Under this approach, money always remains in essence a sort of commodity, even when it has evolved into something you can’t fashion into jewellery, smoke, eat, hammer, sip, or hug. People will accept this thing as a payment, even when they don’t want it for its own sake, since they know they can always trade it for whatever they *do* want. Even fiat money – money that isn’t backed by anything – is a commodity whose utility is its exchangeability.

Credit theory emphasizes that money comes into being through somebody’s promise to pay. This promise is an IOU that becomes transferable and can circulate as money. Sometimes this article will be equivocal about whether I am referring to credit theory as it is commonly discussed, or rather referring to something much larger and more dispersed, that is, the wider penumbra of intuitions, insights, and embodied and institutionalized knowledge which such texts aim, to some extent, to systematize and to strengthen. To put it another way: through a reading of Doctorow’s work, this article hopes to cast light on

a popular, or *folk-theoretic*, credit theory of money. This article puts to the test speculative fiction's celebrated ability to make the familiar strange, and thereby make the invisible visible. It will suggest that this folk-theoretic credit theory is intimately connected with the figure of the entrepreneur. Just as people have often invented gods and spirits to explain thunder in the sky, or the fruitfulness of the soil, so we are tempted to attribute the operation of money to a fantastical figure: the entrepreneur, whose spellbinding demand for credit is given a special ontological status. Perhaps if we thought significantly differently about money, we would find the very idea of an entrepreneur incomprehensible.

Doctorow's Ambiguous Utopia

Down and Out in the Magic Kingdom features something called Whuffie. It might be roughly characterized as 'reputation currency' (Das and Anders 2014), in a world where 'reputation is everything' (Lewis 2003). The novel is set in the Bitchun Society, where scarcity has been mostly overcome. Of course, every post-scarcity society remains constrained by various finitudes, and the Bitchun Society is no exception. Although all material desires can be met eventually, there may be queues, waiting lists, crowds and other minor inconveniences, and for all these distributional trifles, 'Whuffie has replaced money as society's mediating function' (Lewis 2003). So, to be Whuffie-rich is to have the best seats in the house, to be ushered to the front of the line, or to have the most coveted voluntary posts. Whuffie is widely, perhaps universally, respected and desired. The Bitchun society is designed with the intent that Whuffie belongs to the truly meritorious, with an individual's merit being understood as their contribution to collective experiences of pleasure and well-being. The privacy implications would be troubling, but the disappearance of government and corporations makes ubiquitous surveillance and data analysis, or what Shoshana Zuboff has termed 'Big Other', somewhat less problematic (Zuboff 2019: loc. 6804). The novel's narrator, Julius, describes Whuffie as having 'recaptured the true essence of money: in the old days, if you were broke but respected, you wouldn't starve; contrariwise if you were rich and hated, no sum could buy you security and peace' (Doctorow 2003: 8).

Doctorow's 2017 informal prequel *Walkaway* explores the rise of the Bitchun Society.² The novel's title is likely an allusion to Ursula Le Guin's 'The Ones Who Walk Away From Omelas' (1973), but it might also communicate the urge to 'walk back' some of the utopianism of Whuffie.³ This earlier narrative does not show us the birth of Whuffie per se, but it does offer quite explicit critiques of adjacent phenomena such as digitized meritocracy, reputational economies and gamified labour. Such critiques contrast with the more abstruse, ambivalent perspectives – squinting into a future that is now behind and around us – that we find in *Down*

and Out. Comparing these two visions, Doctorow notes a change of emphasis: ‘*Down and Out in the Magic Kingdom* projected Slashdot karma and Napster superdistribution across a whole society as a way of illuminating the strengths and weaknesses of both. *Walkaway* tries to do the same with commons-based peer-production: what would a skyscraper look like if it was a Wikipedia-style project?’ (Doctorow 2017a).⁴ Whereas *Down and Out* tends to treat meritocracy as a problematic but still promising ideal – one which might just be redeemed through new techno-social infrastructures – *Walkaway* declares that meritocracy is an unsalvageable scam. The character Hubert, Etc. suggests: ‘It’s the height of self-serving circular bullshit, isn’t it? “We’re the best people we know, we’re on top, therefore we have a meritocracy. How do we know we’re the best? Because we’re on top. QED”’ (Doctorow 2017c: loc. 602–4). The character Limpopo denounces gamified labour meritocracy specifically: ‘If you do things because you want someone else to pat you on the head, you won’t get as good at it as someone who does it for internal satisfaction.’ She points to the dangers of hubristic incentive design: ‘If we set up a system that makes people compete for acknowledgment, we invite game-playing and stats-fiddling, even unhealthy stuff like working stupid hours to beat everyone’ (loc. 1590–8). Elsewhere, Limpopo praises the informal reciprocity of a gift economy over the formal competition of a reputation economy: ‘In a gift economy, you gave without keeping score, because keeping score implied an expectation of reward. If you’re doing something for reward, it’s an investment, not a gift’ (loc. 785–94).⁵

More recently Doctorow has sometimes framed the Bitchun Society of *Down and Out* as a ‘dystopia’ (Doctorow 2016). This is a usefully unequivocal perspective, which nevertheless has the suggestion of damage control about it. The paradisiacal semblance of the post-money Bitchun Society is perturbed by its heartless fascination with quantification, as suggested by the brisk advice given to a suicidal character: ‘He’s got to get back on top. Cleaned up, dried out, into some productive work. Get that Whuffie up, too. *Then* he can kill himself with dignity’ (Doctorow 2003: 18). Nevertheless, it doesn’t ring true to count the Bitchun Society among dystopias such as Huxley’s World State, Orwell’s Oceania or Atwood’s Republic of Gilead. The Bitchun Society is far closer to the tradition of ambiguous utopia or critical utopia: to societies such as Ursula Le Guin’s Anarres or Iain M. Banks’s Culture. These are societies with deep, perhaps insurmountable problems, which are nevertheless invoked as semi-serious if inchoate desiderata. In Tom Moylan’s conceptualization, the critical utopian tradition foregrounds ‘the continuing presence of difference and imperfection within the utopian society itself’, in order to make alternatives ‘more recognizable and dynamic’, thus rejecting utopia ‘as a blueprint while preserving it as a dream’ (Moylan 1986: 10–11). As Doctorow has also said: ‘some of it is wanting to respond back to the

people who read *Down and Out in the Magic Kingdom* as a utopia and who didn't understand that there were dystopic elements' (Doctorow 2017b).

Of course, the distinction between 'blueprint' and 'dream' is often a function of privilege; what one person can only dream of, somebody else can pour huge amounts of money and resources into realizing. Moreover, to resist the dystopian label for *Down and Out* doesn't have to imply an apology for its imaginary institutions: rather, it's a matter of accurately recognizing its style, tone, and intertextual features. The book's utopianism plays out, for instance, in its title. '*Down and Out*' suggests a first-person exposé of poverty, most obviously George Orwell's account of homelessness in London and Paris, and Julius's relative comfort throughout the narrative suggests the maxim – often attributed to Gandhi – that a society ought to be judged on how it treats its most vulnerable members. '*The Magic Kingdom*' clearly invokes the Disney theme park outside Orlando, but it also has connotations of paradise, a trashy postmodern nod to the kingdom of heaven, as satirized by the (unrelated) E.L. Doctorow in *The Book of Daniel* (1971). '*The Magic Kingdom*' might also suggest the shiny, cosmopolitan, techno-utopianism of a world's fair, filled with proposals about how to live, such as the American National Exhibition held in Sokol'niki Park, Moscow in 1959. It certainly evokes the enclave form of many classic utopias, including Thomas More's *Utopia* (1516). Utopian works are often refinements, tacitly in dialogue with objections raised against earlier utopian visions; *Star Trek*, for instance – especially throughout the 1980s and 1990s – is keen to argue that abolishing economic competition doesn't spell the demise of individual striving, of a sense of vocation, or of values such as excellence and honour. In a similar way, the estranged Disney in *Down and Out* reflects a concern with post-capitalist heritage, and the feasible continuity of aesthetic and cultural values in the absence of the economic structures which nourished them. That is, the Bitchun Society argues that we can put an end to corporations without ditching the magic of Disney as mere neo-colonial capitalist witchcraft. Indeed, confronting the exploitation on which it is based may even re-enchant such magic. Finally, leaving aside these subtler hints of utopia, the Bitchun Society is a Land of Cockayne, plain and simple. Enormous material prosperity has been secured by the advent of 'makers' (Doctorow 2003: 150) and 'Free Energy' (6). It is a post-scarcity setting, a place of abundance and plenty. It is into this context of drastically reduced competition for resources that Doctorow introduces his speculative mechanism for how to allocate them.

The Pitching Society

The Bitchun Society may at first glance appear far removed from 'the perennial gale of creative destruction' (Schumpeter 2012: loc. 103) that characterizes

entrepreneurial capitalism. There are no corporations, no property, no banks, and no money – unless you include Whuffie. There is great material prosperity. There is no government and no law, and what collective organization does occur is described as ‘ad-hocracy’ (Doctorow 2003: 21). This pun designates an anarchist model in which numerous autonomous, voluntary working groups set and pursue their own goals, inventing and dissolving their own working practices as they go. It might be considered anarchist or libertarian: the disappearance of the category of property in a strong sense has blurred the distinction between the two. And, while true drudgery seems to have all but been done away with, both in and out of the ‘ad-hocs’, the population of the Bitchun Society are busy with projects, adventures, schemes, and rivalries.

Even in this Land of Cockayne, the figure of the entrepreneur can be found lurking. In particular, there is Debra, the *de facto* leader of an innovative, aggressive ad-hoc, who rapidly gains territory, influence, and Whuffie during the novel. Of course, such an entrepreneurial archetype may have little or nothing to do with the *actual* dynamics of innovation and entrepreneurialism as historically manifest. As Mariana Mazzucato points out, innovation is a ‘collective process, involving an extensive division of labour that can include many different types of contributors’ (Mazzucato 2011: 113), and, because of the particular risk-structure characteristic of innovation, ‘the private sector is in many ways less entrepreneurial than the public sector’ (61), let alone the heroic private individual.

However, it is the entrepreneur as a figure of culture that is our primary concern here. In this sense, Debra is certainly coded as an entrepreneur, as distinct from an inventor or an investor; as the influential theorist of entrepreneurship Joseph Schumpeter might put it, Debra’s talent ‘consists in getting things done’ (2012: loc. 103). Julius’s best friend Dan characterizes Debra as a ‘well-prepared opportunist’ (Doctorow 2003: 38). Debra also has a distinctive iconoclastic vision ‘beyond the range of the familiar beacons’ (Schumpeter 2012: loc. 2880): ‘If she had her way, we’d tear down every marvelous Rube Goldberg in the Park and replace them with pristine white sim boxes on giant, articulated servoes’ (Doctorow 2003: 23).

Debra may be whom Doctorow is thinking of when he talks about Whuffie ‘pooling up around sociopathic jerks who know how to flatter, cajole, or terrorize their way to the top’ (Doctorow 2016). But, in a deeper sense, Debra exemplifies how *all* the characters of *Down and Out* are entrepreneurs. The products which these characters constantly invest in, and seek to innovate and promote, are *themselves*. Michel Foucault writes: ‘*Homo economicus* is an entrepreneur, an entrepreneur of himself’ (2008: 226). Or, to quote Wendy Brown:

Homo oeconomicus as human capital is concerned with enhancing its portfolio value in all domains of its life [...] through rankings and ratings for every activity and domain, or through more directly monetized practices, the pursuit of education, training, leisure, reproduction, consumption, and more are increasingly configured as strategic decisions and practices related to enhancing the self's future value. (Brown 2015: 34)

Given the socio-technical trajectory of the past two decades – the pervasive datafication of everyday life in many parts of the world, the rise of platform capitalism and the prominence it gives to rankings and metrics, the key role of likes and retweets in shaping what information reaches people's screens, the perhaps increasingly unironized notion of a 'personal brand,' and initiatives such as China's Social Credit System – Whuffie may feel startlingly prescient.

But hold on. Is that *really* what Whuffie is about?

The true essence of Whuffie

How similar is Whuffie, really, to the reputation metrics that currently proliferate on social media and peer-to-peer platforms? There is a strong risk, with any apparently prescient science fiction, that our view becomes filtered or completely obstructed by whatever happened next. As readers, we may filter and inflect the narrative to make it match what we are now familiar with, replacing truly uncomfortable strangeness with a more comfortable untimeliness. Perhaps speculative elements, characterized by their inchoateness and rootlessness, are particularly prone to such distortions.

Indeed, if we look more closely at Whuffie, we may find something altogether stranger. For example, Whuffie's structure resembles a network of credit-debts, rather than a simple popularity leaderboard. This reflects how, in a large, complex society, an individual's reputation may be many-sided and uneven. Moreover, although an individual can't exactly transfer or exchange their reputation, they will tend to influence the reputations of people with whom they associate. Whuffie also captures this rich relationality of reputation, so that I could never definitively state my current Whuffie score in the same way I could state my current Uber rating, or number of Instagram followers. As Doctorow puts it Whuffie is 'a score that a never-explained set of network services calculate by directly polling the minds of the people who know about you and your works, reducing their private views to a number. The number itself is idiosyncratic, though: for me, your Whuffie reflects how respected you are by the people I respect. Someone else would get a different Whuffie score when contemplating you and your worthiness' (Doctorow 2016).

But the most striking difference between Whuffie and the reputation metrics that pervade contemporary platform capitalism is that, in Doctorow's world, nobody ever *chooses* to award Whuffie. By contrast, a follower must decide to heart your Instagram post. A customer must decide to rate your taxi ride. Such acts are of course steered by technological affordances, and may have a habitual, compulsive, quasi-volitional aspect. But they are broadly speaking discrete autonomous acts. Fresh Whuffie, however, is generated constantly, spontaneously, and involuntarily, by a technological infrastructure which detects how its members feel about each other, and adjusts their Whuffie scores accordingly. We can picture every moment of feeling in the novel as the creation *ex nihilo* of a credit-debt. When Lil experiences positive affect about Julius, perfectly balanced assets and liabilities of Whuffie spring into existence. When Lil radiates 'disapproval' (23), some of the existing Whuffie is cancelled out. All Whuffie is relational – every asset implies a liability somewhere else in the Whuffie system.

Doctorow remarks that, lucky for him, 'it's science fiction and not science', so he is not obliged to explain how Whuffie's neural interface 'is capable of figuring out how you feel about any given thing anywhere in the world that you have any opinion about – without asking you' (Koman 2003). Paradoxically though, unlike more data-intensive, statistics-based artificial intelligences such as 'the Process' in Matthew de Abaitua's *If Then* (2015), Whuffie is amenable to semantic interpretation and, despite its complexity, is mappable to the Bitchun's affective ecology. Whuffie is not typified by opaque machinic evaluations: there is never any mismatch between what you think or feel about something and what Whuffie thinks you think or feel about it (see also Burrell 2016). For these reasons, I suggest that we resist the temptation to read Whuffie as primarily prefigurative of reputation metric, or of opaque algorithmic governmentality. Instead, let's take Julius at his word: Whuffie captures 'the true essence of money' (Doctorow 2003: 8). And true or not, what is captured is the purest effluence of entrepreneurship.

Terry Pratchett and the Credit Theory of Money

We'll return to Whuffie in a minute, after forming a clearer idea of the credit theory of money, the practicalities of money creation in the modern world, and the role entrepreneurship plays. To help with that, I'm going to draw on Terry Pratchett's Discworld novel *Making Money* (2007), in which paper fiat money comes to the city-state of Ankh-Morpork.

Previously, Ankh-Morpork had only used metal coinage, and was plagued by both economic instability and a lack of available finance for public works projects. For our purposes, the key moment comes early in the novel. The

antagonist Cosmo Lavish offers the protagonist Moist von Lipwig a bribe. Cosmo does this by writing Moist a 'note of hand' for \$10,000. Cosmo promises that this IOU will be accepted by 'anyone in the city' (Pratchett 2007: 199), and Moist must admit 'everyone knows he's good for it' (145).

This means Moist could sign this IOU over to somebody else who has heard of Cosmo and knows of Cosmo's wealth. That person could then use it to pay someone else, and so on. In this way, Cosmo's \$10,000 might circulate indefinitely, accruing more and more countersignatures. Eventually, when somebody marches up the drive of Cosmo Lavish's estate, waving the note and carrying a large empty sack – or when the note intersects with some ledger where Cosmo has at least ten thousand dollars of credit – *then* Cosmo's note can be voided, perhaps ripped up or returned to Cosmo himself. The key point is: in the interim, Cosmo would have increased the money in circulation by \$10,000. He would have created money from nothing.

Within credit theory, the words *credit* and *debt* refer to the same thing: 'the one or other being used, according as the situation is being discussed from the point of view of the creditor or the debtor' (Innes 1914: 152). Not all debts are quantifiable, but money debts generally are, and that precise demarcation is part of what makes them transferable. Like commodity theory, credit theory sees *markets* – or at least the rudimentary impulses that tend toward markets – as conceptually and temporally prior to *money*, so that money emerges as these markets or proto-markets coalesce and refine their operations. However, like chartalism, credit theory considers money 'not a commodity but an accounting tool' (Graeber 2011: 45), a system of credits and debts. Credit theory emphasizes that *anyone* may in principle create new money: 'the issue of money is not an exclusive privilege of government' (Innes 1914: 168). Since money is nothing but credits and debts, to create more of it, all anyone has to do is write some sort of IOU. The sovereign can do this, but so can Cosmo Lavish, or *anyone*. Of course, it is always possible that other parties will refuse to *accept* the privately issued IOU. But that is also true of any money, even the sovereign's coins, since such money 'is also a promise and [...] differs from the cheque only with respect to the size of the group which vouches for its being accepted' (Simmel 2011: 190).

The Cosmo episode illustrates how, for the credit theory of money, 'money is ultimately debt' and how 'money emerges as the credit of a creditor against a debtor is transferred to a third party' (Bjerg 2014: 267). It also demonstrates credit theory's special dalliance with the figure of the entrepreneur: somebody who 'is a debtor by the nature of their economic function' (Schumpeter 1983 [1911]: 103), the miraculous creator of jobs, wealth, and value. However, Cosmo's particular IOU is definitely *not* generally accepted, and does not end

up circulating as money. In fact, it falls at the first hurdle, when Moist dismisses the attempted bribe: 'Moist stared at the bill. What does it need to make it worth ten thousand dollars? The seal and signature of Cosmo, that's what' (145). Because Cosmo is not the novel's real entrepreneurial figure: Moist is. The encounter sparks Moist's imagination, eventually leading him to invent fiat paper money. Moist ponders: 'if it was blank after "pay", anyone could use it' (146). As Georg Simmel writes: 'Money appears, so to speak, as a bill of exchange from which the drawee is lacking' (Simmel 2011: 190). Later, sitting at his desk, Moist drafts his first experimental banknote, and the economy and society of Ankh-Morpork are changed forever.

It is possible that at least some of us use money without ever having any particular theories about it. We use money because we have no choice but to use money, or because we are in the habit of using money, or because we feel we have something to lose by resisting its use, or that we have nothing to gain. We use money because it is demanded of us, backed up by distant or by imminent threats of violence. But at least some of us also, sometimes, act in ways which seem to presuppose a particular notion of what money is. Furthermore, every now and then, we also do what Moist van Lipwig does: we *explicitly* reflect on the nature of money. When we think about where money comes from, we might picture a worker labouring on some object of value, or sheets of banknotes rolling off an authorized government press. Or we might think of a moment such as this one, where a powerful, shadowy figure proffers a slip of paper. At these moments, we reveal certain common-sense or folk-theoretic assumptions about what money is, including notions about there being something which makes money valuable, notions about what that 'something' is, and perhaps also notions about where money comes from and where money goes.

Such folk theories may well be completely epiphenomenal to the functioning of money. Or perhaps money cannot be money without them. I'm attempting to lay bare a small fraction of such folk theory, especially the hunch that *really new money* is intimately connected with the figure of the entrepreneur. You may want to think of this as an attempt to pick away at the social construction of money. Or you may want to consider it as the proposal that money is an assemblage that does not only include objects like coins and electronic ledgers, but also objects like Elon Musk and Elizabeth Holmes. Either way, this hunch says: when an ordinary person *makes money*, they are really just moving money around. The entrepreneur, by contrast, is *making money* in the sense of generating it *ex nihilo*. How?

Entrepreneurs, Banks, and Demand-Driven Credit

According to credit theory, in principle 'anyone' might create money. However, the entrepreneur is the figure who puts this principle into practice: at least, by reputation.

The entrepreneur can be considered the virtuoso debtor, the quintessentially *credible* individual, in a sense that elides creditworthiness with social and institutional connectivity, personal magnetism, and/or an alluring business plan.

It's important to note that when modern banks make loans, they don't have to dip into their existing financial assets (cf. Ingham 2011: 78). To loan somebody something, you normally have to possess that thing in the first place. Not so with money. Banks create money 'by recording it into existence within accounts they set up for those who "borrow" from them' (Scott 2016). These deposits are 'created by banks purely on the basis of their own confidence in the capacity of the borrower to repay the loan' (Ryan-Collins et al 2011: loc. 20). The ubiquity of banking infrastructure means that bank deposits are very 'liquid' or exchangeable. That is, they are suitable to be 'transferred to a third party in payment for commodities or services' (Bjerg 2014: 267). Government retains a regulatory role, ensuring that bank deposits automatically adopt a mien of sovereign hauteur. Because bank deposits are both highly transferable, and tacitly supported by government (assisting the medium of exchange and unit of account functions of money respectively), they tend to circulate widely. Bank deposits conjured in this way make up *by far* the greatest share of modern money (Ryan-Collins et al 2011: loc. 6).

What Cosmo Lavish fails to do, the true entrepreneur accomplishes constantly but, unlike Cosmo, they have specialized help. Instead of directly issuing an IOU, they go to a bank and demand a loan. The bank then issues an instantly redeemable IOU to the entrepreneur, and in return the entrepreneur issues an IOU to the bank for a slightly larger amount, with a longer maturity date. Both IOUs are technically transferable. The bank's IOU to the entrepreneur is especially transferable: in fact, it is what is normally called money.

With few exceptions, modern governments support but do not limit such money creation. Capitalist finance is characterized by the co-existence, mutual dependence, and continually disputed boundaries between two kinds of power: 'private economic power from the control of property and opportunities for profit-making, and the coercive territorial power of states' (Ingham 2011: 175). Since the 1970s the global economy has seen a shift towards private economic power, and an associated 'shift towards demand-driven credit creation' (Bjerg 2014: 233). This means private demand, not government policy, determines how much credit-debt the banks create.

The entrepreneur is the figure who knows how to correctly perform such demand, in two entwined ways. In one sense, the entrepreneur's 'demand' is rhetorical: it is a petition or exhortation, organized by conventions of propriety, rooted in logical arguments, vividly anticipating future events, and woven together with vows of constancy. Schumpeter writes that the only person the

entrepreneur 'has to convince or to impress is the banker' (1983 [1911]: 154). Any individual bank stands to lose money if any individual borrower fails to keep their promises. So persuading the banker may not be easy. Conforming to the formal assessment tools for creditworthiness (such as character, capacity, capital, collateral, conditions), mobilising privileges of race, class, age, gender, ability and sexuality, and expertly acting entitled to money, is what produces money from nothing.

'Demand', however, is also a term of art within economics, generally implying psychological resolution *and* sufficient money to purchase something (cf. Mankiw 2003: 53-6). On this understanding, bank loans are 'demanded' to the extent they are *purchased*, by paying back interest on top of principal (cf. Ryan-Collins et al 2011: loc. 547). If new money is purchased into existence, where does the money to purchase it come from? The truth is, this puzzle is really only an artefact caused by abstracting a lot of messy detail, such as growth, inflation, international capital flows, defaults, and bankruptcies. Restoring some of that detail makes it less surprising that money may be found to repay any particular loan, or that overall most loans are repaid.

The entrepreneur, however, offers an entirely different solution. They intimate that, on the contrary, *they personally* are the means by which 'new money comes into being and is introduced into the economy' (Bjerg 2014: 1). The entrepreneur borrows money, goes away and alchemically expands it, repays the loan with leftover to spill into society at large: that is where money *really* comes from. Though the entrepreneur's promises may seem outlandish, those promises are as good as gold. They become a fantastical figure: 'the one who introduces the new, the innovator driven by the joy of creation – a figure with strong overtones of a Nietzschean individual hero, giving capital its constant forward movement' (Hardt and Negri 2009: loc. 3348). Ronald Coase, in his influential neoclassical theorization of the firm, substitutes 'the entrepreneur-coordinator' for 'the complicated market structure' (Coase 1937: 388): the entrepreneur appears to be untouched by the surrounding flow of market forces. For Schumpeter, the entrepreneur can 'act with confidence beyond the range of the familiar beacons' (2012: loc. 103). In one minor episode in *Down and Out*, a nameless 'idiot savant of odds' becomes 'fabulously wealthy', after funding his technology start-up with his almost supernatural knack for 'Beating The House' (Doctorow 2003: 87-8). By venturing beyond the farthest edges of the field of quantified value, the entrepreneurial figure acquires fresh value, returning to the mundane world to replenish, enlarge and reconfigure it. When neoliberal political economy celebrates how money arranges the world into its optimum configuration, it leaves uncomfortably little room for human agency. The figure of the entrepreneur is a key exception. For example, during the complicated

operation in 2018 to rescue a football team of twelve boys (plus coach) from the flooded Tham Lunag Nang Non caves, Elon Musk arrived with a team of engineers and a bespoke ‘kid-sized’ submarine. In the event, it was not used. Yet the figure of the entrepreneur insists that *had* Musk’s innovation had been used, a full baker’s dozen of boys would have been extracted, an extra survivor miraculously metabolized from the operation’s otherwise unrealized value.

Doctorow’s strange entrepreneurs: Credit where credit is due

Whuffie, when not being gamed by entrepreneurs like Debra, is devoted to detecting who is responsible for what. It is perceptive to such a degree that, if you are having a nice time at a party, you will generate some Whuffie for its organizers, even if you never meet them or don’t know whose party this actually is. Such perfect causal cartography might position Whuffie as a kind of *reductio ad absurdum* argument against Digital Rights Management (DRM), of which Doctorow has been a steadfast critic. That is, if Whuffie turns out to be unjust or incoherent, if it is impossible to work out at a fine grain *who should get credit for what*, then DRM is not merely *de facto* imperfect, but categorically fatally flawed.

We can also read this aspect of Whuffie in relation to collaboration tools such as Stack and Flock, crowdfunding platforms such as Kickstarter and Patreon, experiments in attention-based monetization such as Delic.network, as well as the intimate surveillance and sousveillance of the Quantified Self and the Quantified Workplace. In other words, we can read Whuffie as a thought experiment about technologically incentivizing creative, socially conscious collaboration by taking the feelings of producers, consumers and other stakeholders very seriously, and by giving credit where credit is due.

The entrepreneur, then, becomes the figure to whom *more* credit is always due. In their constant schemes, spats, rivalries, romances, their anxiety to win and retain esteem, their all-consuming and sometimes self-defeating public-spiritedness, and their obsession for accumulating more Whuffie than they can reasonably expend, *Down and Out*’s characters become permanent entrepreneurs. In the Bitchun Society, every social act is a tacit demand to create new credit-debt. It is a pitch before an existing or potential investor. The populace of the Bitchun Society are perpetually characters in each other’s dramas, whilst perpetually locked in competitive struggle.

Down and Out keeps the details of resource allocation vague, the overall pattern is that the Whuffie-rich enjoy priority access to ‘the piffling few scarce things left on earth’ (Doctorow 2003: 71), and there is emphasis on the social and storied aspects of such access, rather than solely the satisfaction of individual consumer preferences. Whuffie might then be regarded as an attempt to re-imagine money by grounding it in the sphere of human activity that lies outside both markets and

government, where the motivation of action is insulated from monetary imperative: a realm we might designate civil society. If so, we've reached a curious impasse. Whuffie is an estrangement of money, and Whuffie-makers are estrangements of entrepreneurs. As Samuel R. Delany writes, we can read the 'presentation of alternate world-workings as complex commentary on the workings of our own world-that-is-the-case' (Delany 2012: 146): reimagining money as it really *may* be should become a way of knowing money as it really *is*. And yet Whuffie also appears to be closely linked with civil society, a sphere that is difficult to define except negatively, precisely through its relative independence from money.

Network in the network: Whuffie and social currencies

Many concepts that try to characterize this sphere outside of markets and government – such as Tocqueville's civil society, Tönnies's community, Habermas's lifeworld, Putnam's social capital – do differ from Whuffie in one key respect. They all resist precise quantification: 'Profits are measured in dollars [sic]. What is social capital measured in?' (Slaper and Hall 2011). By contrast, *Down and Out* portrays Whuffie as a kind of ostentatious *numeric* embodiment of prestige. Whuffie's front-end is quantitative, its outlines crisp and precise: 'I pinged my Whuffie. I was up a couple percentiles' (Doctorow 2003: 35). It is true that Whuffie has a subjective aspect, insofar as the score that is displayed differs according to the viewer: 'your Whuffie score reflects how respected you are by the people I respect' (Doctorow 2016). However, *Down and Out* implies this is only a default setting: all relationships in the Whuffie network are quantifiable and publicly accessible in principle.

The strong dichotomy between, on the one hand, markets and the quantitative, and on the other, civil society and the qualitative, predominantly arises only within a somewhat neocolonial and capitalism-centric imaginary. Broadening our understanding of what counts as money, we could instead read Whuffie as an estrangement of what David Graeber calls 'social currencies' (Graeber 2011: 130). Social currencies are 'primarily used to transform social relationships' (Graeber 2012). Examples of social currencies include Weregild in early Medieval Europe, the Rai stone money and other currencies of Yap, and various currencies of the Tiv. Just like Whuffie – 'your personal capital with your friends and neighbors' reminiscent of 'the old days' (Doctorow 2003: 8) – social currencies often form mathematically precise status networks. But the paradigmatic social currency is used 'to create, maintain, or sever relations between people rather than to purchase things' (Graeber 2011: 158). A social currency may be devoted, for instance, to arranging marriages or settling blood feuds. Graeber also describes how 'the objects used as social currencies are so often things otherwise used to clothe or decorate the human body, that

help make one who one is in the eyes of others' (Graeber 2011: 159). Whuffie likewise shares this quality of sartorial self-fashioning, although with a futuristic twist: its users are all cyborgs, inhabiting an augmented reality, with Whuffie scores woven into their visual fields. Turning on Whuffie monitors is 'normally an instantaneous reaction to meeting someone' (Doctorow 2003: 46). That is, Whuffie is an integral part of how Doctorow's characters *look* to one another.

By turning the rhetorical demand for credit into the inexorable ground state of all social relations, Whuffie turns everybody into entrepreneurial figures. Yet in another sense, by so thoroughly merging money with human action and affect, Whuffie threatens the figure of the entrepreneur with obsolescence. The entrepreneur claims to go beyond the values quantified by mundane market mechanisms in order to acquire truly new value. But Whuffie's fine-grained omniscience might leave no value unquantified. Social currencies have a likewise fraught relationship with the entrepreneur figure. They are *usually* not loaned and borrowed, nor 'transferred to a third party in payment for commodities or services' (Bjerg 2014: 267). The value of a social currency is bound up in the way it tells a society's story, a story that becomes less legible as the possible reasons for exchanges multiply. Bridewealth or blood-money brought from an unfamiliar societal context would certainly be of dubious worth.

However, in exceptional circumstances, social currencies *may* be used in anomalous exchanges. Jonathan Bloch and Maurice Parry, summarizing the fieldwork of Paul Bohannan among the Tiv of northern Nigeria – who had three distinct spheres of exchange prior to contact with Western colonial power – hint at the rich frictions involved in conversions from sphere to sphere:

The vast majority of exchanges were [...] 'conveyances' *within* the sphere, and these were morally neutral. But under certain circumstances 'conversions' between spheres were possible, and these were the focus of strong moral evaluations. (Bloch and Parry 1996: 12)

Intriguingly, *Down and Out* offers one such morally fraught anomaly. An assassin, hired by Debra, confesses to a contract killing: 'Debra would give me Whuffie – piles of it, and her team would follow suit' (Doctorow 2003: 191). However, Debra's team are ignorant of the arrangement. Even Debra, by means of a mind-wiping technology, arranges to forget her own plot. The increase in the assassin's Whuffie thus *cannot* be based, as it usually is, in affective states. Is the implication that on this one special occasion Whuffie must be alienable, a credit-debt that can be transferred from one party to another?

By engaging in exchange, Debra partway extricates herself from her idiosyncratic Whuffie nexus. She loops the loosened ends of her Whuffie-fied social bonds haphazardly around her hired gun. Rich, concrete human bonds

are converted into 'generic value capable of being added and subtracted and used as a means to measure debt' (Graeber 2011: 159). When the murder victim is 'recovered [...] from backup [...] into a force-grown clone' (Doctorow 2003: 29), he quickly glosses over the question of whether he is really still the same person (36). Yet that is precisely the question which is raised by not only the assassination but also the anomalous Whuffie exchange which led to it: 'How does it become possible to treat people as if they are identical?' (Graeber 2011: 159). Whuffie's topsy-turvy logic allows a mere 'conveyance' to involve the rewiring of social connections normally characteristic of a 'conversion'. This is because Whuffie presents value as particularized according to its context. The upshot is that any transfer of value is potentially a conversion from one kind of value to another, and may be 'the focus of strong moral evaluations'.

By earning Whuffie in this exceptional way, by an act of exchange, the assassin demonstrates that the entrepreneur's marvellous gift for beating the market is not obsolete in the Bitchun Society. As usual, the extra value may *appear* to come out of thin air, but there is a hidden history of violence at its root. The entrepreneurial figure themselves may be curiously oblivious to its source. Following the mind-wipe there is 'no memory of the event, just the Whuffie' (Doctorow 2003: 192).

Homines Economiae

It is a commonplace claim that speculative fiction can exercise special diagnostic power within the real world, especially on thorny, enduring and subtle problems – like the nature of money. So, what is money? Is money a commodity, a system of credit-debt, an effect of law? Is it congealed labour, congealed exchangeability, congealed violence? Is money perhaps the valuation of all value? Could the textbooks be right after all – is money its functions? Or is money IOUs, trust, confidence, or some other affective dynamic? Is it a distributed ledger, structured data, a social construction, an actor network, a social relation? Is money ideology, habitus, a social imaginary, the water we swim in, the wood we don't see for the trees? Is money Artificial Intelligence? Is money alienation, reification, fetishism, spectrality, a swarming second cosmos of demons and artifices? Is money the state of being swallowed by this world, of teeming side by side with its inhumans, separated from our intrepid human world by some kind of silencing and uncrossable glass? Is money *us*? Is it ourselves as we have, for reasons that are beyond us, chosen to exist, as the tissues and cells of *homo economicus*? Or perhaps money is *not* us, perhaps money is the protagonist, and whichever way it faces, there lies the *world*, and whatever it turns its back to, there lies *the human*? Is money even, maybe, just an overly narrow window on a larger and more complex phenomenon, that goes by the name *capital*?

These options are far from mutually exclusive, and this article has attempted to organize and enliven them in relation to one another. Focusing on the credit theory of money, I offered that the formal theory participates in a more dispersed ecology of informal theory, intuitions, practical impulses and habits, unexamined models and schema, and interactions through and with theory-laden institutions, which we can designate a popular or 'folk-theoretic' credit theory of money. Folk theories such as these, far more than their formal theoretic extrusions, or any vague notion of 'trust', are humming in the background when we use money. It is such folk theory that makes the use of money feel possible and even natural, and which may play some part in enabling money to 'function' and exercise its manifold agency.

The entrepreneur is one of the many unofficial *homines economiae* found loitering in economic discourse and far beyond. The entrepreneur has accordingly been construed as an archetype, figure, character or social type, rather than as the object of economic or sociological study. Like many a ghostly figure, the entrepreneur might also be thought of as a heuristic, a rule of thumb that allows us to reason about the world in sometimes satisfactory ways. The entrepreneur emerges from the eddying counterflows of reason and magic, insofar as they are conjured in the first place in order to demystify money – to ground money's distinctive qualities within the realm of culture and nature, rather than that of supernature – and yet the entrepreneur is a supreme superstition, a bogeyman boasting the bizarre virtue of visionary access to otherworldly value, enabled when their desire is treated with due deference. In his 'Theses on Feuerbach' (1845), Karl Marx suggested that humans attribute our own qualities to capital. The reverse is also true, as becomes clear when we use speculative fiction as a lens on this figure: in this instance, the Bitchun Society, whose every citizen is a compulsory entrepreneur, whose very feelings are conflated with financialized value, and whose otherworldly windfalls are really rooted in violence wiped from the record.

I don't want to draw any neat normative claims from all this. Although it is probably useful to pull apart the figure of the entrepreneur, it is not clear that we can ever understand money *except* through mediating figures such as these. So perhaps one challenge is to multiply and diversify the figures that are available, and the associated folk-theoretic knowledge. That is, to develop new understandings (or to enrich existing marginalized understandings) of what it might mean to be a human that uses money (or something like it) and perhaps can even create it. This feels like a worthwhile project, even if it is the sort that is liable to be rapidly overtaken by history. That is to say, the material abolition of the entrepreneur would also significantly evolve our understanding of the nature of money.

Endnotes

¹ Neo-Chartalism, also known as Modern Monetary Theory (or Modern Money Theory) points out that government doesn't really need to tax in order to spend, since it can buy anything denominated in its sovereign currency simply by creating that currency from thin air. Government is not a unitary actor, and there is an important distinction between the central bank, the institution that can create the money, and the treasury, the institution that gets money from taxes and loans and spends that money. Central banks are legally prohibited from loaning or transferring money directly to their treasuries. But so long as there is some intermediary in the private sector who is willing to loan to the treasury, the central bank can purchase the debt with money it creates. So government can effectively create money to loan to itself, although the private sector as a whole does have a sort of veto over this process, and also profits from it.

² Between *Down and Out in the Magic Kingdom* and its prequel, *Walkaway* (2017), other intriguing entrepreneur figures have featured Doctorow's fiction, including the novel *Makers* (2008), and the shorter works 'Chicken Little' (2010) and 'Petard: A Tale of Just Desserts' (2014).

³ The working title was *Utopia* and the title *Walkaway* was first suggested by Kim Stanley Robinson. (Personal correspondence, March 2016).

⁴ Karma is the reputation 'currency' used in the user-based moderation system on the social media and news site Slashdot. Superdistribution roughly means peer-to-peer distribution, and can in principle include mechanisms to reward the creator for each use of a digital asset (so carries connotations of opposition to DRM models, which focus on the replication of the asset). See also Mori and Kawahara 1990.

⁵ This isn't completely accurate. Gift economies operate through the principle that gifts are not disinterested. There is some 'expectation of reward', but it is not formal or enforceable, let alone transferrable.

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The Fourfold Library (12): *Perry Rhodan*

Andreas Eschbach

Since the Fourfold Library is infinite, no novel sequence is too long to be held. To test this claim, Andreas Eschbach has chosen a seemingly endless series. A prolific writer for adults and children, Andreas has won on numerous occasions Germany's leading sf prizes. His novel, *Jesus Video* (1998), was adapted for German television and his debut novel, *The Hair-Carpet Weavers* (1995), has recently been published in a new translation from Penguin Science Fiction.

Imagine if Leo Tolstoy had, together with a bunch of colleagues and over the course of sixty years, published 150 volumes the size of *War and Peace* as one vast, continuous saga. It would have become the most voluminous narrative of all times, leaving far behind all other famously long stories like *The Man Without Qualities* or *In Search of Lost Time*.

But, although human history would have provided more than enough material for such an endeavour, Tolstoy wisely confined himself to a single volume of about half a million words. It's a literary masterpiece, but far from being the largest tale ever told.

However, there exists a work of precisely the scope described, a work that can justifiably claim to be the most voluminous narrative since the invention of the alphabet. It also has a lot to say about war and peace, only that they are not set in the past, but in the future of humankind. I am talking about the German pulp sf series *Perry Rhodan*.

Astonishingly, this series is not very well known outside of Germany, especially not in the English-speaking world. In German sf, however, it is the behemoth *par excellence*, and if you are interested in any speculative fiction, there is no way around it. Some complain about it, even curse the series. Others see its weaknesses but remain its fans – I am one of them. The fact that this series once made me start writing when I was a twelve-year-old boy with too much free time is not a minor factor.

It was never planned to become that huge. In 1961, two German sf authors, Karl-Herbert Scheer and Walter Ernsting (who had become known under the English pseudonym Clark Darlton), simply started a pulp sf series in the hope of being able to publish maybe thirty issues of it. To their surprise, they had success beyond all expectations right from the start, so they just kept going. More authors joined in to cope with the work needed to churn out a new issue every week. About a year later issue 50 was published – and it hasn't stopped since then. Week after week, come what may, a new issue is published to continue the story, and this has been the routine for almost sixty years now, while the hero of all this, the spacefarer Perry Rhodan, is still alive and well,

thanks to the ingenious move of letting him find the planet of eternal life in one of his very first adventures and bestowing him with immortality.

Mind you, we are not talking about high literature here. Perry Rhodan comes from the pulps, and although the series has its great moments, you have to suffer through a lot of cringeworthy prose and far-fetched plots as well. But in terms of volume, nothing has ever been written that can hold a candle to Perry Rhodan. As I write this, issue 3080 has just been published. Each number is 25,000 words long, give or take a few. So, we are talking about a continuous narrative that is over 77 million words long – and counting.

Now, what's Perry Rhodan about? It is the name of the first man to set foot on the moon in 1971 (not a bad guess). Unlike Neil Armstrong and Buzz Aldrin, who only brought back stones and photos, Perry Rhodan and his companions bring back a human-like alien, whose friendship Rhodan has won, and along with it a technology which is vastly superior to Earth's. Faster than light speed, protective shields, intelligent robots, ray guns – everything is there. But on Earth, the great powers face each other armed to the teeth, and the political situation is tense. Rhodan has no doubt: if he were to place this technical power in the hands of one side, the other would feel compelled to wage war. So they land their spaceship in no man's land and declare themselves a new independent power with the aim of uniting the planet. For, as Rhodan has learnt, the universe is not empty and deserted, but full of creatures that are morally no better than humans, with stellar empires into which they would only too readily integrate the Earth. The only way out is to journey to the stars as one united humanity.

This foundation, laid in the first twenty or thirty issues, proved fruitful enough to be spun into a story that, over the years, has transcended all conceivable boundaries. Meanwhile, Rhodan and his companions have travelled to the most distant galaxies and into other universes, millions of years into the past and billions of years into the future. The gallery of exotic intelligent aliens whom they have encountered fills a specialized encyclopaedia, the *Perrypedia*. I seriously doubt that there is any idea in sf that has not found its echo in the series in some form.

As a child, I enjoyed reading books in which space ships and distant planets played a role. I had followed the Apollo moon flights with fascination and was much more enthusiastic about physics than about sports; back then, it was not easy to find friends with similar interests. But when I entered the gymnasium, I found a friend with whom I could talk about all these things. It was he who one day gave me an old, yellowed, worn-out booklet and said: 'Read this'.

In this manner I came to read my first *Perry Rhodan*, the first of literally thousands to follow. The booklet carried the number 11 and, already old at the time, had passed through numerous hands – and fascinated me hopelessly

right away. 'Have you got more?' I asked, and he had, abundantly. From then on I read them in stacks. I remember rainy holidays I spent reading ten volumes in a row, dizzily wondering at night what I was actually doing here on this planet.

The issues he had as hand-me-downs were not continuous, but a mess, the numbers jumping back and forth, with sometimes enormous gaps in between. But putting together the overall story from the puzzle pieces I knew, imagining what fantastic things might be in those missing volumes, had its own special appeal. And when the opportunity presented itself to fill those gaps, I learnt that sometimes one's own imagination can be better than what is actually written.

It did not stop at reading. In younger years, I had a strong urge to imitate things I took a liking in. Once I read a Tarzan comic, the next day I tried to swing from branch to branch on a rope. After becoming a fan of the Beatles, I got myself a guitar and desperately tried to get some music out of it. And as for Perry Rhodan... well, lacking a spaceship of my own, I decided one day to at least write a series of my own. I put folded paper in my father's typewriter and began 'Operation Proxima'. My hero was not to fly to the moon but to the nearest star. I was the ideal age for beginning novelists. Not only has one already had some practice in writing by this age, one is also certain to know everything better than the rest of the world anyway and therefore not yet excessively prone to self-doubt.

It was an action-packed adventure I was pounding away. Before the very first page ended, one of the two spaceships exploded due to a terrorist attack, which did not stop my heroes from setting off into the depths of space at exactly the planned time. The novel had to move on rapidly, because after thirty pages it was already over, closing with the hopeful, well-tried hint: 'To be continued'. After that, I tied it all together in a booklet, painted a colourful, exciting cover and gave the whole thing to my father for his birthday, because he had always stressed that he preferred homemade presents to bought ones anyway.

In terms of target group it was an instant success. My father was absolutely blown away. This encouraged me to keep the promise of a sequel, and then another, and another. Writing, I found, was fun. Later I lent the booklets to my friends who read them, gave them back and said: 'Not bad – have you got more?'

Think about it: how much more praise can you get at that age? I learnt to write thrillingly by paying attention to how greedy my friends looked when they returned the booklets. Soon my friends got inspired to write as well and sew pages together to make booklets. We wrote each other readers' letters and tried to outdo each other with increasingly dense publication dates. We were our own creative writing workshop without ever having heard of the concept. The result was that I practically spent my teenage years over the typewriter, my mind up there in the universe.

However, all this led to nothing at first. Life happened, earthly things like going to university, falling in love, having a child, getting married and getting divorced, and in all that muddle not much writing happened. Being a writer seemed to be just one of those dreams you fantasize about as a child, no more realistic than the dream of becoming an astronaut or a locomotive driver.

Around my thirtieth birthday though, at an age when inner crises are not uncommon, I realized that I would not be able to forgive myself if I had not at least made one serious attempt to publish a novel. And so I did. I had to painstakingly relearn everything that I had already been able to do as a teenager, but at least I knew I had done it all before. With even greater effort I found a publisher for it, and in 1995 *The Hair-Carpet Weavers* was published. The book didn't sell very well, but it won the Deutscher Science Fiction Preis which gave me the chance to write and publish another book that also won a prize, a different one this time. Nevertheless, all signs indicated that writing would remain just a pastime for me.

And then something extraordinary happened. The makers of *Perry Rhodan* approached me to contribute a novel to the series. I became the first guest author, something that had been unthinkable before. I felt very honoured and made every effort to write the best novel I could. Three years later I had my first bestseller and became a full-time writer, which I still am today, more than twenty years later.

I am still a fan of the Perry Rhodan series that got me writing. I still enjoy reading my first guest novel. And I still feel honoured by that invitation twenty-two years ago. The only thing that could top it would be if Sir Paul McCartney called me and invited me to play along with him on his next album. Which he probably won't do, so I have to assume that the peak of my fan life already lies behind me. But, still, the writing goes on.

Whose History is It Anyway?

Sonja Fritzsche, Paul Kincaid and Adam Roberts in conversation with Paul March-Russell

The following conversation took place on Google Docs between 9 May and 31 July 2020. Sonja Fritzsche is Vice-President of the SFRA and an Associate Dean at Michigan State University. Her publications include *The Liverpool Companion to World Science Fiction Film* (2014) and, with Anindita Banerjee, *Science Fiction Circuits of the South and East* (2018). Paul Kincaid is an independent scholar, a founder of the Arthur C. Clarke Award and the author of several books, including the award-winning *Iain M. Banks* (2017). Adam Roberts is Professor of Nineteenth Century Literature at Royal Holloway College, London, and a prolific sf writer and critic, whose non-fiction includes *The History of Science Fiction* (2006) and *H.G. Wells: A Literary Life* (2019).

Paul March-Russell: *The Cambridge History of Science Fiction* is a massive tome, not only in terms of its size but also its significance. I am reminded of Marleen Barr's introduction to the 2004 *PMLA* special topic on science fiction. She described that topic as 'a decisive turning point' in the prejudice towards sf, but at the same time accused *PMLA*'s editorial board of rejecting 'the vast majority of the articles' that she and Carl Freedman had wanted to publish. So, in comparison to their experience, do you feel that this history marks an even more 'decisive turning point' for science fiction's acceptance into the academy?

Paul Kincaid: I'm not sure about 'decisive', that is, something we'll only be able to appreciate further down the line. Nor am I sure about 'turning point', at least in relation to academe. From the outside, it seems that sf is more or less as well accepted within the academy as any other form of contemporary literature. Indeed, better than some. What I am far more interested in is whether this *History* marks a turning point in the way sf regards itself. There have always been far more people within the sf community invested in the idea of what we used to call the 'ghetto' than outside of it. The *History* is one more challenge to that narrow, restrictive view of what sf is and has to be. If it helps to broaden the conversation, then that would be a good thing.

Adam Roberts: My sense, as somebody working inside the academy, is that Paul is right about sf's scholarly and pedagogic acceptance nowadays. It wasn't the case when I was doing my PhD in the 1980s (which is one reason I opted for a PhD in nineteenth-century literature rather than sf), but things have changed a lot since then. Trad sf gets taught nowadays – there are some sf academic courses and more courses on the Gothic (popular with students, that one), where there's a good deal of sf crossover – up to, I don't know, cyberpunk and the urban imaginary. But I'm not sure the two biggest developments in sf over the last three decades – the increasing dominance of screen-texts, TV,

movies, graphic novels and video games (and the concomitant waning-away of written sf), and the globalization and diversification of sf voices – gets very much traction inside universities. Not that a single *History* can help very much with that.

Sonja Fritzsche: Certainly, this is a major contribution to the field of science fiction studies and indicative of the greater acceptance of the genre. At the same time, while sf might be more accepted now in parts of the academy than in years past, in others, it still remains on the margins. In many countries, scholars who do study sf find homes in American Studies or English departments. They often take up research on their own country's sf as it is not studied elsewhere. There are notable exceptions to this rule and colleagues can be found in sociology or literary studies, and now younger academics who work in television, new media, gaming and comics. For now, to do sf studies as defined in this volume, English knowledge is essential to access the field of study, network, and publish. There are many second-language publications that are not usually integrated into the mainstream western field. Sometimes publishers do not want chapters on sf that has not been translated into English. Such editorial decisions can really limit a field of study, particularly as multiple foreign language titles have been translated into other languages first and have broader reading publics who can also read English. In some countries, the fans have filled this gap, becoming professional editors, publishers, critics or faculty members themselves. In the US, sf studies has come into its own in English departments, but not yet in many world language, literature and cultural studies departments. I think and hope that this might look very different in five to ten years as the general interest in non-Anglo-American sf has grown tremendously in the past decade among English speakers. This is really a generational change as well as demonstrative of a faculty that is slowly becoming more open, diverse and inclusive. There is a whole world of science fiction out there that has yet to be studied and has a lot to contribute to expand the field.

PMR: Before we go any further, I should declare an interest as I am one of the contributors to the *History*. Looking at the volume as a whole, what kind of history do you think is being inducted into the series?

PK: Before we start to look at the content, it is worth looking at the book as an object. It is huge, two inches thick (I measured it), with a sober, undemonstrative cover that says this is seriously academic so we don't have to try to appeal to readers. It is dense, 800 large pages of small print, which with the best will in the world takes a long time to read. It's not the sort of book you can just carry around with you. Everything screams monumental and magisterial. It is actually more readable than it looks, but it strikes me like those old *Oxford History of England* volumes I have on my shelves – serious scholarship for serious scholars.

AR: This *History* isn't alone in that: both the *Oxford Handbook* and the *Routledge Companion* (for which I was one of the editors) are absolutely *ginormous*. I do wonder if this monumentalization of the genre misses something quite fundamental about sf? *Mea culpa* and so on, but still. It's possible to mock the genre as juvenile and all that, and for respectable adults like us to shake our heads wryly at our arrested adolescences, but at least pulp is *light on its feet*: kinetic and lithe and with all the disrespectful energy of youth. Does the emerging critical discourse miss that, I wonder?

SF: By contrast, I'm having a digital experience with the e-book. The disembodied way of reading is interesting without the physical weightiness of size that often comes with names like Cambridge, Oxford or Norton. The e-book format does make it more accessible by enabling the small print to be expanded as needed and it is very portable. It doesn't have the tome-induced pressure to read from beginning to end. Rather, it invites the reader to click on the chapter titles much as you would online in a more interactive, non-linear fashion. But you do need to get access to the book in the first place, which does cost money.

PMR: After its size, the next thing that grabs my attention about the volume is its structure. It takes the New Wave as the pivotal moment in the history. In fact, the three sections are billed as 'Before', 'The New Wave', and 'After'. Firstly, how do you feel about this structure? And secondly, acknowledging Andrew M. Butler's observation that the immediate legacy of the New Wave was the creation of academic journals such as *Foundation*, does this emphasis say more about the development of sf criticism than it does about the genre?

PK: I hate the structure.

AR: Hating structures is the first step in becoming a card-carrying Deconstructionist. Come over to the dark side, my friend.

PK: Get thee behind me, Satan. For a start, the New Wave wasn't one thing. The New Wave as it played out in Britain was a very different beast from the New Wave in America. Both were a response to social and cultural changes in their countries at the time, which is why they happened to coincide, but to suggest that Michael Moorcock's *New Worlds* was doing the same thing as Harlan Ellison's *Dangerous Visions* seems weird to me. But even if we were to accept that the British and American New Waves were the same thing, that's all it was: Anglo-American. This book presents itself as a global history of science fiction, but the New Wave wasn't happening in China, Japan, Russia or in Latin America. As Michael Levy's chapter demonstrates, it wasn't happening in children's sf. And any history of science fiction these days must pay as much attention to film, television, radio, comics and so on as it does to literature. The changes that were going on in these media were not the same as or contemporary with the New Wave in Anglo-American sf. So for me the structure narrows, and indeed

goes directly against, the broader global perspective that the book represents.

As for Andrew's point, yes and no. There was some academic interest in sf as far back as the 1940s if we think about people like Marjorie Nicolson and J.O. Bailey. Kingsley Amis's lectures that became *New Maps of Hell* would have been, what, 1959? And magazines like the BSFA's *Vector* were providing a venue for essays and reviews on sf from at least 1960 onwards, while Advent in Chicago was publishing book-length collections of Damon Knight's reviews in the late 1960s. So there was already a long tradition of writing about sf, though it would inevitably take time for academic interest to grow to the point where it would justify an academic journal on the subject. So it could just be coincidence that they appeared with the end of the New Wave. But at the same time, the invigoration of sf and its association with the social and cultural changes of the day may have encouraged the academic interest in sf, and hence the development of the journals. So yes, I think the structure of the book may have more to do with the blinkers of a certain academic approach to sf than it does with the actual history of the subject.

SF: It is an interesting conundrum when a stated goal is to capture the transformation of sf studies into a global field and yet the conditions of production (language, price) make it less accessible. As Paul says, the choice to structure the volume around the New Wave implicitly makes this history an Anglo-American story. Certainly, the New Wave(s) created a wake that had different degrees of impact and interactions around the world. Yet, it was only one of a number of waves, tides and eddies that were circulating, flowing and lapping up on various shores in a variety of ways.

Critique is easy though and it is less simple to suggest how the book might have been otherwise organized. I admire my colleagues for taking on such a heady project and pursuing it with tenacity to the finish line. Editing some 800 pages takes time and focus away from the everyday for long periods. If I were to think about a similar project, I wonder if the book might have stayed true to an early definition of focus on the 'intellectual history – the history of the century-old, many-headed *project* of science fiction'. Although the 100-year focus is a long-standing trope within the sf academy, a true crack at a global history might have been a new approach on a bit shorter time-line. Or maybe a modified title like the *Cambridge History of English-Language Science Fiction*, which could have then examined the interactions and influences on this sf by writing from other countries. To truly rethink a global history of sf would take a team of co-editors or even co-authors hashing that out in transnational and transmedial conversations, rather than the more standard western-edited volume structure. This structure limits community dialogue and fails to recognize 'circuits' of circulation. Yet, dividing the volume up into regional histories also would have

been limiting. It would seem that a volume on the global histories of sf would need to be a digital humanities project that is multimedial, transnational and communal in structure as well as content.

To the question of dedicated journals, Franz Rottensteiner's German-language *Quarber Merkur: Essays on Science Fiction and Fantastic Literature* first appeared in Austria in 1963. It was founded to create a scholarly discourse on what was known in the prevailing culture of the time 'degrading immoral literature' ('*verderbliche Schundliteratur*'). The journal has been a hub of central European scholarly conversation on a wide range of science fiction and fantasy publications ranging from the USA to Eastern Europe and Russia. So here is one example of a major journal that was not shaped by the New Wave. It would be interesting to know of others.

PMR: Ryan Vu's opening chapter begins with Lucian, a decision which echoes Darko Suvin's potted history in *Metamorphoses of Science Fiction*. By starting with Lucian, we also seem to have a European origin story for sf (although Vu does go on to emphasise the importance of mythologies from Japan, India and North Africa). So, when and where would you start?

PK: Personally, I don't believe there is such a thing as a starting point of sf, not *The Epic of Gilgamesh* or Lucian or Thomas More or *Frankenstein* or Hugo Gernsback or any of the other myriad suggestions that scholars have been making over the last forty or fifty years. Rather, I believe there was a slow accumulation of themes, approaches, ideas, tropes, devices, what have you, which at some point that is impossible to identify somehow coagulated into something that we subsequently began to call science fiction. Given that belief, and as long as you avoid such ugly and dismissive terms as 'proto-science fiction' or 'ur-science fiction', I think what you choose as the starting-point for a history is pretty much down to what strands you want to concentrate on in that accumulation of tropes. So, neither Lucian nor *Gilgamesh* is right, but neither are they wrong. And Vu does at least recognise non-European building blocks for sf. I thought it was a very good opening for the *History* because it did look both deep in time and wide in geography.

AR: I disagree. There's 'the point' (broadly conceived) at which a cultural mode starts, and then there's the point at which it starts to accumulate cultural heft, momentum, importance. These are different, if not entirely unrelated things. Cinema doesn't become culturally important until the Talkies, and doesn't become a cultural dominant until the 40s/50s; but any history of cinema that didn't discuss, say, les frères Lumière would be delinquent in its historicizing duty. So I'd say, sf doesn't start to pick up any kind of broader cultural heft til the 1920s, and doesn't really become today's global culture until after *Star Wars*; but I'd still defend teasing out the roots, though they represent only a minor

part of the larger culture, going back into the nineteenth, eighteenth and, I would argue, seventeenth centuries.

PK: I agree, but the problem comes when we imagine there is just one root that can be traced. My point is that there are lots of roots, each of which plays a vital part in sustaining the plant.

SF: I see the 'starting-point' to be the introduction written by the co-editors. What is telling is the opening paragraph that places the original definition squarely in the western tradition. All the references in the introduction, with the exception of Émile Zola, are Anglo-American. The space devoted to definition in the introduction might have included more of a theoretical reflection on 21st century notions of canon formation and the writing of History versus histories. This resulting volume is a paradigmatic example of that struggle for 'room at the table' going on within its very pages from essay to essay. Some contributors set a respectful table for many types of guests and palettes, while others rely on the same menu of meat and potatoes for the usual suspects. And in general, the 'others' do just remain guests rather than true integrated members of the sf academy. Despite a desire to move beyond this approach, and some clear successes, the volume as a whole is ultimately unable to free itself from its own delineated western imaginary to truly document the transformation that is taking place elsewhere. Of course the same problematic has been thematized in many a science fiction story and was what drew Lem, Tarkovsky, and maybe even George Clooney, to *Solaris*.

AR: 'Room at the table' is spot-on, I think. And not just for critics trying to make sense of sf; it's the major anxiety of influence for writers and creators of sf. 'I've had a really cool sfnal idea! But, ah, *how* to be sure nobody's had it before me? Must I really don my waders and stride into the vast swamp of The Backlist??'

PMR: Something else that strikes me about the opening section is its linearity. Once Vu has described classical and medieval roots for sf, we move on to Roger Luckhurst's account of Gothic and, almost inevitably, *Frankenstein*. Then we have five chapters that take us through the nineteenth century and into modernism. After that, with the exception of Salvatore Proietti's chapter on European sf, we have seven chapters that focus on the period before and after the Golden Age of North American sf. As much as the book takes the New Wave as its pivotal moment, I'm struck by the way in which it consolidates this US viewpoint. So, for me, two questions arise. One is, why do you think it's possible to create a linear history of sf up to 1960, and the other is, how do you feel about this focus upon the Golden Age? It's really interesting, for example, to compare it with Ann and Jeff VanderMeer's *Big Book of Science Fiction* (2016) which, apart from Isaac Asimov and Clifford D. Simak, consigned the Golden Age to a side-note.

PK: I blame Brian Aldiss. No, of course that's too simplistic: he was only giving expression to what was already a common view of science fiction when he wrote *Billion Year Spree*. The history of sf was constructed by British and (mostly) American science fiction fans and writers who knew British and American science fiction, because it was in English so they could read it and it was readily available. The amount of non-Anglophone sf available in translation was minimal, probably limited to Verne, Rosny, Boule, Lem and the Strugatskys, and the translations made these look like copies of American sf. So it was easy to assume that these few translated writers were rarities copying American sf, and that therefore American sf was central and dominant. That became the default view of the history of sf that is next to impossible to shift.

I think it is a major failing of this book that so many of the chapters on mid-century sf, and practically all of the chapters on film and television, have an almost exclusively American perspective. Even British writers, like J.B. Priestley and John Wyndham, are reduced to walk-on parts in an American story, as if they are honorary Americans for the sake of this story. And it is surely a major error that Tarkovsky is not even mentioned in any of the chapters on cinema, appearing only in a general chapter on Eastern European sf.

SF: I would have to agree although perhaps it's not surprising coming from such a canonical press as Cambridge. Although the many well-known, high-quality contributors have written excellent scholarship, they still tell the history of sf as they know it. This would have been the perfect time to make that shift from the prevailing view with such a landmark press. And it would have been interesting to document the progressive transformation of a field into a global discipline given the book series and journal special issues that exist now to promote this work.

There is definitely a focus on the Golden Age, but it is important to note too that it is preceded by a number of strong chapters on European intellectual and literary history, technophilia/phobia, and science fiction. Luckhurst goes beyond *Frankenstein* to include France and central Europe, followed by an overview of primarily British and French nineteenth-century European science fiction with a smattering of other authors beyond those ever-changing borders, and then an engaging contribution on sf with European and Russian modernity. While the chapter on utopia does include women, it curiously does not cross the Atlantic to invite in the substantial continental dreaming that was just as active and also made major contributions via immigration to the US. There are a lot of such examples in the book of essays that remain solidly within existing borders rather than transgressing them.

PK: It sometimes felt to me that I was reading two different books that had been jammed rather awkwardly together. One is a fresh, exciting and informative

study of sf as a global phenomenon; while the other is a familiar, conventional and not always accurate history of sf as a primarily American form. Certainly you can get the impression that non-American sf stops somewhere around the First World War, and doesn't start up again until the 1960s.

PMR: Another structural feature of the book is its use of recurring topics. So, for example, there are chapters on Afrofuturism and gender and sexuality in each of the three sections, as well as chapters on sf criticism. Sometimes these recurrences are linked to geopolitical developments – section one for example, which has as its backdrop World War One and World War Two as well as the Cold War, has three chapters that specifically refer to war. By contrast, sections two and three have one chapter each on the Vietnam War and the War on Terror, respectively. At the same time, however, environmentalism (conspicuous by its absence in section one) becomes a recurring theme. Film, TV, comic books and latterly video games become increasingly important as the book wears on. There are though intriguing omissions – chapters on fandom in sections one and three but not section two. So, what did you make of these recurring topics? Did they give the book a greater sense of structural continuity, did they help to link sf to wider political changes, or were there frustrating gaps?

PK: There were gaps, of course there were. But when you think about it, this book was only 800 pages long, contains only forty-six chapters; there is no way such a short book could possibly cover the whole history of science fiction, let alone set it within its social, political and cultural context. It's a big book, but it can't do everything. I was happy that it at least gestured towards such context: if it doesn't explore such territory, it at least points in a direction that others might pursue.

SF: Yes, as we all know, it is so difficult to put a book like this together. Eight hundred pages isn't really that much space. Co-editors can have a well-put-together proposal but that depends in the end on author contributions. Who is available and willing to sign on to a project is just as important as what they are writing on. In this volume, the authors overwhelmingly represent English and American Studies. This is not a criticism, but rather a comment on the disciplinary backgrounds of these scholars albeit some from different parts of the world that leads to a particular discursive structure and approach. There is also the challenge of breadth and depth. In my view, early science fiction histories lacked depth and instead provided more of an index to an overly large field. So I appreciate the depth that the co-editors took care to include in key areas. I think that the introduction could have done a better job of delineating the connection between the imagined and resultant projects, which I think might provide an explanation for the two-pronged book conundrum that Paul points out. I think in many ways the book was just trying to do too much. And I do want to point out that there is comparatively less by women authors (whether brown, black or

white), feminism, and on gender and sexuality in a volume of this size. Looking to statistics, it appears that twelve women out of forty-nine authors contributed to the collection or twenty-five per cent, and four total scholars of color or eight per cent. The more diverse the scholars who contribute to a volume, the higher the quality of the ultimate product.

PK: But what these thematic topics do show is how inadequate the tripartite structure of the book is. Most if not all of these chapters cut right across the supposed divisions of the book, sometimes, as in the case of Levy's chapter, covering material that runs chronologically from the mid-point of Part One to late in Part Three. And I thought such recurring topics were all the better for that. Any examination of the way sf responded to the Cold War, for instance, would have to start in Part One but would have to continue at least until midway through Part Three, because the Cold War didn't have neat divisions at 1960 or 1980, or wherever one might draw the line. And the same with chapters on cinema, where the dividing lines, if any, should probably be technological developments rather than the changes of the New Wave which had next to no impact on film. And comic book superheroes first appeared in the late 1930s but are still going strong today, and a proper appreciation of that history probably benefits from looking at the whole sweep of that time rather than neatly delineated parts.

SF: If there could have been more chapters like the one on Afrofuturism in the first section, the inclusion of which moves decidedly in the direction of structural transformation, then this would have been a different volume. Moving into the Golden Age chapters, the contribution on film, television and radio had the opportunity to decentre the French-British-American narrative that it reinscribes once again. Just within the boundaries of the continent, there was much experiment going on in the film studios of Germany and Russia, which were also great centres of radio plays. Much less was being done in other parts of the world. So here too this volume had the challenge of which history to write in the space provided. Do you reproduce the established canon updated using contemporary theoretical approaches and/or do you continually challenge that canon throughout? In some ways, the early chapters in Part One and the latter chapters in Part Three engage in this canonical interrogation by bringing in other cultural and literary traditions as well as feminist, critical race and postcolonial shifts. And definitely the inclusion of the influential fan discourse and new modalities documents a lot of the innovative work that has been done in the past ten years in shifting perceptions. That is really what a volume like this traditionally engages in – canon revision and rebuilding. At a time when canons have been exploded, this might have been addressed in a more explicit way.

But then, I think this is what the focus on the New Wave is engaging in. In some ways, the central structure of the New Wave(s), from an Anglo-American

perspective, could be seen as a necessary countercultural, revolutionary precursor to the seeming explosion in global sf that came after. But again this presumes an Anglo-American centre and a global periphery. Each of the other locales/discursive spaces had their own traditions and problematics that sometimes collided with New Wave authors, and were either changed or continued on their own divergent paths to create something entirely novel within that context. At the same time, there are actually several New Waves that are represented here. First, room is made for Afrofuturism in the American New Wave canon. Mark Bould integrates this subject in the latter part of his essay, when he expands the landscape beyond Samuel R. Delany and Octavia Butler to include Steve Barnes, John Fauceite and Charles Saunders as well as music and comics. Larisa Mikhaylova's eastern European New Wave chapter, which was very much its own movement as well as in continuous dialogue with the west, also counterpoints Cold War sf. The periodization of the book based on the New Wave does represent a shift from the standard organization along historical lines – pre-war, Cold War, post-Cold War.

PMR: I was also struck by how section one shifts between a eurocentric focus in the first four chapters to an increasingly American one. In section two, the focus is almost exclusively Anglo-American. In the final section, the focus remains Anglo-American but now Europe has vanished in favour of chapters on China, Latin America and the Global South. What do you think about the book's attempt to capture sf's transnationalism?

PK: Science fiction is global not local. I learned from the book that sf has been written in China and Latin America for at least as long as it has been written in the USA. Why, then, is US science fiction considered the defining form of the literature? Is it something to do with the fact that most sf scholars, or at least most of those writing in English and available to contribute to such a book, are American? I think the American dominance of sf is an accident of history, and this book is at its best when it looks outside the Anglo-American bubble.

AR: To play devil's advocate for a moment. I wouldn't try, exactly, to defend the US-centric focus of this study; but I would, I think, query the idea that 'the American dominance of sf is an accident of history'. Elsewhere, I've pegged the rise of the genre to what we generally call 'capitalism', a specific mode of Protestant-inflected mercantile culture-society. Much of sf, including its repeated obsessions with galactic empires, interstellar trade, rugged individualism and frontier exploitation, as with self-reliance, a work ethic, as well as incarnation, guilt, atonement saviour figures and much else – much of this, I'd argue, is closely entangled with the rise of capitalism as such. It doesn't seem to me a coincidence that for much of the twentieth century the USA was the prime producer of sf. Some fans on the right tend to celebrate this alliance; others on

the left tend to deplore and attempt to critique it. But it's hard to deny it's there. Although, having said all that, I'm not sure this Cambridge volume sees things quite in those terms.

SF: More could have been done on the topic of transnationalism. There has been so much done in this area over the past twenty years, and that hard work is not really acknowledged here structurally. Part of this entails asking certain questions. For instance, instead of an American New Wave, what does a transnational New Wave look like? The challenge is including a comparativist approach that interrogates existing critical assumptions. For instance, where the chapter on science fiction in Vietnam is compelling, how would the inclusion of Vietnamese sf or East Asian sf on the war have changed the lens of this contribution? Or how did a transnational New Wave shape environmentalist contributions including and beyond English-language borders? Such an approach likely would have necessitated a structural change to elicit collaborations in writing some of the chapters. And it is this collaborative model bringing together disparate expertise and language/cultural knowledge which can create more inclusive structures.

And there are really a number of high quality chapters in the third section as well. Afrofuturism is represented well here with Isiah Lavender's contribution, Hua Li's chapter on China, and Rachel Haywood Ferreira's on the rich traditions of Latin American sf. They all truly integrate this science fiction into the broader debates represented in the collection.

PMR: That final section is characterised by its diversity. Although it attempts a chronology, the chapters shuttle back and forth between 1980 and 2017, and in the case of the chapters on China and Latin America start somewhere in the period covered by section one. Content-wise, sf literature is overshadowed by sf in other media. I wonder how easy it is to write a history of relatively recent phenomena? If there seems to be more of a shape to the history of section one, is that because there were fewer cultural productions that we can call 'sf' or is it just a matter of distance? Are we simply too close to the history of section three to give it a shape, or is it really as formless as it seems to be? Were previous eras just as formless?

PK: An interesting problem. I think there is a difficulty writing about the immediate past because we are still in it. I read histories of Britain in the 1950s and 1960s written by people who were born in the 1970s; they are writing about a past about which they can be relatively dispassionate, but for me those are my memories. It doesn't mean I couldn't write a history of Britain in the '60s, but if I did it would be different because my personal investment is different. And such memories are always formless: it is only in fiction that people remember events of long ago with absolute precision. And I think this applies whenever the history is written. In other words, if someone had put together this volume in, say, 1919

rather than 2019, then the early chapters would be similarly linear, and the later chapters would be similarly diverse. Would they consider Wells and Griffith and Allen as we do, would they put them alongside a host of writers we've long since forgotten, would Hugo Gernsback have even swum across their awareness? Would they consider that things need to be looked at according to themes and categories that make no sense to us now, or would they be divided along broadly similar lines? This thought experiment makes me keen to read such a history!

AR: A brief interjection. One thing I've noted about the 'canonical' writers of the nineteenth century is that they were all very concerned with their posterity, looking forward to being read a thousand years hence, like Homer and Shakespeare. Tennyson talked about creating poetic phrases that would be 'jewels five-words long, that on the stretched forefinger of all time / sparkle forever.' I mean, I love me some Tennyson, but bloody *hell* that's self-regarding. It is, surely, a massively saving grace of genre that, let's say, Philip K. Dick wrote furiously, even carelessly, to a deadline with no more thought of posterity and canonicity than any other hack. And by extension, isn't that part of the genius of sf as a mode? It's freedom, by and large, from such pomposity?

SF: As to the question of accessibility and availability of texts, I would say that sure, there were fewer cultural products given the explosion of narrative that we are experiencing today around the world when a smart phone enables you to access and create for a global audience assuming that they can find and understand you. But, having watched former East German libraries throw out thousands of science fiction titles from the GDR in the 1990s and replace them with translations of western titles, makes me think that there were many more texts available in the distant past that have just disappeared with time and poor-quality printings. I have run into this often in studying German science fiction where the last available copy of a title from the early twentieth century is labeled 'destroyed in war' in the national library database, and sometimes the other remaining couple of titles are in private collections. Just consider the politics and costs of preservation that shape whose publications have been retained and whose have been seen unimportant and discarded.

Part of the challenge comes too from who is reading or viewing what. Someone who works on Arabic, Chinese, Hindi/Tamil, Korean, Latin American/ Spanish, or Russian science fiction, to name a few, cannot possibly also keep up with everything that is going on in the US or the UK. There is just too much scholarship let alone fiction, creative works and new media. So then how do we talk to each other in meaningful ways without reproducing the silos, hierarchies, and racist and colonialist structures in our own field that we are trying to dismantle? One important shift is away from the dichotomy between 'serious scholarship' and geographical representation. This *History* wanted to do this, I

think, with all the best intentions but could not quite manage it, which resulted in the 'two competing projects' notion that Paul identified earlier. It is important to recognize that major theoretical contributions can be made using examples of science fiction from other countries as well as other media. We just have to let go of the canonical coverage imperative, and realize that a publication is just as legitimate without including an essay on such and such author, because it made room for a new perspective or approach.

PMR: There seems to be a real tension about the 'the' in the title – *The Cambridge History*. From your experience, just how definitive can a history be? Or, put another way, just how pluralistic? As a published work, it ultimately has to cohere, so just how encyclopedic can a literary history be without disintegrating into its individual parts?

PK: I remember, a few years ago, gently teasing Adam for calling his book *The History of Science Fiction*. Of course, it was nothing of the kind; it was *A* history. A good history, true, at least better than all the others I had read, but still only one version of the history of science fiction. Just as there is no comprehensive definition of sf, so there can be no comprehensive history of sf.

AR: My seconds will call on your seconds, Kincaid. Dawn. Pistols, sabres, the choice is yours.

PK: Water pistols, at 5,000 paces. But dawn? I'm led to believe that is very early in the morning...

SF: One of my favourite exercises is to pluralize nouns. It makes room for multiple stories, realities and equally valid experiences. Instead of 'the' history, or 'a' history, what about 'histories' of science fiction? Immediately this moves more in the direction of recognizing the admittedly parallel universes that some of this fiction runs in while also addressing the wormholes, stargates, event horizons and other various, sometimes violent intersections of these histories. I'm thinking in terms of Anindita Banerjee's 'circuits' for instance. And of course John Rieder equated science fiction with history itself, so where does that get us with a title like 'the history of science fiction'?

PK: One of the things this book does, and in the main does really well, is explore other science fictions. When we were talking earlier about the Anglo-American emphasis in parts of this book, which is also the default view in practically all histories of sf, we should note that we are almost invariably talking about white, male, middle-class Anglo-American sf. You read the majority of histories and you'd be forgiven for thinking that, other than the occasional aside (Mary Shelley, maybe C.L. Moore) there were no women writing the stuff before Ursula K. Le Guin, no black Americans writing before Samuel R. Delany, no Native American or Asian-American or Latino writers at all. That is not true, of course, and these groups begin to be visible in this history. But it is a beginning only, and each of

these groups deserves a history of their own. But those would be histories of a very different science fiction, just as the stories of Bengali or Nigerian or Middle Eastern sf would be very different histories.

This book is to be applauded for gesturing towards all of these different histories, but it is a gesture only and far from complete: Bengali sf deserves more attention, Australian sf seems to be totally absent (other than the occasional mention of Greg Egan). The book is too big to be readily accessible, and nowhere near big enough for the story it has to tell. It is not the history of science fiction, it is just (probably) the best we've got at the moment.

SF: The book has many quality essays on a variety of aspects of science fiction that are valuable for someone who is new to the subject. If we look at it from the point of view of an origin story told as an oral history over the after-dinner fire from evening to evening, it is one interesting narrative about what one tradition of sf imagines itself to be in the latter half of the second decade of the twenty-first century. It reveals the many gaps in the narrative and begins to fill them in in a variety of ways. I hope that it inspires numerous scholars to continue to write their contributions to the histories of science fiction so that we continue to have a robust, truly global discourse.

PMR: Lastly, taking the inevitable limitations into account, how do you think this book will stand the test of time? Or how would a future *Cambridge History of Science Fiction* differ?

PK: I think my hope for *The Cambridge History of Science Fiction* is not that it stands the test of time. Since science fiction is constantly changing it must, perforce, already be out of date. Rather, I hope it makes those of us who approach sf in future, critically and historically, regard the subject on a more all-encompassing global scale. If John W. Campbell could disappear into the sidelines of sf history not because he was a horrible man with appalling opinions, but because what he did is largely irrelevant to the great global sweep of sf, that would be an achievement. If we begin to see the history of sf untethered from a particular narrow slice of white, masculine, mid-century American science fiction, that would be an achievement. If we can begin to see that the history of sf involves women writers in Africa, transsexual writers in South America, gay writers in South East Asia, or what have you, that would be an achievement.

This book does not do that. But it raises enough ideas that someone else may come along and start to pursue some of those avenues of thought. And if that happens, then the histories of science fiction that we see in ten or twenty years could be very different things indeed. And that would be an achievement. But there would still be a need to draw all this together, to trace links and intersections and divergences. So there may one day need to be a new *Cambridge History of Science Fiction*, but I suspect that would need to be

online, like the *SF Encyclopedia*, with a strong editorial team holding the reins of many more than forty-six contributors.

AR: I run the risk of sounding like a mere contrarian here, but I wonder about this. It is so manifestly true that there can never be one unitary or orthodox history, and that anyone desirous of creating such would be indicating something authoritarian and dubious in their make-up. Of course we want histories, not history. That said, we do, I think, need to consider audiences. For such as us, we can read yet another history and integrate it into our sophisticated and multivalent apprehension of the subject. But students are a different matter, and students and newbies are an important portion of the audience at which books like this one are aimed. It may sound counter-intuitive, but it is nonetheless a hill on which I will die: valuable though heterodoxy is, the best way to teach it is to ground it in orthodoxy. It used to be thought that there were only six English Romantic poets that mattered: Blake, Wordsworth, Coleridge; Byron, Shelley, Keats. Six white geezers. Now Romantic scholarship is much more alert to the variety of voices, the many fascinating female and otherwise marginalized Romantic voices. But to *teach* the latter it is best the students start with, as it were, at least a daguerreotype of the former orthodoxy, so that they can appreciate the way the subsequent heterodoxy came onto the scene as liberating and radical. Otherwise they come away simply replacing one stereotype with another. Mutatis mutandi, so sf: the best way to champion the importance of women, writers of colour, the voices of global diversity, etc. is to understand that they themselves worked in a context that took it for granted that the only sf writers that mattered were Verne, Wells, Heinlein and Asimov. To that end a kind-of 'standard history' model has value, even if that value is really only that it exists in order to be superseded.

PK: I agree. But we've already got lots of those standard histories. Isn't it time we started to get the sort of revisionist model that this book gestures towards without having the courage to go all the way?

AR: Point.

SF: Science fiction is really a global genre and has been for a long time. My sense is that the formalized study of sf as a respected scholarly pursuit has predominantly been an English-language discourse with other less predominant parallel academic conversations existing in other parts of the world. These other locations were anchored in their own scholarly and cultural traditions, which were often quite foreign or linguistically inaccessible to those in the US and the UK, and sometimes historically not recognized as sf following hegemonic definitions. As English became a globally-dominant language, Anglo-American sf and later sf studies became more accessible to those international readers and scholars who learned English. The reverse was often not the case.

Part of the challenge continues to be the exclusivity of existing networks, whether conscious or not, which leads to certain 'go-to' people again and again who are considered to be experts in that country's or region's science fiction. Many of these 'go-to' people mentor others in their areas of expertise and it is incumbent on them to pass along the names of younger, up-and-coming scholars whose perspectives help to create a more diverse and nuanced discourse. All of us who have been working in this field for sometime should continually be encouraging young graduates and scholars from all countries and in multiple language departments by inviting them to conferences, welcoming them and engaging them in conversation about their interests, and following up with suggestions and opportunities later. We must intentionally maintain open networks and include open calls whenever possible when we are putting together collections to guarantee an inclusive, open recruitment and selection process. In this way, our scholarly spaces will be more engaging, richer, textured and inclusive. I have always appreciated the efforts of professional societies who hold their conferences in another part of the world every few years. The benefits of outreach, networking and expanded accessibility outweigh the sometimes smaller audiences. Such conferences can fundamentally shift a field in a new direction as a result.

PMR: And on that note, thank you all very much.

Conference Reports

Cyberpunk Culture, 9-10 July 2020 [online]

Reviewed by Emily Cox-Palmer-White

The success of the Cyberpunk Culture conference, run by Lars Schmeink, was in many ways informed by how the online event made a virtue of a necessity. Being unable to come together in person, due to the Covid-19 pandemic and widespread lockdowns, meant that participants not only had the opportunity to discuss the possibilities posed by cyberpunk narratives but found themselves simultaneously experiencing the conference filtered through a virtual lens. The conference delegates were discussing and building cyberpunk culture at the same time.

Using the Discord platform for typed chat discussions and Q&A sessions, attendees could view or read talks posted to the conference website before sharing their thoughts, opinions and questions within the various chat groups. This provided delegates with the freedom to watch/read talks when convenient to them in advance of the scheduled Q&A sessions, to go back and rewatch, rewind or reread talks and to take time to ponder them at their leisure before, during and after the conference. Because of this structure, participants were not limited as to how many talks they could 'attend', could have several conversations simultaneously, and could enjoy the conference in a more relaxed manner compared to traditional academic events. Traditional conferences are profoundly chaotic, manic experiences: a whirlwind of exhausting travel, fraught last-minute paper-writing, rushing from one talk to another, flitting from one concept to another with little time to digest and consider the complex ideas encountered in each talk. The conference's virtual setting provided the time needed to truly engage with others. Many delegates did admit that the conference could sometimes be quite demanding in other ways, however: several people remarked that the conference format encouraged people to have many conversations simultaneously while also maintaining a social media presence and posting about the event: doing this while also engaging with a multitude of different conversations and/or hosting their own Q and A sessions left some feeling stretched thin. Yet this also contributed to a distinctly cyberpunk sense of being 'plugged in' to a cyber world.

The theme of being immersed in cyberspace – a feeling that has been intensified by the Covid-19 outbreak – was addressed in many of the talks and chat conversations. Some approached the theme positively, discussing the potential which cyber spaces can provide, for example Sébastien Doubinsky's paper 'Cyberpunk and the Political Esthetics of the Man-Machine' while others

highlighted the negative, authoritarian and manipulative aspects of social media – aspects which, as Pawel Frelik argued in his keynote paper ‘Takeshi Was Here: Viral Revelations, Globalised Power and Cyberpunk Myopia’, cyberpunk narratives have consistently failed to predict or seriously engage with.

The optimism of the cyberpunk genre that traditionally relies on a mind/body binary, has a tendency to glorify the space of the virtual as a place of experimentation and ultimately freedom from the shackles of the flesh. Such a vision clashes with our own real-world experience of hostile online environments, punctuated by uncertainty, propaganda, the malign influence of foreign powers, and social media bullying. These negative aspects of the virtual online world have been intensified through the isolation of the pandemic, lockdown and social distancing. Rachel Berger’s talk, ‘The Horror of Direct Experience: Cyberpunk Bodies and “The Machine Stops”’ vividly addressed how lockdown has impacted on our mental health, our perception of the outside world and the potentially infectious bodies of others as well as our own bodies, withering in isolation.

However, María Ferrández San Miguel’s paper ‘Resilient Cyborgs: Trauma and the Posthuman in Pat Cadigan’s *Synners*’ reminded us that cyberpunk’s visions of cyberspace are capable of providing a far more nuanced while still positive depiction of cyberspace. Some have argued that this is typical of cyberpunk fiction written by women: these works tend to display a suspicion of the mind/body split as well as the utopian possibilities of the virtual. What we might refer to as feminist cyberpunk literature tends to acknowledge the necessity and value of both mind and body while remaining cautiously optimistic or even weary of the virtual. Feminism and gender in cyberpunk fiction were prevalent topics at the conference. Julia Gatermann argued in her talk that cyberpunk aesthetics can be used to challenge traditional conceptualizations of the body. Gatermann explored how the amputee singer, Viktoria Modesta, uses cyborg imagery in her music video, ‘Prototype’, to challenge traditional conceptualizations of gender and sexuality as well the amputee body. The use of futuristic prostheses challenges the idea of the amputee body as characterized by an absence.

This theme of presence versus absence was, appropriately, a recurring theme at the conference. The lockdowns occurring in the countries of many of the conference participants heightened the significance of this: Anastasia Klimchynskaya discussed how the hologram inspires a cultural unease similar to that posed by the first sound recordings and photographs, for example, when the technology is used to portray dead entertainers in performances. The hologram challenges the boundary between life and death and this deconstruction imbues it with a transgressive potential.

The cyberpunk genre has a reputation for prioritizing style over substance: cyberpunk’s ‘mirrorshades’ were cited several times during the conference

as being representative of the genre's glamorous 'sheen', concealing socially philosophically conservative ideologies. However, several papers highlighted the potential inherent in cyberpunk fashion, particularly Stina Attebery's talk which, in arguing that fashion is 'a future-oriented, constantly shifting set of speculative assumptions about the future of social expression and posthuman embodiment', challenged readings of cyberpunk narratives as traditional, masculine fantasies of escaping the physical world.

The conference as a whole highlighted a classic tension within the cyberpunk genre between the emancipatory potential posed by cyberspace and the dystopian setting of these narratives. As Frelík pointed out, the intriguing and disappointing facet of cyberpunk is its inability to engage with the particular kind of virtuality we are currently living in: one where cyberspace (if cyberspace can be understood to be social media) has become a site of political control and a resurgence of authoritarian populism. When considering cyberpunk, our own reality serves as a constant reminder of how the utopian, escapist dream of cyberspace failed to emerge. Yet, as pessimistic as these conclusions might appear, the experience of the conference left me feeling optimistic about the potential of virtual spaces. While cyberpunk's vision of the future might provide only an incomplete vision of the future, its capacity to imagine ever shifting conceptualizations of embodiment, selfhood and the value of the virtual is deeply relevant to the Covid-19 era. And, while it doesn't necessarily reflect our own Trump and Twitter-stricken reality, it provides us with a vision of virtual freedom to strive for. The relaxed, supportive virtual space that the conference provided has made me believe that there is still a lot to be harnessed from cyberspace: spaces where intellectual curiosity and philosophical engagement can be nurtured. The Cyberpunk Research Network, which has emerged as a result of the conference, and their forthcoming workshop on cyberpunk music make me believe there is still hope for cyberspace.

Beyond Borders: Empires, Bodies, Science Fictions, 10-12 September 2020 [online]

Reviewed by Graham Head

The fourth London Science Fiction Research Community conference was organized with support from SF Beyond the West and the London Chinese Science Fiction Group. Early in the pandemic the organizers decided to move the conference online which, for all of the resulting limitations, did have the advantage of making the theme of permeable borders more tangible. The use of technology enabled physical borders in space to be transcended more easily, and arguably helped encourage contributions and attendees from across the

globe; speakers and audience members could contribute without having to travel – although the requirement to have the necessary technology to join in may have created new barriers for some.

The first session was a plenary discussion on sf and translation between Sawad Hussain, Emily Jin, Guangzhao Lyu, Sinéad Murphy and Tasnim Qutait. Jin described translation as a form of ‘cognitive mapping’, signalling that there may not be exact cognates between different languages and cultures. She also noted a ‘danger of generalizing’, for example, of believing China or any other country is ‘like this’ from the evidence of one trilogy. Reflecting on market demands, Hussain noted that publishers like stories that reflect on the culture of the source country; it is harder to sell a novel that ‘simply tells a story’. There was also an interesting discussion of the extent to which a text should be ‘domesticated’, or made easier to consume: although the commercial context significantly shapes what is translated, there are advantages to making the reader pause and slow down. Murphy commented that seeing realism as normative against sf is also problematic, and culturally specific. She suggested that, although speculative fiction gives writers more ‘breathing room’, it can also be dependent upon cultural and political institutions, for example, in the role of state-sponsored Syrian science fiction. This session also demonstrated one of the differences of the online experience. The use of the ‘chat’ feature enabled the audience – and some of the panellists – to continue a secondary, usually reactive discussion alongside the main conversations. The benefits and entertainments of this feature were demonstrated many times during the conference.

I attended the second of the two workshops that followed, led by Bretton Varga and Erin Adams, which looked at the various droids in *Star Wars* and how they are viewed and positioned in the narrative. The online technology enabled participants to ‘vote’ for favourite droids and, from within a posthuman framing set by the workshop leaders, there was wide discussion of the roles the droids perform in the narratives with an emphasis on the subversive inhumanity of IG-11 in *The Mandalorian*. The technology wasn’t perfect for this workshop. Some participants found the platform wouldn’t respond to their ‘votes’ and there were a few issues with sound when clips of the films were played. But, ultimately, this didn’t detract from the debate.

The second day began with opening remarks by the conference organizers, highlighting a general theme of decolonization. They also promoted the conference Twitter feed, #LSFRC20, which offered ongoing, engaging and insightful comments, reflections and discussion throughout the conference. This was followed by the first keynote, a strong speech to camera by Nadine El-Enany. El-Enany looked at how UK law entrenches the ownership of the stolen spoils of slavery, both tangible and intangible. Speaking of British legal

history as embodying 'race science and legal fiction', she argued that Britain's legal system is constructed as a justification for British wealth and its foundation in colonial violence. In order for colonists to conquer entire civilizations, they needed to be classified under terms understandable to the colonizer. A prime criterion for conducting this colonial translation, or claim of translatability, was race as an ordering principal. She identified the 1981 British Nationality Act as the point that ended the myth of a unified, homogenous empire, the moment when the island of Britain was legally cut off from its former colonies. Racism, El-Enany argued, is symptomatic of our immigration laws; the 'hostile environment policy' of the Home Office created an internal border, placing people lower in a racialized hierarchy and perpetuating the values of the colonial past. She concluded by speaking of the need for 'coevalness', insisting on the contemporaneity of colonized and colonizing nations and subjects and acknowledging their continuing histories. Audience questions focused on the role of pedagogy – the danger that iterating law can serve to valorize colonialism in teaching – and the reframing of legal discourse by storytelling and counter-narrative. In this respect, sf was seen as a contested space, divided between colonial and anti-colonial narratives.

The conference then became multi-stranded with three parallel themed panels in each timeslot. I attended the panel on 'the dystopian body'. Rimi Nandy looked at posthuman superheroes such as Doctor Manhattan, the Vision and the film *Lucy* (2014). Nandy argued that these characters are not only restricted to bodily enhancement but also restructure humanistic understandings of morality and memory. Ewa Drab's exploration of Dhonielle Clayton's *The Belles* (2018) argued that if privilege comes with beauty, because only the wealthy can pay for the cosmetic enhancements, bodies assume the function of political tools. Lastly, Agnibha Banerjee looked at the position of the clones in Kazuo Ishiguro's *Never Let Me Go* (2005). Drawing on Judith Butler and Giorgio Agamben, Banerjee described how meaningful resistance is foreclosed for the clones. Demarcated as less than human and lacking meaningful identity, while their artworks suggest a soul and subjectivity, the clones are enmeshed in a network of exploitative power structures. The ensuing discussion engaged with the implications for the category of the 'human' and, in particular, moments of self-actualization or self-realization. There were critiques of the exclusivity of the 'human' and the instrumentalization of subjectivity as well as the endless perfectibility of the body.

Following a break, I attended the first panel in the ongoing strand 'SF Beyond'. Nat Muller's paper on the Israeli-Palestinian border, in Oreet Ashery and Larissa Sansour's graphic novel *The Novel of None! and Vowel* (2009), considered how the use of their alter egos cloaked notions of identity, borders

and subjectivity. The project became toxic for the artists though, one Israeli, the other Palestinian, who were accused of betrayal by both sides. Muller also examined how the use of the graphic novel-form spatialized identity, especially in the context of the panoptical planning of Israeli settlements. Faisal Adel Hamadah's paper looked at barriers and borders, and how they can be crossed through digital performances. He considered several examples of 'Failed Visa Shows', where the performance could not continue as originally intended, because the artists' visas had been denied. He argued these could be related to other theatre lockdowns in the pandemic. The paper contextualized and historicized digital performance as a response to border regimes through several examples, framing digital and virtual performance as attempts to seize the means of communication and subvert them, to illicitly cross borders. These were not always wholly successful, and the effectiveness of such interventions could also be questioned. In the subsequent discussion, both contributors emphasized the brutal reality of policed borders and the impact on the arts, such as the bombing of the Said al-Mishal cultural centre in Gaza.

A lunch break came next, which highlighted one of the other limitations of a conference online. In a physically present event, lunch would usually be an occasion for further discussion, debate and networking. However, although the organizers did offer virtual rooms to fulfil this purpose, so far as I could tell these were not much used, which seemed a missed opportunity. I found myself imagining each contributor and audience member eating alone in their own kitchens, lounges and bedrooms. After lunch, recognizing the non-synchronicity of a virtual conference, the organizers reprised the opening remarks for those newly joining the conference from the US, where it was now morning.

I then attended the panel on 'Against Extrapolation'. Filip Boratyn proposed N.K. Jemisin's Broken Earth trilogy (2015–17) as a re-enchantment narrative: an 'epistemic strategy with the potential to destabilize the hegemonic discourses of geological extraction, exploitation of national resources and racial oppression.' Andrew Ferguson re-read Darko Suvin's idea of the novum as an essentially colonizing framework, a macguffin leaving sf as 'a vessel for the cult of innovation and the tyranny of the "new" that is the hallmark of contemporary creative-destruction capitalism.' He suggested possible alternatives, models of a 'postcolonial novum' in the work of Nalo Hopkinson, Nisi Shawl and Solomon Enos. Alessandra Marino suggested a dialogue between the works of Donna Haraway and Ursula Le Guin, looking at their rejection of 'extractive' and 'extrapolative' narratives while embracing sf as a methodological tool that engenders multispecies justice. Marino proposed possible ways of thinking about the political ecology of human activities in outer space, which avoided some of the colonialist implications of 'space culture'.

The day ended with another plenary session involving Michael Darko and Jordan Wise. This discussion recognized that sf does not exist in a vacuum but within real world situations, and created a space to give voice to personal experiences. Darko gave a powerful introductory speech about the organization he is part of, Freed Voices, where he had become ‘an expert by experience’. Setting out the data that the UK detains up to 30,000 migrants each year, ninety per cent of whom are from Commonwealth countries, he proposed ways ‘we can all work together’ to change this statistic. Wise, who works with Notts Trans Hub, a Nottingham-based Facebook group that seeks to bring the transgender community together, spoke passionately about trans representation and showed how these images can move beyond fiction to affect real trans lives. The audience reacted strongly to these presentations and the panel’s subsequent discussions, with the chat being full of supportive comments. This panel also resonated with El-Anany’s keynote, which highlighted the use of race as an ordering principle. Questions reflected on specific cases of the marginalization of non-white and trans characters in film, and the attitudes of the producers, studios and platform companies; several examples relating to some of the major franchises were discussed. As with lunch, I felt that in a physical setting these conversations would have continued into the evening.

The final day began with Lee Christien giving a fascinating paper on Steven Dunn’s short story ‘The Taxidermy Museum’ and his novel *Water and Power* (both 2018), which include collages of photographs, institutional documents, pro formas and medical reports, alongside the colonial archive from London Zoo. Christien mirrored the limits of placing bodies and policing borders within taxonomic systems of zoological display, and a reflection on the interplay between fact and fiction, while the archival recuperations also spoke to and reflected Dunn’s collapse of the border between humans and animals. Prema Arasu and Drew Thornton explored the romantic and sexual coupling of the monstrous and human in fantasy and myth. They examined fish-human hybrids in terms of shifting bodily ontologies in a range of examples that included H.P. Lovecraft’s ‘The Shadow Over Innsmouth’ (1931), Jack Arnold’s *The Creature from the Black Lagoon* (1954), Hayao Miyazaki’s *Ponyo* (2008) and Guillermo del Toro’s *The Shape of Water* (2017). They also suggested an epistemological shift in the representation of the monstrous, exemplified by their reimagining as romantic leads.

After the break, there was a ‘Creator Roundtable’ with Chen Qiufan, Larissa Sansour and Linda Stupart. Each artist presented and commented upon examples of their work, and conducted an engaging discussion about their shared obsessions and diverse experiences. They reflected upon the uses of sf to raise political and environmental issues, from border disputes

and appropriation of land, through to ecological catastrophe. Sansour argued, however, that the audience can become accustomed to this, so they needed to be challenged as well. She also spoke of the pandemic, discussing borders around groups of people, households and states. The artists emphasized the importance of activism and the need to recover contested histories.

Afterwards I attended a panel on 'unreal geographies'. Gwilym Eades took the maps in Frank Herbert's *Dune* (1965), Brian Aldiss's *Helliconia* (1982–85) and Le Guin's *Always Coming Home* (1985), and suggested that, although 'fragments that conjure worlds', maps often represent spaces in the language of the colonizer, pushing the indigenous peoples to the margins. Eades suggested that the three works can be seen as spanning sf and the mapping of the Anthropocene. Looking forward, he asked what kind of maps and appendices will we need in a world of planetary, algorithmic artificial intelligences; maps must become mutable, mobile and be continually renewed. Emily Hall's paper considered the complex connections between surveillance and borders in Chang-Rae Lee's *On Such a Full Sea* (2014). 'Vids' allow individuals within the narrative's fortress-like cities their only opportunity to see regions outside their walls; the cameras make the walls porous, and the areas not covered by them became spaces for narrative. Hall argued that as the protagonist witnesses a character travel across the country, their conception of community changes, so that they end in reimagining the idea of the nation. Adam Stock's paper considered the representation of desert settings – as locations of risk, inscrutability and ancient knowledge – in Alexis Wright's *The Swan Book* (2013). Stock contrasted the marginalization of the indigenous peoples with the colonial competition for scarce resources, a tension that is foregrounded in the narrative structure of Wright's novel. In response, some of the audience suggested there was a seed of optimism in all three papers, a notion that was resisted by the contributors.

The final panel I attended was on expansionism. Ricardo Jasso Huezo's explored the role of silence in *The War of the Worlds* (1898). The silent Martians, who offer no reason for their invasion in H.G. Wells's novel, were compared with the equivalent silences of real-world colonizers and their disdain towards the subjugated peoples. Iuliia Ibragimova discussed Ann Leckie's Imperial Radch trilogy (2013–15) in the context of Dominick La Capra's exploration of fascism, the sacred and contamination. With the Radch expansion stopped from the outside by non-human aliens, and its socio-political order confronted from the inside by the protagonist, their conceptual framework is radically challenged. Ibragimova compared these concepts with Jenny Edkins's concepts of citizenship and personhood; the latter goes beyond 'bare life' and sees the other as a neighbour. Thomas Cheney explored how western narratives of space exploration are being replayed in contemporary discussions of the future

uses of space, Mars in particular. Examples include the visions of 'Green Mars': that only by importing (earthly) life to Mars can it be given 'value'. Cheney discussed how this impacted space governance and a potential resistance towards colonialism, but argued that a critical examination of the underlying assumptions promulgated by sf and space advocates was required.

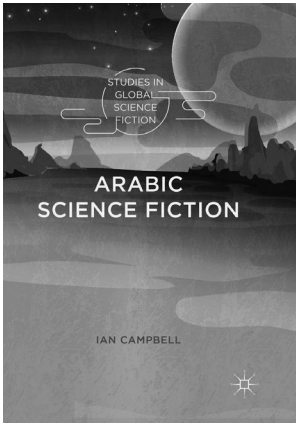
Florence Okoye delivered the final keynote. This was a powerful, energizing presentation that made full use of the technology and served as an appropriate end to the conference. Okoye began by examining colonial maps of Barbados, analysed by Charlton Yingling as maps of omission, marked by absences and silences. The indigenous inhabitants and the enslaved were erased. These maps could be read as both technologies and fictions, giving us access to the speculative futures they were oriented towards. Her exploration tracked both the maps and the built environment that they (mis)represented, as the plantations themselves were technologies used to both conceal and survey. The plantation map became an exercise in worldbuilding and the plantation a well-constructed machine. The mechanization of labour had no impact on the enslavement of Africans or the genocide of indigenous peoples; it was an act of futurity, not benevolence. She argued that this was because the futurity that was wanted was one of disappearance, and the absence of representation spoke to this desire. Moving to Thomas More's *Utopia* (1516), Okoye stressed that More's text had a direct impact on the colonization of the Americas as an example of 'action at a distance'. But this was never really the case since 'there was always a material that transmitted action into force, and that material was the existence of Indigenous and Black people'. Responses to Okoye's speech included the erasure of the labour that goes into the production of western goods, and how sf might foreground this relationship; the idea that modern management theory originated in the management of plantation slaves; and the possibility of alternatives, such as solarpunk or the emergence of a creative black diaspora working inside the tech industry.

This was a successful conference, covering a lot of ground, for which enormous credit must go to the organizers and contributors. The two keynotes were exceptional, and most of the papers I witnessed were consistently strong. I thoroughly enjoyed the panels I attended, although I also regretted missing the many papers presented in parallel. Many of the papers and talks will be made available through the LSFRC website, so I remain hopeful of capturing at least some of these discussions. There were occasional technical difficulties in terms of connectivity and sound, and the Collaborate platform sometimes appeared unable to cope with the number of participants, so that the hardworking organizers more than once had to intervene to move audience members individually to the correct panels. Some contributors used pre-recorded videos

to circumvent technical issues, but required their audience to perform a semi-synchronized leap to YouTube and back again. I personally found the graphic design of the main conference programme unhelpful and difficult to use online, with a large expanse of black space and small white print, while the accessible version would have benefited from better internal organization. As noted above, the chat feature enabled strong audience participation during panels, plenaries and workshops, although a better mechanism for discussion and networking during the longer breaks and at the end of each day would have been helpful to encourage further engagement.

Nevertheless, these were all relatively minor matters that did not significantly detract from the plenaries or panels. Through its use of virtual technology, the conference successfully attracted participants from around the globe. It is difficult to envisage a conference of similar size achieving such a diversity of contributors for a purely physical event. So overall a real success, given the trying times we live in, and the organizers are to be congratulated for pulling it off.

Book Reviews



Ian Campbell, *Arabic Science Fiction* (Palgrave Macmillan, 2019, 333pp, £49.99)

Reviewed by Bodhisattva Chattopadhyay (University of Oslo)

Now available in paperback, Ian Campbell's book is the first anglophone monograph to explore the traditions in Arabic sf. (It is predated though, in Italian, by Ada Barbaro's *La fantascienza nella letteratura araba* published by Carocci Editori in 2013.) Campbell's book, which leans in the general direction laid out by Barbaro's work, comes between studies with a more contemporary focus, such as

the EURAMAL 2016 conference volume *Arabic Literature in a Posthuman World* (Harrassowitz Verlag, 2019) edited by Stephan Guth and Teresa Pepe, more historically oriented studies such as Jörg Matthias Determann's two volumes, *Space Science and the Arab World: Astronauts, Observatories and Nationalism in the Middle East* (I.B. Tauris, 2018) and *Islam, Science Fiction and Extraterrestrial Life: The Culture of Astrobiology in the Muslim World* (I.B. Tauris, 2020), and fan-oriented scholarly work by online forums such as Sindbad Sci-Fi and IslamSciFi that have explored both historical and contemporary Arabic sf. These different developments themselves follow the general trend that has sought to understand alternative futurisms from the Middle East and North Africa (MENA_ region and the Arab world, expressed in Sophia Al-Maria's and Monira Al-Qadiri's 'Gulf-futurism' and the counterpoint in 'Arabfuturism', proposed by others such as Sulaïman Majali. These new trends or futurisms emerged in the shadow of the late nineteenth- and early twentieth-century devastation of many parts of the region, and sought to give voice to the disturbing realities of neo-colonial occupation and surrealistic violent tendencies of death-row petroculture.

Campbell's study thus hovers between two different worlds: one, historically oriented literary scholarship, and the other, politically dynamic critical scholarship that has primarily focused on the periods after the 2003 invasion of Iraq or the 2010–11 Arab Spring. While the latter has become more critically relevant due to the times we live in, the former has the potential to challenge and open up the spaces for considerations of long histories of global sf. Campbell chooses the former. Even though the prehistory of the current Arabic sf moment is certainly important, Campbell elides discussions of contemporary developments in the

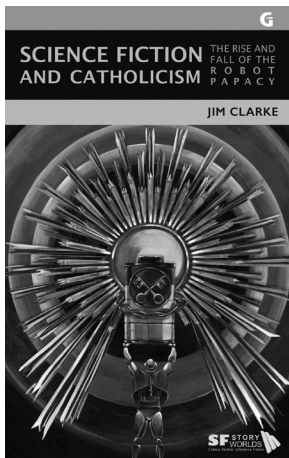
field as well as recent scholarship that addresses why the future has become central to the Arabic artistic imaginary in the last two decades. This can be seen both as a problem of scholarship and a political problem: such work runs the risk of being (mis)labelled as scholarship that elides the politics of a non-anglophone sf precisely at the point where sf clashes with alternative futurisms due to the perception of sf as a colonizing tradition. This has been a central point of departure for contemporary authors and artists from the Arab world, who create future fictions that are oftentimes even a rejection of the idea of sf itself (this rejection is a philosophical exercise as much as a political act), and a consequent reframing of the earlier history of the genre, such as those works explored by Campbell, as part of an alternative tradition of literature (pre-empting sf, and existing post-sf).

What Campbell's work does, it does really well. As he says in the preface, the work follows his previous investigations in postcolonial Arabic literature, and in this volume, he presents a snapshot of mid- to late twentieth-century Arabic sf or science-fictional literature. Its first few chapters provide a cogent summary of literary scholarship on Arabic sf (ASF), although, as Campbell acknowledges, the presence of Barbaro's work looms large, from both historical and theoretical paradigms. Following a discussion of postcolonial theories and engagements with sf, and a summary of existing sf criticism, Campbell moves on to the scant critical scholarship on ASF that exists in Arabic and other languages. While Campbell does succeed in situating existing scholarship on sf, it nonetheless feels a bit redundant to go over the critical territory of sf studies within anglophone sf, which many readers would already be familiar with. The other problem with using these frameworks is that they also reveal an anglocentric framing that supersedes the internal development of these alternative traditions. While this is recognizably a problem in other similar works, what makes Campbell's particularly noticeable is that the work does not attempt to be a history, but a close textual analysis that illumines the nature of ASF. While to a certain extent the work seeks to address this charge by adding an entire section on Arabic critics of ASF, these critics too are read primarily in terms of the normative expectations set up by the anglophone sf framing (Suvin, Delany, Aldiss, etc.) or through Barbaro's lens. Indeed, the central theoretical notion that the work develops, one of 'double estrangement', does not seem particularly helpful as an additional theoretical development in the study of ASF, even though it does seem quite useful as a critical lens for sf studies in general. Campbell seems quite aware of the highly productive imprecision of untranslatables that can give rise to new critical lenses (for instance even in the basic terminology used for sf in Arabic, *al-khayāl al-'ilmi*), but nonetheless does not utilize these indigenous linguistic frameworks to develop a theoretical

model. Thus, while we do get a good presentation of ASF and its history and theory from the perspective of global sf, we do not get the opposite: namely, does ASF itself transform our understanding of what sf is? ASF thus appears in the work as a 'derivative discourse', one whose characteristics need to be illumined with reference to anglophone sf criticism. While Campbell seems fairly accurate both in his evaluation and appreciation of the genre as it exists in Arabic, and the cross-cultural influences between the various Arabic nations and the larger territory of American and European sf are quite well-presented, it is the consistent tendency to frame the characteristics of ASF only in terms of their relation to 'Western SF' that limits the scope of what Campbell set out to do. To be fair, this is true of the field in general, as Campbell notes in his survey of ASF criticism; nonetheless, it does seem like yet another missed opportunity for new theoretical insights that can transform our understanding of the genre.

Where the book really shines however are in the historical and literary aspects, the thorough case studies of several ASF works in six of the eleven chapters. Campbell discusses Mustafa Mahmud's *al-'Ankabut (The Spider, 1965)* and Rajul Tahta *al-Sifr (Man below Zero, 1966)*, Nihad Sharif's *Qahir al-Zaman (The Conqueror of Time, 1972)*, Ahmad al-Salam al-Baqqali's *al-Tufan al-'Azraq (The Blue Flood, 1976)*, Talib Umran's *Khalfa Hajiz al-Zaman (Beyond the Veil of Time, 1985)*, Sabri Musa's *al-Sayyid min Haql al-Sabinakh (The Gentleman from the Spinach Field, 1987)*, and Taibah (Tiba) Ahmad Ibrahim's three novels, *al-Insan al-Bahit (The Pale Person, 1986)*, *al-Insan al-Muta'addad (The Multiple Person, 1990)*, and *Inqirad al-Rajul (The Extinction of Men, 1992)*. The works not only provide a snapshot of nearly three decades of ASF, they also seek to provide a geographical sweep: Mahmud, Musa and Sharif are Egyptian writers, Al-Baqqali is Moroccan, Umran is Syrian, Al-Ibrahim is Kuwaiti. Campbell is committed to close reading, and he takes up individual words and sentences to highlight how the narratives weave together different kinds of worldview, which are then used to illumine the themes that he discusses in each of the work. Some insights are expected, for instance the presence of science narratives from the Golden Age of Islam, or the tension between modernity and tradition or science versus religion, but others offer more interesting perspectives, such as the consistency of the political that Campbell shows across all the different works. For non-Arabic speakers, the level of detail offered by Campbell is useful for getting at the flavours of the written Arabic language. This extremely language-oriented focus on individual texts also does have certain problems in that the chapters do not really speak to each other and appear to be better suited as journal articles (where parts of the book indeed originate), or as reading material for those interested in specific works rather than the general tendencies.

Overall, the volume is a solid contribution to ongoing discussions about the global narrative of the history of science fiction, and is thus a fitting addition to the Studies in Global Science Fiction series. Its limitations identified here are the limitations of its time, that global sf studies (if it can be called that) has not yet developed adequate toolkits for the study of alternative futurisms, and is thus more keen to explore historical problems that can be better studied within anglophone sf rather than take on more contentious theoretical challenges thrown up in contemporary non-anglophone worlds. Nonetheless, one hopes that Campbell's fine volume will itself encourage some of these further reflections.



Jim Clarke, *Science Fiction and Catholicism: The Rise and Fall of the Robot Papacy* (Gylphi, 2019, 292pp, £17.99)

Reviewed by Rhodri Davies (Birkbeck College, London)

Jim Clarke's book represents a timely intervention in sf criticism, reflecting the increasing interest in the genre's imbrications with the immaterial, *contra* the influence of the materialistic paradigm established by Darko Suvin in *Metamorphoses of Science Fiction* (1979). Clarke recognises the limitations of the 'cognitive' element in the estrangement that Suvin proposes as a defining characteristic of sf. His introduction comprises a brief, yet detailed, reconsideration of the genre, informed by cogent discussion of many of the more influential studies on sf – including those of Brian Aldiss, Roger Luckhurst, Farah Mendlesohn, Adam Roberts and Brian Stableford, to mention just a few. What distinguishes Clarke, however, is his delineation of the unique role that Roman Catholicism, or rather, its misrepresentations as an antagonist of science and rationality, has played as a counter-narrative to the concerns that informed the evolution both of sf and of fantasy, which Clarke rightly observes are often subject to 'an ill-considered sectarianism'.

What follows is an ambitious attempt to trace 'sf's use of Catholicism as a dystopian motif, and how that usage concretizes sf's understanding of its own analytic modes and purpose'. Clarke's chapters are each oriented around a point of convergence between sf and Roman Catholic doctrine – artificial intelligence, exotheology and alternate history. Throughout these encounters, Clarke moves back and forth between theoretical framings, accounts of historical issues of impressive breadth and detail, Roman Catholicism's response to these concepts, and close readings of key texts in response. What emerges

is a convincing and wide-ranging discussion that avoids the twin dangers of tokenism and a lack of focus.

The opening chapter develops Clarke's argument that sf originates in the late nineteenth century, alongside the emergence of professional science itself, although he is at pains throughout this work to point out that this does not occur in isolation, but rather that the genre's historical antecedents are many, and that science-fictional elements can be found in texts as far back as the android maidservants of Hephaestus in Homer's *Iliad*. Indeed, this recognition is key to Clarke's tracing of the intellectual currents and debates within and about Roman Catholicism throughout the centuries that find new expression in sf. In this chapter, he outlines how popular conceptions of a 'faux Catholicism' emerge in the Anglican tracts of the Restoration, which were 'later codified into a debate between native reason and alien superstition [...] another one of the progenitors which led to sf'. This is, for me, one of Clarke's most intriguing arguments, suggesting that a misrepresentation of Roman Catholicism fulfilled a vital function as an Other against which sf in part defined itself. Certainly, as he points out, sf texts are replete with anti-rational antagonists, a significant number of whom are Roman Catholics, Jesuits in particular. Chapter three suggests that the number of Jesuits in sf reflects more popular perceptions of the historic role of the Society of Jesus in proselytizing and colonizing than the Vatican's public statements on exotheology in the twentieth and twenty-first centuries. This anti-Catholicism is traced through the Gothic into both scientific romance and pulp sf.

The second chapter pursues the development of man-made creations such as Roger Bacon's Brazen Head and Albertus Magnus's *famulus*, via the Frankenstein Complex, the Three Laws of Robotics and AI, into detailed discussions of Isaac Asimov, Anthony Boucher, John Brunner, Robert Silverberg and Clifford D. Simak. These texts all feature AI prophets, messiahs or indeed popes; their rise and fall is linked among other factors to the comparatively liberalizing tendencies of the Second Vatican Council (1962–65), and what Clarke characterizes as the more conservative retrenchment of Roman Catholicism under Pope John Paul II. Dan Simmons's proclamation of 'the fall of the robot papacy' and re-declaration of 'the war between sf and Catholicism' in his *Hyperion Cantos* (1989–97) are symptomatic of this historical development.

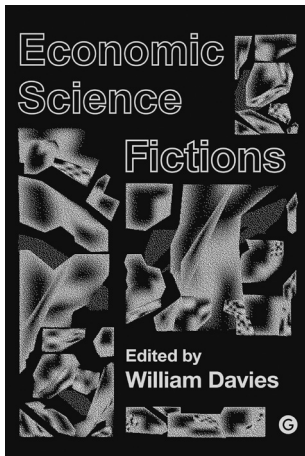
The third chapter highlights how, in contrast to the ambivalent position adopted by Roman Catholicism in response to the possibility of man-made intelligences, the Church has engaged much more fully with the idea of aliens. Perhaps the most prominent example of this engagement can be found in the establishment in 1961 of the Vatican Observatory Research Group, which has since hosted two conferences on exotheology. No less a figure than Pope Francis I has, as

Clarke points out, expressed a willingness to baptize Martians, if they were to request it. This welcoming of extraterrestrial intelligences into the Roman Catholic faith is reflected in the texts Clarke selects for detailed consideration by Philip José Farmer: 'Prometheus' (1961) and *Night of Light* (1966). Following Catholicism's conservative turn under John Paul II, John Barnes's *Sin of Origin* (1988) and Mary Doria Russell's sf diptych, *The Sparrow* (1996) and *Children of God* (1998), consider the destructive potential of Catholic proselytization to established cultures. The postcolonial aspect to many of these narratives is usefully explored, and further delineated through Patricia Anthony's *God's Fires* (1997). Michael Flynn's *Eifelheim* (2006) illustrates Clarke's observation that the Thomism of the late medieval period renders it more credible a time at which a 'speculative literature arising from the spirit of scientific exploration' might be born than the period of the Enlightenment, which saw a proliferation of fanatical religious sects and the rise of the Inquisition. Clarke concludes that it is frequently the role of a faux Catholicism within sf to function 'as a proxy for any rigid human belief system which would struggle to encompass the reality of extraterrestrial life', despite the fact that in reality Roman Catholicism has engaged closely with scientists on this topic for over half a century.

Chapter four begins by outlining the theoretical frameworks applied to uchronias and alternate history narratives, as well as their relationship to time travel stories, and their influence on the development of sf through the utopian fiction of writers such as Edward Bellamy and H.G. Wells. Clarke notes that the same anti-Catholicism identified in previous chapters persists in alternate histories, particularly 'an entire sub-genre [...] which imagines an extended Catholic hegemony into the modern era'. He demonstrates how these are again based on a faux Catholicism, one that wilfully or otherwise misrepresents Roman Catholicism as it has developed. The supposed sociocultural retardation in which such a hegemony would result is illustrated firstly by detailed consideration of John Brunner's *Times Without Number* (1969) and Keith Roberts' *Pavane* (1968), both of which take Elizabethan England and the imagined failure of the Protestant Reformation as their premise. John Boyd's *The Last Starship from Earth* (1969) features an alternate Christianity, one founded by a revolutionary Christ who established a Holy Israel Empire and defeated Rome militarily, whilst Kingsley Amis's *The Alteration* (1976), although featuring a familiar representation of a corrupt and venal Catholic hegemony, exploits this uchronic frame to offer a metafictional critique of alternate histories. Clarke proposes that the relative dearth of anti-Catholic uchronias in the last decades of the twentieth century reflects the retrenchment of John Paul II and Benedict XVI, real-world examples of Roman Catholicism's suppressive potential which denied such uchronic fantasies their impact. The final texts he considers – Gregg Keizer's

'Angel of the Sixth Circle' (1982) and Robert Charles Wilson's *Julian Comstock* (2009) – move beyond the familiar critiques of faux Catholicism to present post-apocalyptic repressive and regressive religions more generally, if with some clear echoes of that established trope. This shift suggests that sf might, finally, have abandoned this imagined Other. Clarke suggests that the progressive potential inherent in the future orientation of the genre, and the recognition of other regressive doctrines and increasing engagement with postcolonialism and multiculturalism, indicate that Catholicism has now lost much of its allure as a supposed antagonist.

One of the pleasures afforded by a reading of this wide-ranging exploration is the introduction it offers to stories and novels one might previously have overlooked. Similarly, Clarke's theoretical framings in the introduction and at the beginning of each chapter elucidate rather than obscure, and whilst some assertions will generate further debate, they are closely argued and well reasoned. The book will appeal to students, researchers and general readers of sf alike, who are looking for a provocative reconsideration of the genre and its history. I look forward to Clarke's continuing expansion of our understanding of the intersections between sf and religion.



William Davies, ed. *Economic Science Fictions* (Goldsmiths Press, 2018, 383pp, £17.99)

Reviewed by Paweł Frelik (University of Warsaw)

Western science fiction's relationship with technomodernity and its anchor – free-market capitalism and all its tools, accoutrements, and symptoms – is well recognized and documented. In fact, it does not take much arguing that during the first few decades of its modern incarnation in the late nineteenth and early twentieth century, sf was largely a cultural expression of values and positions that centrally informed capitalism. Consequently, the questions of critical revisions but also apologies of the system have been a steady presence in sf criticism. Some of its cornerstones, from Darko Suvin to Fredric Jameson, grew out of the discourses surrounding the socio-economic system in which texts are produced. Nevertheless, it was not until the twenty-first century that the critique of capitalism has become a major presence in the genre's critical conversations. Some of the more interesting interventions include Mark Bould and China Miéville's *Red Planets* (2009), Ewa Mazierska and Alfredo Suppia's

study of sf cinema, *Red Alert* (2016), and David Higgins and Hugh O'Connell's special issue of *The New Centennial Review* on 'Speculative Finance/Speculative Fiction' (2019). But there are also dozens of journal articles and anthologized chapters on everything from futures of capital in William Gibson's novels to imaginary economies in multiple online roleplaying games.

At first glance, William Davies' *Economic Science Fictions* (2018) is another addition to that body of criticism. In reality, it is another thing entirely. The volume opens with Mark Fisher's foreword, which briefly defines what 'economic science fiction' is. More importantly, it foreshadows the volume's idiosyncratic eclecticism. In the same way in which Fisher's writing bridged academic analysis, music criticism, political activism and autobiography, the collection surfs far and wide across topics and writing conventions.

Introductions to collected volumes are notoriously difficult since editors usually strive to perform several tasks at once: introduce the controlling idea or concept, set the stage for discussions, map the field in which the collection intervenes and – finally – showcase the articles and their authors. Not all intros do all these things and very few do all of them. There is no one set ideal template, either, but William Davies' long essay is in this league a true tour de force. Davies uses Ludwig von Mises's pamphlet, *Economic Calculation in the Socialist Commonwealth* (1920), as a scaffold on which he first pivots the historical roots of twentieth-century economic philosophy, then central questions of contemporary political theories of value and commodity and, finally, the role of literature and narrative in not just recounting these furiously knotted problems. This may sound like a tall order, but does this introduction drive! It is erudite without being obtuse and detailed without being hermetic. Equally importantly, because of the clarity with which it navigates these difficult territories, it is also extremely teachable and can easily serve in a variety of courses.

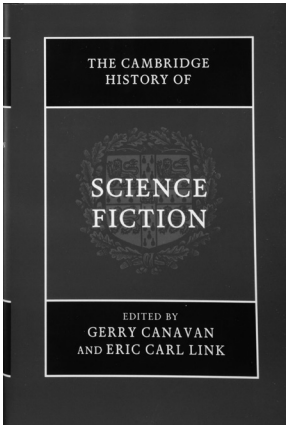
The core chapters are grouped in four sections, each with a short introduction from the editor: The Science and Fictions of the Economy; Capitalist Dystopias; Design for a Different Future; and Fumbling for Utopia. Not entirely unpredictable, the headers are hardly surprising, but they hide an embarrassment of riches coming from authors of diverse intellectual backgrounds: literary and media studies, law, economics, sociology, policy planning, and more. The more traditional analytical essays are all grouped in the first cluster, where Ha-Joon Chang charts the general intertwining of sf and economics, Laura Horn looks at the representations of corporate power, Sherryl Vint anthropologically dissects the future of money, and Brian Willems close-reads Robert Heinlein's *The Moon Is a Harsh Mistress* (1966).

The remaining three clusters proceed from these systematic readings and tentacularly explore the multiple entanglements of capitalism and science

fiction. Enumerating all individual contributions makes little sense here, but the freewheeling spirit of probing the future reverberates in all of them. There are chapters on the architecture of Moscow's suburbs, video games, and speculative and critical design. The sound collective AUDINT contribute a fiction piece on 'Pain Camp Economics', Khairani Barokka's 'AT392-Red' presents a fictional report from the future in China, and Nora O Murchú's 'The New Black' shines with the intimacy of confessional poetry in a sprawling Whitmanesque form. Dan Gavshon Brady and James Pockson riff on 'Fatberg and the Sinkholes' while Tim Jackson's 'Shooting the Bridge: Liminality and the End of Capitalism' is a meandering piece akin to the writing of W.G. Sebald. Judy Thorne mines for utopian longings in student interviews from a FE college. Miriam A. Cherry's 'The Future Encyclopedia of Luddism' begins with a familiar history of the movement but its last two sections – 'Rebellion against Luddism: The Asteroid Revolt' and 'Sustainomics' – grope for the shape of things to come.

However cursory, this overview of the contents demonstrates the utter unpredictability and brilliance of *Economic Science Fictions*. In fact, many contributions could easily work as stand-alone pamphlets but this does not mean that their polyphony collapses into noise. In fact, one of the strangest things about *Economic Science Fictions* is that it feels very cohesive despite its thematic and stylistic diversity. In his opening piece, Fisher cautions us that 'It is not a single-total vision that is required but a multiplicity of alternative perspectives, each potentially opening up a crack into another world'. Davies' selection hews close to that call, but the volume's cohesiveness can be perhaps attributed to a number of concepts or themes that thread through the chapters but also bind them together: automation, extraction, financialization, urban planning and design, and – always – a sense of inherent injustice of the here-and-now.

For all its artistic quality, *Economic Science Fictions* is also thickly theorized, something to be expected from a Goldsmiths project – and I mean that in the most affirmative way possible. Collectively, most contributions, including several creative ones, cull a significant bibliography of sources across a range of disciplines from political science and sociology to architecture and design to cultural and economic theory. Thanks to them, Davies's collection constitutes not only an indispensable addition to the political project of sf as a mode of thinking about the world, but also functions as a node in a rhizomatic network of texts, ideas and visions. It is, above, a deeply inspirational volume, a feat so difficult to achieve with two-dozen contributors from half as many disciplines. Its vibrancy can be attributed to the brilliance of the editor and the authors but it also, once again, serves as a proof that science fiction is, indeed, one of the most valuable tools for thinking about the presents and futures of capitalism



Gerry Canavan and Eric Carl Link, eds.
The Cambridge History of Science Fiction
(Cambridge University Press, 2019, 802pp, £135)

Reviewed by Sobia Kiran (York University, Toronto)

This self-proclaimed ‘intellectual history’ provides a lucid and elaborate account of the development of sf from its roots in ancient epics to a distinct genre with a recognized place in the academy. It does not confine itself to a mere study of ‘the forms, tropes, and conventions of science fiction literature’, but tells ‘the story of the evolution of transnational and multimedia manifestations of science fiction’ with a fandom across the globe.

The editors take ‘an inclusive approach’, drawing on the diverse and disparate definitions of sf by critics like Damon Knight, Hugo Gernsback, Darko Suvin and John Rieder, to provide a broad framework that accommodates a wide range of sf in multiple forms. They endorse sf as a ‘catchall term’, and like Rieder, they view it as a ‘historical process’ narrating a story of human intervention ‘in different ways, to different extents, as far back as human memory goes’. This approach draws attention not only to a broad definition of sf but also to an open chronology of the genre which, although named in the last century, reaches back to ancient and classical texts, as examined in the opening chapter by Ryan Vu, and to the Gothic as explored by Roger Luckhurst in the second chapter. This far, the book follows the tradition of sf historians like Mark Bould, Adam Roberts and David Seed in discussing the problems of defining and tracing the origins of science fiction.

The history distinguishes itself from its predecessors in the arrangement and organization of information. It uses a centripetal approach grouped around the New Wave of the 1960s. The editors consider the New Wave to be ‘a turning point in the genre’s development and history’, as science fiction started a multi-ethnic, multi-national, multi-media and, particularly, academic journey intersecting with social and political movements. The New Wave, they argue, transformed science fiction by introducing ‘diversity’ and ‘inclusivity’ in terms of both authorship and readership across the globe.

Part I, the longest with 310 pages, includes nineteen chapters to survey the field from ancient times to the New Wave. However, it makes some chronological exceptions, such as Michael Levy’s chapter, which looks at children’s and YA science fiction up to the 1980s. The chapters in this part discuss the role of pulps, magazines and fandom in the development of the genre. It also includes a chapter on women in pulp sf by Jane Donawerth, in

which she argues that female authors resisted 'the conventional masculine point of view, and their construction (and deconstruction) of gender'. Three chapters in this part are devoted to science fiction in the context of World War Two and the Cold War, while only one chapter explores the emergence of science fiction in film, television and radio. W. Andrew Shephard's chapter traces the roots of Afrofuturism in the nineteenth century by drawing attention to neglected African American writers. Rob Latham, in the final chapter, details the rise and growth of sf criticism by fans, editors, authors and academic scholars from fanzines in the 1930s to the first academic journal, *Extrapolation*, in 1959.

Part II, central to the whole yet the shortest section, with 157 pages, contains only ten chapters. The opening chapter by Andrew M. Butler challenges the assumptions of a linear history of the genre, from a 'optimistic genre' that celebrated technology and focused on ideas instead of style to disillusionment and 'formal experimentation, literary value, swearing, and sex' in the 1960s. Instead, Butler traces the roots of the New Wave to pessimistic science fiction published in magazines before the 1960s. The other chapters present the development of the New Wave more traditionally, linking it to the counterculture, frank treatment of gender and sexuality, and the investigation of 'inner space'. Specific chapters explore what we would more characteristically regard as Afrofuturism, the environmental movement, the Vietnam War, and sf in multimedia. The closing chapter by Ritch Calvin extends the story of science fiction in the academy by discussing academic scholarship as well as college/university teaching. The length of Part II, though, seems insufficient to do justice with its central position. Separate chapters on film, television and music could have added comprehensive detail to this part.

Part III, with 276 pages, includes seventeen chapters. This part models the previous two in continuing the discussion on the major themes like Afrofuturism, environmentalism, gender and sexuality, and film and television. Chapters survey the birth of the science fiction franchise, interactions of science fiction with postmodernism, and the present-day fandom. Graham J. Murphy traces the emergence of cyberpunk in the 1980s in the works of Samuel R. Delany and Joanna Russ, and their transformation by William Gibson and Bruce Sterling. Murphy contends that cyberpunk 'continues to evolve and expand in response to changing global conditions'. Aaron Kashtan offers 'a broad overview of SF comic books published since the 1980s', with his major focus on American presses such as Marvel and D.C., while Pawel Frelik explores in detail sf gaming despite the problems of writing such a history. Other chapters examine sf from China, Latin America and the Global South. Rieder's concluding chapter examines the influence of critical theory on sf studies, from 'ahistorical and formalist assumptions' to a 'historically oriented genre theory', and its interactions with postcolonialism, posthumanism, critical race studies and ecological humanities. This diverse

theoretical approach is complemented by the fifteen-page bibliography, as well as the accompanying footnotes to each chapter, which draws upon more than a century of criticism to provide a breathtaking overview of the genre.

If we compare the book to other recent histories, we find some similarities and a few differences. *The Routledge Concise History of Science Fiction* (2011) by Mark Bould and Sherryl Vint provides a chronological approach, clearly incorporating decades in the titles of the chapters. It avoids titles like the 'Golden Age' and the 'New Wave' although it devotes two chapters to the discussion of sf produced in the 1960s and '70s. *The History of Science Fiction* (2006) by Adam Roberts analyses the genre by century or historical period before considering more recent developments in film and television. All three take the problem of definition and generic boundaries as their starting point, but differ in the organization of their materials. Although *The Cambridge History* affirms the inclusive principle that there can be many histories of a genre, its size and price makes it an exclusive addition to research libraries. Nonetheless, the editors are humble in their acknowledgement that their 'symphonic' history only makes 'the most hesitant opening note'. In anticipation of new discoveries, the book makes a significant contribution to the field.



Rivers Solomon, *The Deep* (Hodder, 2020, 176pp, £8.99)

Reviewed by Jeremy Brett (Texas A&M University)

As the Roman poet Ovid said so long ago, 'Of bodies changed to various forms I sing'. Likewise does the Lambda Award-winning writer Rivers Solomon in their new novella *The Deep*. The idea of metamorphosis – not only of bodies, but of memories into a new people's history and legend, and of the worst darkness of which humans are capable into a new light of survival – is the thread that guides the reader through this story's dark waters. The novella participates in what Kodwo Eshun terms the 'war of

countermemory', the contestation of dominant historical narratives. In the case of *The Deep*, we see a hidden civilization that has survived outside the spaces of colonial history, and the eventual overturning of that history.

Both the narrative of *The Deep* and its development as a novella constitute a series of retellings. Its initial inspiration stems from the history of the transatlantic slave trade: the tossing overboard from slave ships of sick, crippled, mutinous, or otherwise unsaleable enslaved people. One of the most notorious incidents

occurred during the 1781 Middle Passage voyage of the British ship *Zong* when the crew threw around 130–140 innocent people into the Atlantic in order to claim them as reimbursable losses for insurance purposes.

The second inspiration is the Afrofuturist work of Drexciya, the duo of Detroit techno musicians James Stinson and Gerald Donald, who between 1992 and 2002 based a series of albums around the idea of an underwater realm populated by the descendants of pregnant African women tossed overboard from slave ships; their children evolved to breathe underwater as merpeople. While musicians like Sun Ra, for example, were busy looking to the stars for artistic and thematic inspiration, Drexciya sought a triumphant pan-African narrative beneath the waves, borne from the cultural effects of historical trauma. And whereas the *Wakanda* of *Black Panther* (2018) is a prosperous, technologically advanced society because it made the deliberate choice to conceal itself from the outside world and avoid confrontation with European colonialism, Drexciya's society is deeply scarred by the slave trade, a legacy also explored by Solomon.

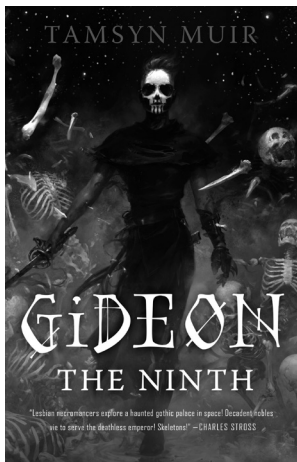
The third inspiration comes from the experimental rap collective, clipping (rapper Daveed Diggs and producers William Hutson and Jonathan Snipes), who were commissioned by the podcast *This American Life* to produce a track entitled 'The Deep' (2017). The song, nominated for a 2018 Hugo Award for Best Dramatic Presentation, relates an attack by 'two-legs' (the surface dwellers and common kin of the Drexciyans) on Drexciya in an attempt to drill for oil. It envelops disparate elements such as warnings about climate change, Lovecraftian references and snatches from Jay-Z songs into a narrative of resistance and, even more so, of remembrance.

Editor Navah Wolfe was so enamoured of 'The Deep' that, with clipping's permission, she approached Rivers Solomon, author of the Afrofuturist space opera *An Unkindness of Ghosts* (2017), to develop its premise into a novella. In Solomon's retelling, the 'wajinru' live pleasant lives beneath the waves, but always remain at the mercy of the historical trauma that gave birth to their civilization – the brutal deaths of their enslaved foremothers. The pain of recall is so intense that the duty of remembrance is placed in the custody of chosen 'historians'. Solomon's protagonist, Yetu, is one of these historians, tasked with bearing the psychic burden for her entire culture:

Given her sensitivity, no one should have been surprised that the rememberings affected Yetu more deeply than previous historians, but then everything surprised wajinru. Their memories faded after weeks or months – if not through wajinru biological predisposition for forgetfulness, then through sheer force of will. Those cursed with more intact long-term recollection learned how to forget, how to throw themselves into the moment. Only the historian was allowed to remember.

There is a cost to remembering: 'History was everything. Yetu knew that. But it wasn't kind'. Yetu becomes more and more oppressed by the psychological cost of bearing the history for her people, to the point where she faces total mental and physical collapse. In their afterword to the novella, clipping acknowledge that Solomon has 'shown us something that our song elided: the immediate and visceral pain inherent in passing down past trauma'. What are the costs to remembrance? It is the central question that Solomon is asking, and it makes *The Deep* an incredibly thoughtful, psychologically and historically nuanced work.

The word 'deep' has multiple meanings in the novella. There is the geographical significance in that the wajinru reside in some of the deepest reaches of the Atlantic Ocean. The novella also explores the deepness of history – the layers of centuries beneath which lie the suffering of real human beings, suffering so deeply buried that it now straddles a line between true history and foundational myth. But there is also a psychological deepness at play here. Memory is no simple thing – among the wajinru there exists a constant tension between the mental safety and security of forgetfulness and the deep-seated need to remember what and who came before us. The former is a necessary technique to cope with the stresses of life, the latter a means of discovering and rediscovering the things that define our fundamental natures. Solomon expertly captures this tension in the person of Yetu, but Yetu's problem is not hers alone. She shares it with every reader whose life, culture or history is or has been under the threat of historical violence. How do we cope? How deep must we go?



Tamsyn Muir, *Gideon the Ninth* (Tor, 2019, 444 pp, £11.99)

Reviewed by Nick Hubble (Brunel University London)

The iconoclastic tone of *Gideon the Ninth* is set by its opening sentence: 'IN THE MYRIADIC YEAR OF OUR LORD – the ten thousandth year of the King Undying, the kindly Prince of Death! – Gideon Nav packed her sword, her shoes, and her dirty magazines, and she escaped from the House of the Ninth'. However, while Tamsyn Muir's debut novel might fairly be described as irreverent pulp with good swordfights, it is not as schlocky as its 'lesbian necromancers in space' tagline suggests; in fact, beneath the thick layers of cunningly plotted genre mashup, it's a rather fine planetary romance with an emotional punch that will remain with readers long after they have completed their compulsive consumption of the text. For all that

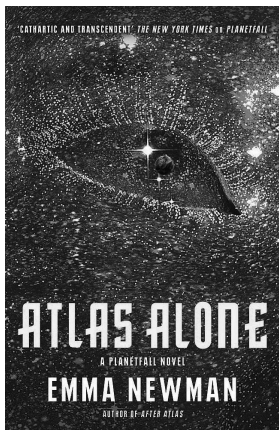
it is, in many respects, the leftfield inclusion in the Hugo and Nebula shortlists of 2020, *Gideon the Ninth* has some things to say about the way out from the stifling traditions that have been weighing particularly heavily upon us in this plague year.

Returning to the beginning of the novel, Gideon does not of course escape. Her dirty magazines are put away, never to be seen again, and even her beloved double-handed sword will not reappear until a very late and desperate point in the proceedings. Instead, she has to learn very quickly to use a rapier to the standard of a 'house cavalier primary' because she needs to accompany her hated contemporary, the Lady of the Ninth House, Reverend Daughter Harrowhark Nonagesimus, in her bid to become a Lyctor of the King Undying. This process entails Gideon and Harrow travelling to the planet of the First House and there taking part in a series of trials with their counterparts from the Second, Third, Fourth, Fifth, Sixth, Seventh and Eighth Houses. These range from the obnoxious twin heirs of the Third, Coronabeth and Ianthe, and their irritating cavalier Nathan, to the consumptive Dulcinea of the Seventh and her thuggish aide, Protesilaus. Some of these are innocent, such as the teenage Isaac and Jeannemary of the Fourth, some are actually admirable, such as Palamedes of the Sixth and his redoubtable cavalier, Camilla, and some of these are clearly unpleasant such as Silas and Colum of the Eighth. In another book, this latter House would be the equivalent of J.K. Rowling's Slytherins but here that honour goes to the Ninth, itself, with Harrow and Gideon the pair that everyone else is worried about. Gideon – who we learn is not a native of the Ninth but was found as a baby – is also worried about Harrow, especially as their rival competitors begin to meet grisly ends.

While the set-up of all this seems in some respects reminiscent of the tri-wizard tournament in *Harry Potter and the Goblet of Fire* (albeit with a higher body count), any lingering sense of cosy competition quickly evaporates in the second half of the story as Gideon endures a series of ever more extreme ordeals. The initial engaging blend of whodunit and rivalry gives way increasingly to horror, which has interesting effects on how we should classify the novel. In an interview in *Locus* (April 2020), Muir comments, 'I wrote the book thinking it was a standard young-adult novel. I was told very quickly it was not a young adult novel'. This is because while YA can be quite extreme, it is normally characterized by a moral framework that is broadly compatible with the ideological values of western liberal democracy. With the possible exception of Palamedes, none of the characters display anything like a conventional moral framework; although this is not to say that they don't adhere to other values, such as feudal loyalty. Moreover, the novel occupies a different space to our world; there is no sense of normal 'muggle' life going on just around the corner. As Muir also points out, there is no homophobia in this world but also very little patriarchy on display, beyond the distant off-screen presence of the King Undying. Palamedes is no alpha and the other male characters are either unpleasant or die

early on. In her *Locus* interview, Muir corrects herself for saying that ‘fear completely unmans you’, but it is actually a telling comment on how the continuous tension in the second half of the novel takes us outside the patriarchal order which for most of the history of novel-writing has constituted narrative meaning. The resultant story is different, both queer and non-normative, and it is this difference which gives the novel its freshness and originality. The ending – although trailed – provides a genuine shock that is nonetheless satisfyingly climactic without being either tragic or triumphant. Neither Gideon nor Harrow mature in any conventional sense of the term but they nonetheless become more than they were.

Twenty-first century culture is gradually emerging from the shadow of the last hundred years and we are seeing a default context that just didn’t exist before. Where Joanna Russ had to painfully break ground against an oppositional culture in order to write her Alyx stories in the 1960s, female-centred, non-patriarchal adventure stories and romances have become the dominant form of contemporary sf/f over the last decade (as demonstrated through Hugo nominations and awards). As Muir points out in *Locus*, ‘everybody loves this stuff. People love female-fronted stories, and they get even more excited if there’s any queer element’. That ‘everybody’ includes men who are as keen to escape from compulsory masculinity and the narrow, restrictive frameworks it places on existence as women and non-binary people. It is not necessary to overfreight Muir’s novel with significance to suggest that in its fullness and sheer uninhibited brio, it both testifies to changed times and points the way ahead to greater transformations. *Gideon the Ninth* is the first of a projected trilogy of which the second volume, *Harrow the Ninth*, was published in August 2020. It sounds as though Muir is not intending to let the assault on outdated moral values relent, as she claims to have turned up the dials on everything: ‘*Harrow the Ninth* is just absolute pulp lesbian trash from the first page to the last, and it’s a long book’. Let’s welcome that.



Emma Newman, *Atlas Alone* (Gollancz, 2019, 308pp, £8.99)

Reviewed by Allen Stroud (Coventry University)

Atlas Alone is the fourth book in Emma Newman’s Planefall series but follows on from the second title, *After Atlas* (2016). This time, though, the narrative focuses not upon the detective Carlos Moreno but upon his friend, Dee, with whom he had escaped onboard the colony ship, *Atlas 2*, before the destruction of Earth.

The narrative begins six months after their escape. Dee is struggling to adjust to life aboard ship. She is

angry about what has happened, but her access to information is limited, and she only sees a small number of people. She is aware the people who allowed her to come, The Circle, do not wholly trust her. Instead, she spends her days playing 'mersives' – game simulations of different realities – which leads her to work with some of the ship's mersive designers. Ostensibly, this group is trying to develop more content for the colonists on their long journey towards their new home. Dee, though, finds herself caught in a dangerous plot that sets her against a powerful elite of survivors who have plans for the colony. Together with her untrustworthy allies, she looks for the truth about what happened to Earth and what is going to happen when they reunite with the original *Atlas*.

As with the rest of the series, *Atlas Alone*'s narrow focus allows entry into a much larger plot without losing the humanity and direct contact with the characters. It is something of a return to form for Newman after its surprisingly weak predecessor, *Before Mars* (2018). Book four is much stronger although not quite as strong as the first two, excellent books in the series. *Atlas Alone* not only picks up from where *After Atlas* finished, it also mirrors that book's events but from a different perspective. Although lacking the spectacular scale of *After Atlas*, Newman's writing benefits from the confined space of the colony ship by also being tightly focused. The disadvantage, though, is that the narrative doesn't connect as strongly as it could with the larger picture of the overall storyline. Instead, there are a variety of choices that could have been made to include more of this, stepping beyond the immediate intrigue surrounding Dee and her companions.

That said, the decision to explore more deeply the role of gaming is a natural extension of Newman's vision for the future of human society. The MPhys, the mersive, the APA and all the different rules of her technology are neatly undermined with a clever plot device, exposing the flawed limitations of her characters who, initially, only perceive the world through its rules. What you can or cannot do in the different real and virtual spaces are a set of assumptions made by the characters who introduce us to these systems, thereby encouraging the reader to share these limitations as boundaries, until they are broken, and then asking the reader to share the emotional confusion experienced by the characters as they struggle to come to terms with the fact that the boundaries they had thought existed are not really there.

Additionally, Newman utilizes *Atlas Alone*'s gaming premise to explore the kind of content that 'LitRPG' novels claim as their territory. Newman's use of non-player characters, and the structures that supposedly govern them, reveals her detailed knowledge of the mores of gaming. Many of the scenarios experienced by Dee in her different mersives are ones that parallel reality but they also draw upon visions from gaming and cinema. The way in which the

characters navigate these environments, demonstrating their familiarity with the different concepts and aesthetics, enables Newman to build a secure and expected world for the reader, before introducing elements and themes that tear it apart. In this sense, Newman plays upon Darko Suvin's logic of the novum, being in part an extrapolation from Newman's own reality, which is then undermined by being shown to be beyond or separate from the empirical reality of the characters. Consequently, the reader also experiences the same surprise as the characters as discoveries are carefully developed and revealed. In short, *Atlas Alone* is not the game-changing novel that Newman's fans might have wanted but it is a significant step in the journey towards the resolution of Newman's epic narrative.