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## New Paradigms, After 2001

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## Chapter 8

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### *New Paradigms, After 2001*

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We live in an era of obsolete futures and junked dreams. It has now been over fifteen years since 2001 with nary a monolith in sight, much less manned missions to Jupiter or increasingly malevolent computer superintelligences refusing to open the pod bay doors. The Moon was *not* torn out of Earth orbit in 1999, nor did genetic superman Khan Noonien Singh become absolute ruler of more than a quarter of the globe during the bloody Eugenic Wars of the early 1990s (before, of course, fleeing into space on the sleeper ship *Botany Bay* following his overthrow in 1996). We've missed at least three separate Judgment Days, dodging *The Terminator's* Skynet and the scheduled rise of the machines each time. Manhattan Island is not a maximum security prison; Dr Sam Beckett did not invent the Quantum Leap Accelerator and vanish; Doc Brown and Marty arrived in 2015 to find a world totally bereft of flying DeLoreans, hoverboards, or sleep-inducing alpha rhythm generators (and the Cubs didn't even win the World Series until 2016). *Blade Runner 2049* (2017) came over a year after replicant Roy Batty completely failed to roll off the assembly line at the Tyrell Corporation as prophesied.

A century of science fiction predicted space missions, first contacts, robot uprisings, and nuclear wars that were all dated before *now*. To

live in the twenty-first century is thus in a very real sense to live *after* the future – after the future we invented together, the one that never happened.

And yet despite this slightly melancholic sense of thwarted futurity it cannot be denied that we live in science-fictional times, from the incredible supercomputers we all carry in our pockets (able to access the totality of world knowledge in an instant from anywhere on the planet, by either touch or voice command), to the algorithmic military–corporate surveillance apparatus that tracks our movements (using those very devices), to the increasingly dire state of the planetary ecosystem in multiple crisis (which is also registered in and intensified by the accelerating upgrade cycle of those same smart phones and tablets, among many other contemporary sites of resource-extraction and trash-generation). In many ways the world has been utterly transformed since it rang in the new millennium on 1 January 2001, almost to the point of unrecognisability; Francis Fukuyama's proclamation of 'the end of history' in 1992 following the end of the Cold War has been largely replaced by a vertiginous mood of constant, uncontrollable change, the dread of a world that seems to be spinning out of control, and SF since 2001 in some sense is still struggling to catch up.

How can one even *write* science fiction when, in 2016 alone, Britain unpredictably voted to exit the European Union, a planet was discovered around Alpha Centauri in the habitable zone, the Arctic ice sheet went through further catastrophic reduction, bee colonies further collapsed, and Donald Trump was elected President of the US? How can our science fictions hope to keep up with a world that increasingly seems beyond prediction, beyond parody, beyond reason, and beyond redemption? 'Reality is broken,' Charles Stross declared in 2016, describing the way that Britain's decision to leave the European Union had forced him to rewrite a novel he'd *thought* was a biting dystopian satire of the future, only to wake up one morning to discover the present had already outpaced his wildest, darkest dreams (Stross 2016). On the other hand in such strange times as these the pull of science fiction may be all the stronger; the genre becomes, as Kim Stanley Robinson put it in an interview with the *Guardian* in 2009, not fanciful speculation but 'the realism of our time' (Flood 2009), a collective first draft of

the worlds we hoped to make and the worlds we feared, instead, that we were actually making.

This chapter differs somewhat from the other chapters in this volume in its attempt to articulate a history that is very much still being written; unlike earlier periods in science fiction the 'literary history' of the 2000s era is still very much up for grabs. What follows is an attempt to trace major trends in the genre and project those texts and authors that may *become* canonical, from the perspective of future fans and scholars of SF. Such a project is necessarily speculative, on two fronts: it must extrapolate the consensus that might someday crystallise out of our current, often contentious debates about the genre, as well as imagine the interests and reading habits of a future that will some day look back on our time with (one hopes) more bemusement and appreciation than bitterness, resentment, and rage.

## Climate Change: Science Fiction at the End of Civilisation

In September 2016 scientists at the University of California, San Diego reported that carbon in the atmosphere had reached a concentration unheard of in human history: 400 parts per million (Monroe 2016). This threshold was widely heralded as a point of no return for the climate, not only in the sense that a return to the 'normal' climate context in which our agricultural and architectural practices evolved looks increasingly impossible, but also in the sense that we may now be on the cusp of triggering feedback loops (such as the release of stored methane in what was once permafrost, or change in the ice-albedo loop that tends to make cooler periods cooler and warmer periods warmer) that will intensify the shifts further, perhaps radically. And the rise in average global temperatures is only one of the many interrelated ecological crises that we face – ocean acidification, water pollution and scarcity, mass extinctions, and so on – that are popularly grouped together under the heading 'climate change'. While the causes, severity, and solutions of these crises remain controversial – and the recent right-wing political victories in Britain, Europe, and the US suggest that no action to tackle them will be taken any time soon – we appear to be entering a period

that the writer and critic Ziauddin Sardar has designated, with startling incision, as 'postnormal' (Sardar 2010).

The dread of climate change and its attendant effects on nature and society permeates SF of the twenty-first century. Even the optimism of Kim Stanley Robinson – one of very few contemporary writers in the genre whose political and philosophical orientation might be described as 'utopian' – has grown increasingly tempered by climate change since the Red Mars trilogy of the 1990s (which itself already featured a cataclysmic climate event in the form of the collapse of the West Antarctic Ice Sheet). His Science in the Capital trilogy (2004–7, slightly abridged and published as a single volume, *Green Earth*, in 2015) imagined rapid climate change following the 'shutting off' of the Atlantic Gulf Stream, forcing direct intervention via geoengineering in an effort to restore something like normal climate. In *Galileo's Dream* (2009), a future human civilisation living around Jupiter's moons is moved to attempt to meddle in its own past in the name of preventing the cataclysmic wars and ecological devastation that characterised its rise to the stars. In *2312* (2010) the techno-optimistic futurity of the Mars trilogy is reimaged in similar but less utopian terms; a lucky few, benefiting from immense wealth, ply the larger solar system while billions languish on a climate-ravaged 'Earth, the Planet of Sadness' (Robinson 2010: 303). Robinson's next book, *Shaman* (2013), set in the Neolithic, imagined human beings confronting the end of the Ice Age, while *New York 2140* (2017) is set in a flooded Manhattan, post-ice-sheet-collapse. Robinson's overall best work of the period, *Aurora* (2015), is perhaps his darkest vision yet, once again refashioning the imagined 'Accelerando' of the Mars books but this time twisting it into a brutal deconstruction of the generation-ship fantasy that argues, as Robinson has argued before, that despite what generations of space-operatic SF has trained us to believe, the solar system will always be our species's only home.

In the hands of writers who were already less inclined to optimism, the growing reality of climate change makes a much more brutal shutting-off of the possibilities of the future. This sort of necro-futurological imagining is perhaps best registered in Cormac McCarthy's slipstream novel *The Road* (2006) – one of many 'literary' novels in the period not treated as SF by critics despite its narrative situation and themes – featuring the

hopeless wanderings of a father and his son after an unspecified disaster has destroyed the planetary ecology (at least in the US) and inaugurated instead a world of starvation, cannibalism, and maximum death. The renowned Canadian author Margaret Atwood turned to a similarly brutal vision of the future in her acclaimed *Oryx and Crake* (or *MaddAddam*) trilogy (2003–13), which she provocatively insisted was not SF at all due to the plausibility of the horrors it described. *Oryx and Crake* (2003), the first in the series, takes what slim optimism it still allows from its vision of a 'Humanity 2.0', designed by its creator (the titular mad scientist Crake) to be a cognitively limited successor species for *Homo sapiens* that will never again outstrip the carrying capacity of the planet. Crake then engineers a plague to wipe out humanity to let the Crakers take over, and by the end of the novel the reader is nearly convinced he made the right decision. In a flash fiction composed for the *Guardian* on the occasion of the Copenhagen climate talks, 'Time Capsule Found on the Dead Planet', Atwood was even more uncompromising, imagining the last message of a human species to the aliens who might someday find our ruins: 'You who have come here from some distant world, to this dry lakeshore and this cairn, and to this cylinder of brass, in which on the last day of all our recorded days I place our final words: Pray for us, who once, too, thought we could fly' (Atwood 2009). Atwood's unforgiving epitaph for humanity is reprinted as the closing piece in *Loosed Upon the World* (2015), an anthology of recent climate-change-centred short fiction edited by John Joseph Adams that also includes Robinson. *Loosed Upon the World* joins *Welcome to the Greenhouse* (2011), *The Apocalypse Reader* (2007) and *Wastelands: Stories of the Apocalypse* (2008) in its gathering of a new canon of apocalyptic short fiction registering collective dread for the future. These form an emergent genre that journalist Dan Bloom has dubbed 'cli-fi'.

In generic terms, such necro-futurological fictions trace a path away from the New Frontier of outer space to the No Frontier of a blank future, perhaps a Planet Earth devoid of human life entirely. The super-historical era that is now commonly called 'the Anthropocene', first proposed by Paul Crutzen in 2002 as a scientific proposition about human effects on geological history (Crutzen 2002: 23), thus always generates a structure of feeling about the deep future that is being created out of our

present. Accordingly, much SF of the Anthropocene is a Neo-Romantic fascination with how a place – this place, *our* place – becomes a ruin. Richard McGuire's graphic novel *Here* (2014) is a perfect example of the melancholic attitude this way of thinking produces, as well as the difficulty of slipping out of that knot: the nearly wordless book uses its three-dimensional spatiality to create the corner of a room of a house, which we then witness across a billion-year span of time ranging from the deep past to the near future to the deep future. What we discover is that there isn't much of a future for human civilisation; the house (located in New Jersey) is wrecked by rising sea levels around 100 years from now, in 2111; a resurgent human civilisation reclaims the site around 2213, but is gone again (this time seemingly destroyed by nuclear war) by 2314. The world of 10,175 is a dark and barren one, populated by a forlorn mammal (a South American bear now living in New Jersey) that looks directly at the reader with a sort of indescribable sadness, as if to demand an apology. When we get as far as the 22,000s we are relieved to find a bizarre, almost unrecognisable ecology on the site, which is filled with weird, dinosaur-like giant mammals and brightly coloured jungle plants – an ecology totally not 'right' for New Jersey, and not a place *we* could live, but at least there's *something* still alive. At least we didn't kill everything.

A similar preoccupation with the status of animal life, and the need for human beings to redirect their energies to protecting the creatures endangered by our activities, can be felt not only in Atwood's MaddAddam series and Robinson's *2312* and *New York 2140*, but also in other works such as Lauren Beukes's inventive animal-familiar novel *Zoo City* (2010), James Patterson's all-humans-vs.-all-animals thriller *Zoo* (2012), and Karen Joy Fowler's quasi-science-fictional, gut-wrenching *We Are All Completely Beside Ourselves* (2013). In Ted Chiang's spellbinding 'The Great Silence' (2015), narrated by a parrot, a rumination on the Fermi Paradox – our ongoing inability to detect any signs of alien life, suggesting that civilisations all die out before they create the sort of Galactic Empire that SF tells us is the human destiny – becomes a sad rumination instead on the Great Silence of the many companion species on Earth we have driven

to extinction: 'Hundreds of years ago, my kind was so plentiful that the Rio Abajo forest resounded with our voices. Now we're almost gone. Soon this rainforest may be as silent as the rest of the universe' (Chiang 2015).

Likewise, in Chiang's utterly haunting novella 'Exhalation' (2008), a non-human civilisation with very human cognition must confront the fact that it is simply and irrevocably doomed to total disappearance. Chiang's characters in that story are artificially intelligent robots, whose kinaesthetic and mental operations depend on a complex system of pneumatic switches, valves, and tubes. The robots live inside some sort of sealed chromium canister, which is filled with pressurised argon gas; thus they can speak literally, not figuratively, about reaching 'the edge of the world' (Chiang 2010, 744). As far as the robots can tell they are the only life forms that exist. They discover that time appears to be slowing down; rituals that used to take precisely one hour to perform now take longer, all over their world. What they discover is that the problem is not time, but themselves: their apprehension of time is changing as the atmospheric differential inside their heads (which gives them movement and consciousness) equalises with the pressure outside. They further realise that there is no possible fix for this condition; because they are permanently trapped inside the canister, there is no way for them to repressurise it, no way for them to reverse entropy and turn back time. 'Which is why I have written this account,' Chiang's narrator tells us; he hopes that the records he leaves behind will inspire the visitors to the canister to understand what happened, and, through the power of the written word, make his people live again, if only in the imagination. 'Though I am long dead as you read this, explorer, I offer to you a valediction. Contemplate the marvel that is existence, and rejoice that you are able to do so. I feel I have the right to tell you this because, as I am inscribing these words, I am doing the same' (Chiang 2010: 756).

There has been a spate of similarly cataclysmic novels about utterly ruined futures of one kind or another. These range from Ben H. Winters's *The Last Policeman* trilogy (2012–14), which details the last days of humanity in anticipation of the asteroid strike that will wipe out all life, to Emily St. John Mandel's acclaimed *Station Eleven* (2014) about life in a collapsed America among the handful of survivors of

a plague, and N. K. Jemisin's Hugo-award-winning *The Fifth Season* (2015), which describes the cataclysmic downfall of a civilisation on another world as a result of a cyclical climatological event. Neal Stephenson's cosmic *Seveneves* (2016) is perhaps especially noteworthy in this category for its unforgettable opening line, which wonderfully captures the dark mood of the zeitgeist: 'The Moon blew up without warning and for no apparent reason' (Stephenson 2016: 3) – though it is in its own way also surprisingly optimistic, given the unrelenting scope of the catastrophe the Moon's destruction unleashes on the human race. As with Chiang's 'Exhalation', such books frequently avoid the technomiracle that can save humanity in the nick of time, and kill off most or all of the planet, daring us to find philosophical or aesthetic consolation in the face of the inevitability of our own species extinction.

Other ecologically minded writers have cut more of a middle path, of course, pulling back from the blank necro-future of human extinction towards the nearer term. Paolo Bacigalupi, for instance, one of the best new writers to emerge during the 2000s, has written two excellent novels about adaptation to the new climate normal, *The Wind-Up Girl* (2010) and *The Water Knife* (2015), as well as an equally excellent short story collection *Pump Six* (2008), all of which envision human societies struggling to adapt to the new scarcity, miseries, and investment opportunities brought about by the collapse of the climate and energy paradigms that made twentieth-century technoculture possible. Robert Charles Wilson's *Julian Comstock: A Story of 22nd-Century America* (2009) [8.1] combines, as Bacigalupi does, the dread of climate change with the dread of the loss of the carbon-based fuels that have made technological modernity possible. The people of 2172 remember the twentieth century dyspeptically as the 'Efflorescence of Oil' (Wilson 2009: 30). The word 'efflorescence' describes the evaporation of water that leaves behind a thin layer of salty detritus, the remains of our own twentieth- and twenty-first-century lives: the hardship and dislocation of global economic collapse, the inscrutable plastic junk that litters their countryside, their myths that man once walked on the Moon, a generally ruined world. William Gibson's remarkable time-travel thriller *The Peripheral* (2014) has an especially dark take on this kind of speculation; the survivors on the other side of the multi-pronged apocalypse call it

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Figure 8.1 Cover for the 2009 edition of Robert Charles Wilson's *Julian Comstock: A Story of 22nd-Century America*.

the Jackpot (because *they* hit it, even if the rest of us did not). These are stories about innovation, resilience, and adaptability that nonetheless put a ceiling on what is achievable post-climate-change, and that even at their most optimistic tend to depressively place our moment as a high-water mark for human civilisation that will end soon, that perhaps has already begun to end in ways we are only just coming to realise.

Other stories sidestep the paradigm of realistic prediction altogether in favour of metaphorical or allegorical confrontation with the weirdness of the postnormal future. China Miéville, in conversation with Mark Bould, noted in 2016 that the late 1990s and early 2000s phenomenon of the 'New Weird' – transgenre stories which are neither clearly fantasy nor clearly science fictional, which partially harken back to the 'weird tales' of writers such as H. P. Lovecraft – now looks less like a surrealist, symbolic response to the anti-globalisation activism that

started in the 1999 Seattle protests and much more like a very literal anticipation of a coming world of disruption and transformation caused by climate change (Bould 2016: 17). Paradigmatic New Weird writers include M. John Harrison, Steph Swainston, and Kelly Link. Miéville himself probably remains the most distinguished practitioner working in this mode, even though he himself has lost some interest in the New Weird as an aesthetic category. Perhaps the post-2001 SF writer most certain to be considered canonical in coming decades, Miéville has produced wide-ranging work that stands atop the period, from horror-fantasy (the New Crobuzon books, 2000–4) to hybridic noir (*The City and the City*, 2009) to space opera (*Embassytown*, 2011) to madcap apocalyptic romp (*Kraken*, 2010).

Another exemplary New Weird writer, Jeff VanderMeer, long known among genre fans as a writer and editor (often with his wife Ann), seems to have crossed over into the highest tier of global recognition with his acclaimed Southern Reach trilogy, *Annihilation*, *Authority*, and *Acceptance*, all released in 2014 and adapted for film by Alex Garland in 2017. The Southern Reach trilogy depicts an unexplained ontological transformation in Florida that has caused the region to be 'lost' to the ordinary workings of global capitalism; the first book begins with the inauguration of the twelfth expedition into the Southern Reach to try to learn its sequence, missions that inevitably result in the deaths of all involved either within the Reach itself or in their acquisition of a highly aggressive cancer upon leaving the zone. The production of the image of a cursed place, a haunted ecology that has transformed in ways we cannot understand or ameliorate and which is now making us all sick, is a pitch-perfect example of how the New Weird is not so much 'weird' as it is an intensification and literalisation of the changes that are already happening around us daily.

## The Singularity (and Empire)

The above list of texts, wholly inadequate to the scale of contemporary science-fictional cultural production, sketches out the emergence of a canon of SF dealing directly or indirectly with climate change, naming only a tiny sliver of the many texts that exemplify the darkly apocalyptic

futurological mood of the period. Climate disaster and its attendant crisis produce a sort of interpretive black hole in 2000s-era science fiction. The transformations that will be caused by climate change are so overwhelming, in the near term, as to threaten to swamp any other futurological possibility. In the 2000s environmental critique has become a crucial component of work in the humanities generally, becoming a part of the social justice mission alongside race, gender, class, and sexuality – but this is especially true of SF studies, where the idea of the future that is so central to SF now seems overdetermined by environmental crisis. Ecological crisis hangs over the genre now in the way that, at an earlier moment, the spectre of nuclear war did – the centre of gravity for many lines of speculation.

Peter Frase's essential *Four Futures: Life after Capitalism* (2016) offers a useful framework to discipline this impulse so as to allow climate change to exist in conversation with other futurological concerns. To the opposition between abundance (which we once had, but which now seems lost) and scarcity (which now seems inevitable and permanent) he adds a new dimension, the binary between equality and hierarchy. This produces a classic semiotic square, with four options: abundance–equality (the *Star Trek* future that climate change has ruined); scarcity–hierarchy (exterminism, the zombie future); scarcity–equality (the constrained but ecotopian future, something perhaps like Le Guin's anarcho-socialist masterpiece *The Dispossessed* from 1974); and abundance–hierarchy (rentism, or the utopia of elite tech billionaires who Hoover up all the intellectual property that the mass of the population then rents back). Indeed, the one major futurological competitor to the disaster of climate change takes place entirely on that spectrum between abundance–equality and abundance–hierarchy. It is most commonly called the Singularity.

The Singularity, broadly stated, holds that we are on the cusp of a period of exponential social and technological transformation that will be fuelled by the advent of self-augmenting artificial intelligence. The Singularity originated in the 1980s cyberpunk of writers such as Vernor Vinge and is perhaps more popularly known in vulgar negative form in rise-of-the-robots-style movie fantasies such as *Terminator* and *The Matrix*. The concept has tremendous currency among tech capitalists

such as Ray Kurzweil, Peter Thiel, and Elon Musk, many of whom have publicly stated that they believe the Singularity is imminent. Some of them have gone further, suggesting that they believe it is possible or even probable that the Singularity has in fact already happened, and we are all actually living inside a computer simulation in some unknowable deep-futurological context, after artificial intelligence has reduced the cost of computing power effectively to zero.

The central question of the Singularity becomes precisely that of equality vs. hierarchy, in two senses: first, the by-now quite familiar question of whether the emergent artificial intelligences of the Singularity will have much interest in upholding human values or serving human ends; and second, the often repressed question of whether the billionaires are going to share any of the bounty of the Singularity with the rest of us, and at what price. At its extreme the rentism of the abundance-hierarchy future squeezes back into a version of exterminism, if, as in the early twentieth century, the explosion of technological capability means that the rich eugenically, genocidally decide that perhaps they no longer need the rest of us at all.

Charles Stross's *Accelerando* (2005) [8.2] is almost certainly the best literary treatment of the Singularity, structured as it is by a running joke in which a hapless narrator fruitlessly attempts to prognosticate the exact moment the coming Singularity will soon happen, even as mind-body uploading becomes commonplace, functional immortality becomes a given, and the world becomes populated by digital clones and cosmic simulations. The great punchline at the end – a true gut punch – is that in Stross's view the Singularity is not the moment the machines become self-aware, but the moment the corporations do – and the fascinating latter half of *Accelerando* sees the spiralling out of the corporate Singularity as the machines begin trading incomprehensible financial products with each other at fantastically inhuman speeds, crashing the human economy and causing humanity to actually abandon the Earth as the machines convert more and more of the mass of the planet into themselves. Here at least Stross did get ahead of the curve; the corporations didn't manage to crash the global economy through derivatives trading until three years after the book was published, in 2008.

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Figure 8.2 Cover for the 2005 edition of Charles Stross's *Accelerando*, published by Orbit.

Financial speculation has crossed over with speculative fiction in other works as well, including Robinson's *New York 2140*, Richard K. Morgan's *Market Forces* and *Altered Carbon*, and Francis Spufford's hybridic novel *Red Plenty* (which marries contemporary high-speed financial computing to the planned economy of the Soviet Union). William Gibson's 2000s trilogy *Pattern Recognition* (2003), *Spook Country* (2007), and *Zero History* (2010) all revolve in different ways around the intersection of cutting edge technology, global finance, internet culture, and the military-industrial-entertainment complex, loosely focalised

around the machinations of billionaire Hubertus Bigend and his cool-hunting marketing agency Blue Ant. Gibson's technosublime vision is one of the strongest articulations of the dark side of the internet age, in which network technology has proved as much an asset as a challenge to the surveillance state. The trilogy's treatment of the war on terror and its intersections with the technological advancements of the period – especially in *Spook Country* – and its tracing of the links between seemingly autonomous realms of commerce, technology, and statecraft marks it as a key cultural document of the Bush-era US. The books also crystallise Gibson's new intellectual project of seeking to predict the present in a time when, as one of his characters in *Pattern Recognition* puts it, 'Fully imagined cultural futures were the luxury of another day, one in which "now" was of some greater duration. For us, of course, things can change so abruptly, so violently, so profoundly, that futures like our grandparents' have insufficient "now" to stand on. We have no future because our present is too volatile' (Gibson 2003: 57). A pithier Gibsonian articulation of the collapse between future and present has circulated widely on the internet and become proverbial, an apt description of this moment in global culture: 'The future is here – it just isn't very evenly distributed.'

The use of autonomous drones in warfare, once purely science fiction, likewise has become a familiar component of real-life warfare, even if our science fictions have generally tended to stay focused on human-piloted, manned ships, and human crews in military SF. These drones still require human decision-making, but they are rapidly moving towards autonomy (whether that autonomy would be described as genuinely artificially intelligent or 'merely' algorithmic). The most significant extended treatment of drone warfare in literary SF is probably still Iain M. Banks's Culture series, which began in the 1990s and sadly ended with the novelist's death in 2013. The Culture also distinguishes itself as the most dedicated contemporary attempt to imagine a Star Trekian post-scarcity society: abundance–equality, in Frase's terms. Of course, this is somewhat paradoxical. Why does the Culture fight so many wars, and police its boundaries and limits so aggressively, if it is supposed to be a paradise? To the SF critic of the 2000s this is less

of a paradox than it might initially seem. The utopia-focused critical paradigm of an earlier generation of scholars strongly gave way in the 2000s to an 'imperial turn' focusing on the ways in which SF has grown out of and reinforced, rather than challenged, the racist and militarist violence of the nation state. Istvan Csicsery-Ronay's article 'Science Fiction and Empire' applied the neo-Marxism of Michael Hardt and Antonio Negri to SF's longstanding dream of 'a single global technological regime' (Csicsery-Ronay 2003: 231) – a dream seemingly achieved in the US's open declaration, during the Bush administration, of a new global juridical regime ultimately subject to its military authority. John Rieder's *Colonialism and the Emergence of Science Fiction* traced this mutual imbrication between science fiction and colonialist-imperialist fantasy at the dawn of the emergence of the genre, and rapidly became a similarly essential reference among scholars.

Despite the importance of this moment, however, the wars in Iraq and Afghanistan have proved far less important as context for 2000s-era literary science fiction than science fiction film, television, and video games of the same period. The attacks of 9/11 – perhaps for similar reasons – have similarly figured much less importantly as a key event in prose SF (although see Douglas Lain's 2015 anthology, *In the Shadow of the Towers: Speculative Fiction in a Post-9/11 World*), while in films and television of the same period it has proved ubiquitous and unavoidable. 'In Spirit', a Hugo-nominated time-travel novella by Pat Forde published in *Analog* in 2002, tackled 9/11 directly. The PATRIOT Act, and fears of government creep, have proved much more crucial as a theme in literary SF; the Bush administration brought about tremendous interest in visions of dystopian governance, of which Suzanne Collins's *The Hunger Games* is probably the most famous, but Cory Doctorow's *Little Brother* (2009), Vinge's *Rainbows End* (2006), Ken MacLeod's *The Execution Channel* (2007), Max Barry's *Jennifer Government* (2003), M. T. Anderson's *Feed* (2002), Dave Eggers's social-media thriller *The Circle* (2013), and Jennifer Egan's *A Visit from the Goon Squad* (2010) are also standout entries in an endlessly popular subgenre.

The Bush administration also inspired a spate of alternate history novels from mainstream literary writers, such as Michael Chabon's *The Yiddish Policemen's Union* (2007), Paul Auster's *Man in the Dark* (2008), or

Philip Roth's *The Plot Against America* (2004), among others, especially the provocative work of Israeli novelist Lavie Tidhar in *Osama* (2011) and *A Man Lies Dreaming* (2014). The most novel and noteworthy of these alternate histories may be those that realign the presumed point of identification away from the US, like Matt Ruff's *The Mirage* (2013), which imagines Christian terrorists attacking a skyscraper in Baghdad, ushering in a military response from the United Arab States, or Abdourahman A. Waberi's *In the United States of Africa* (2008), which imagines a prosperous Africa and poverty-stricken Europe and US without ever asserting any concrete point of divergence between their history and ours.

This detour from the ostensibly utopian alternative to climate disaster into the shockingly adjacent world of mass surveillance and killer robots shows once again how fragile Singularitarian fantasy is. Even beyond the question of the potentially dystopian structures the Singularity might produce – to the extent that a given Singularity fantasy allows human beings to survive as discrete individuals at all (in whatever form) – it raises important questions about whether humans have an essential nature that it would be wrong (either practically or ethically) to edit or alter.

Cory Doctorow's *Down and Out in the Magic Kingdom* (2003) remains perhaps the most balanced and complete treatment of the Singularity in fiction, tackling everything from post-scarcity to novel finance to ubiquitous surveillance to functional immortality. *Down and Out* sees the emergence of a reputation economy, called Whuffie, after technological innovation has rendered the traditional economy obsolete. Its protagonists maintain Disney World for fun and Whuffie, debating whether and how to update the rides – a debate that turns deadly serious as the main character's computer implants become damaged and he is no longer able to continually 'backup' his memories and personality in the event of death. As with Stross's Singularity, in *Down and Out* the moment of the 'transhuman' constantly withdraws, and eludes any specific definition, prediction, or demarcation – but our rapid real-life technological explosion and previously unheard of capacities for prosthetic and genetic modification of the body make transhuman fantasy seem less like a flight of fancy and more like the premeditation of a future that is rapidly approaching.

## The Classics and the Canon

Although the primary brief of this chapter is ‘new paradigms’, alongside climate change and the Singularity there has been ongoing interest in many of the ‘old paradigms’ of science fiction as well, among them (of course) the most classic milieu of SF, space opera. Ann Leckie’s Ancillary series – *Ancillary Justice* (2013), *Ancillary Sword* (2014), and *Ancillary Mercy* (2015) – may be the most innovative and most celebrated new space opera milieu to come along in some time, centred on an artificially intelligent ship from the Radchaai space empire (which does not use gender pronouns, allowing for interesting social commentary on gender norms to permeate the narrative alongside the critique of empire and war). The popular Expanse novels (2011–) of James S.A. Corey (a pseudonym of Daniel Abraham and Ty Franck), recently adapted to television on the Syfy Channel, do space opera in the more limited space of the solar system, bringing a realistic aesthetic to traditional space fantasy through focus on the class struggle in and among the extra-planetary colonies. Other extremely popular space operas of the period include franchises from the 1990s that have extended into the post-2001 period, such as Lois McMaster Bujold’s Vorkosigan saga and Banks’s Culture series, as well as new properties like John Scalzi’s Old Man’s War series (2005–), Ken MacLeod’s Engines of Light series (2000–), Alastair Reynolds’s Revelation Space series (2000–), M. John Harrison’s *Light* (2002), and Peter Watts’s *Blindsight* (2006). Many of Charles Stross’s novels have recognisably space-operatic settings, such as his stand-alone novel *Glasshouse* (2006) (which takes place in a twenty-seventh-century culture reminiscent of the end of *Accelerando*, which experimentally seeks to recreate the conditions of twentieth-century life) or his Saturn’s Children series (2008–). I have already mentioned Robinson’s *2312* and *Aurora*, Stephenson’s *Seveneves*, and Miéville’s *Embassytown* in the context of their environmental themes, but they are worthy of mention here too. Many such contemporary space opera narratives, including nearly all of the ones I have suggested here save *Embassytown*, include strong Singularity elements as well.

Another incredibly significant space opera of the period is Cixin Liu’s Three-Body Problem series [8.3], published in China beginning in 2006 and translated into English in 2014–16. Aside from its own

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Figure 8.3 Cover for the Chinese edition of Cixin Liu's *Three-Body Problem (or Dark Forest)*.

ample merits, the trilogy marks a breakthrough moment for Chinese SF in the West (the Three-Body Problem series was even endorsed by Barack Obama as he left the American Presidency in January 2017). The first book in the series, *The Three-Body Problem* (2006/2014), depicts a SETI-style Chinese scientific collective that makes contact with an alien race living in the Alpha Centauri system. The first contact is with a Trisolaran pacifist who warns the scientists not to attempt to make contact again, as her civilisation is warlike and dangerous. However, one of the Chinese scientists, deeply embittered by her political persecution and by her horror of humankind's destruction of the environment, pursues contact anyway, leading to an alien invasion narrative that continues in *The Dark Forest* (2008/2015) and *Death's End* (2010/2016). *Death's End* in particular expands the story to a universal, quasi-theological scale, in a narrative that is reminiscent of the cosmic scope of Olaf Stapledon in *Star Maker* – becoming a deeply philosophical rumination on the nature of existence in the shadow of

universal extinction. The translator of the first and third books in the series, Ken Liu, also published an anthology of Chinese short fiction titled *Invisible Planets* in 2016 that brought more attention to Chinese authors beyond just Cixin Liu.

Naturally other writers have continued to work in other classic science-fictional paradigms, perhaps most centrally time travel and other modes of imagining historical difference. Connie Willis won the Hugo award in 2011 for her two-part time-travel novel *Blackout/All Clear*, the same year Stephen King published *11/22/63* about the Kennedy assassination; these were only two standouts of the many time-travel novels published during the period (see especially Audrey Niffenegger's *The Time Traveler's Wife* of 2003 and Lauren Beukes's *The Shining Girls* of 2013). Iain Banks's non-Culture novel *Transition* (2009) deals with multiple timelines, as did Neal Stephenson's lengthy but brilliant *Anathem* (2008). Kate Atkinson's *Life after Life* (2013) – which, like many of the other time-travel novels listed here, was not marketed as genre SF but as mainstream literature – detailed the many reincarnations of a woman who slowly becomes aware she is living her life over and over again, ultimately leading her to attempt to assassinate Adolf Hitler. A similarly quasi-science-fictional reincarnation plot structures Jo Walton's *My Real Children* (2014) and Claire North's *The First Fifteen Lives of Harry August* (2014). Ted Chiang has risen in prominence to become one of the best-known, best-loved, and most widely respected writers of short SF in the period – especially after the release of *Arrival* in 2016, based on his 1998 short story 'Story of Your Life', which also lent its name to his first collection. His recent stories have similarly opened the door on alternative worlds: of time travel in 'What's Expected of Us' (2005) or 'The Merchant and the Alchemist's Gate' (2007); of novel cognitive improvements in 'Liking What You See: A Documentary' (2002) or 'The Truth of Fact, The Truth of Feeling' (2013); and even of worlds where the Singularity has happened in 'The Lifecycle of Software Objects' (2010) or where religion is an empirical, measurable fact of the universe in 'Hell Is the Absence of God' (2001).

This ongoing interest in – one might even say hunger for – historical difference suggests that, despite the imperial turn, the utopian approach to science fiction is not dead after all. Indeed, much imperial-turn

criticism contains within itself utopian anti-racist and anti-war ambitions, and the utopian school of SF criticism may well have had its greatest articulation in the 2000s period in the publication of Fredric Jameson's magnum opus, *Archaeologies of the Future: The Desire Called Utopia and Other Science Fictions* (2005).

Alongside these earnest attempts at constructing and innovating classic SF structures, the period has also seen several noteworthy meta-fictional dissections of the traditional assumptions of the genre, as in John Scalzi's *Redshirts* (2012), set in a pastiche of *Star Trek* in which some of the famously endangered red-shirted support staff discover they are the disposable extras in a television series, or Charles Yu's *How to Live Safely in a Science Fictional Universe* (2010), in which a character also named Charles Yu (a time machine mechanic) navigates a grandfather paradox amidst a backdrop of classic SF narratives. Adam Roberts's *The Thing Itself* (2015) uses John Carpenter's *The Thing* as the springboard for a consideration of Kantian philosophy as a counter to Lovecraftian dread. Roberts's *Yellow Blue Tibia* (2009), set among SF writers in Soviet Russia, is an unexpectedly moving rumination on the transcendent possibilities of the genre. Ernest Cline's *Ready Player One* (2011) [8.4] is a cyberpunk novel set in a near-future culture that has become a nostalgic soup of 1980s pop culture references – a troublingly accurate prediction of mid-2010s reboot culture. Miéville's *Kraken* takes that sort of nostalgia and transforms it to the level of an ontology, depicting a universe in which all the beloved science-fictional, fantasy, and horror stories are happening simultaneously, in the context of the multiple apocalypses.

These revisionist science fictions are the creative component of a period of canon-formation and canon-revision within the genre, which has seen not only the usual sorts of reprints, re-releases, and prestige editions (like the Library of America's reprints of Philip K. Dick and Ursula K. Le Guin), but also new attempts to formalise science-fictional canons in the SF Masterworks imprint, as well as major retrospective anthologies such as *The Wesleyan Book of Science Fiction* (2010) and *The Big Book of Science Fiction* (2016). A similar movement is under way critically; the 2000s have seen the release of major critical handbooks from Routledge, Oxford and Cambridge University Presses, and Blackwell, devoted to the formalisation of academic approaches to SF. Also

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Figure 8.4 Cover for the 2011 edition of Ernest Cline's *Ready Player One*.

significant were the 'Modern Masters of Science Fiction' at University of Illinois Press, devoted to single-author monographs of major writers in the genre, and the expansion of lists devoted to SF at Wesleyan University Press, Liverpool University Press, University Press of Mississippi, and elsewhere. Monographs and edited collections devoted to SF have proved a reliable bet, in part due to their crossover potential in the non-academic fan base, resulting in a proliferation of available criticism and a fruitful explosion of methods, approaches, and focuses.

One of the most important inflection points in genre history has to do precisely with this question of canonicity. While women and writers of colour have always been a part of SF, the 2000s period has marked a new diversity in the genre that has utterly exploded the always-false stereotype of straight white male writers writing for a straight white male fanbase. This is especially true of writers of colour, who in previous decades might have been represented in a canonical sense primarily by two African American authors: Samuel R. Delany, who returned to science fiction after a long absence with *Through the Valley of the Nest of Spiders* (2012); and Octavia E. Butler, whose last novel, the science-fictionalised vampire novel *Fledgling*, appeared shortly before her death in 2005, though a posthumous collection of two previously unpublished works appeared as the eBook *Unexpected Stories* in 2014. In the 2000s the ranks of black writers of SF have been swelled by newcomers such as Nalo Hopkinson, Nnedi Okorafor, Sofia Samatar, N. K. Jemisin, Nisi Shawl, and McArthur-grant-awardee Colson Whitehead, among many others, writing from both African American and African Afrofuturist perspectives. While some of these fit squarely into traditional science fiction paradigms – like Whitehead's *Zone One* (2011), a zombie novel, or Whitehead's *The Underground Railroad* (2016) and Shawl's *Everfair* (2016), both alternate history novels – others offer a more syncretic mix of Western technoscience with Africanist or Caribbean religion, as in Hopkinson's *Midnight Robber* (2000) or Okorafor's *Who Fears Death* (2010), *Lagoon* (2014), and 'Binti' (2015).

Critical and creative interest in Afrofuturism has also sparked growing interest in Latin futurism, techno-Orientalism, postcolonial science fiction, and indigenous futurism as paradigms for SF, the last of which was the subject of a special issue of the journal *Extrapolation* in 2016. Science fiction from non-white and non-European perspectives has also been the subject of a boom period in short fiction anthologisation, including the *Dark Matter* books edited by Sheree R. Thomas and the *Apex Book of World SF* series edited by Lavie Tidhar, as well as *So Long Been Dreaming*, *Long Hidden*, *Mothership*, and *Octavia's Brood*, a collection of social justice science fiction inspired by Octavia Butler. *Terra Incognita: New Short Speculative Stories from Africa*, edited by Nerine Dorman,

appeared in 2015, while the anthology *Iraq +100: Stories from a Century after the Invasion*, edited by Hassan Blasim, signalled a new exploration of SF tropes by writers from the Middle East and its diaspora. 'Gulf Futurism', a term coined by writer and artist Sophia al-Maria, whose work is saturated in SF, has had significant global traction in the 2010s.

Unfortunately, the new recognition of talent in the field has not proved uncontroversial. As in many other arenas of culture ranging from the so-called 'Gamergate' movement in video games to the revanchist political coalitions that elected Trump and voted for Brexit in 2016, a backlash movement comprised largely of straight white men has arisen to challenge the new diversity of SF. These 'Sad Puppies' – who take their name from a post mocking an ad from the Society for the Prevention of Cruelty to Animals – claim to be taking SF back for its original fans, against a new cohort who (they feel) has been manipulating awards and prestige in the genre for political purposes. Beginning in 2013 and sharply intensifying in 2015, this group has focused its attention primarily on the Hugo Awards, named for Hugo Gernsback, which choose the best SF works of the year using an unusual two-stage voting process: the nominating stage is open to all, while the final selection stage is voted on only by registered Worldcon members (mostly attendees of that year's Worldcon convention), using a ranked ballot. By coordinating their nomination slates, the Sad Puppies were able to create shortlists comprised mostly or entirely of right-wing, white writers, sometimes with profiles quite marginal to the larger body of science fiction.

The Sad Puppies (along with an even more right-wing group, the Rabid Puppies, coordinated by American white supremacist Vox Day) were 'defeated' in 2015 and 2016 primarily through another quirk in the Hugo's voting system: the 'No Award' line, which allows voters to 'rank' works below the Award line. In 2015 and 2016 many awards went either to the nominees who were not Sad Puppy-endorsed or, in cases where the Sad Puppies had managed to nominate their entire slate, to 'No Award'. Meanwhile Worldcon is attempting to change its voting system to prevent further manipulation (changes to the Worldcon rules must be endorsed by two consecutive Worldcon fan assemblies, hence the delay). Still, even if their susceptibility to coordination has been fixed, the sudden eruption of 'No Award' after 'No Award' in the list of

Hugo winners will always record the strange politics of this moment in SF history.

## Conclusions

Any 'literary history' tackling the early twenty-first century will be challenged by the breakdown of traditional publishing categories – including, in extremis, the physical form of 'the book' as a material object one owns, as opposed to a digital download one 'rents' from Amazon or Apple and reads on a device, subject to emendation or revocation at any time – as well as by shifts in consumption habits towards digital platforms that have made prose fiction, if not quite obsolete, certainly less hegemonic as a media form than it once was. These tendencies seem especially disruptive for the study of SF as a genre. Many books that in another era would have been clearly SF are now marketed, branded, and critiqued as if they were not SF but mainstream literary fiction – as, for instance, David Foster Wallace's paradigm-shifting *Infinite Jest* (1996), which was rarely described as science fiction despite taking place in a dystopian near future filled with world-transformative technological innovations, or David Mitchell's *Cloud Atlas* (2004), Kazuo Ishiguro's *Never Let Me Go* (2005), Gary Shteyngart's *Super Sad True Love Story* (2010), or Don DeLillo's *Zero K* (2016). What Bruce Sterling once called 'slipstream' fiction is now hard to distinguish from the bodies of either genre fiction or literary fiction, perhaps befitting an era in which the whole world has become SF, as J. G. Ballard once said. Science fiction has become respectable enough to merit annual collections in the 'Best American' imprint, and even a special issue of *The New Yorker* entirely devoted to SF in 2012 (perhaps most notable for another slipstream work, Junot Díaz's postcolonial zombie story 'Monstro').

Likewise, in the wake of J. K. Rowling's transformation of the culture industry it has become difficult to draw lines between 'literary' works and the form of the 'young adult' novel, which are increasingly marketed to and read by adults as well and which frequently take up science-fictional themes, most notably in the blockbuster *Hunger Games* franchise by Suzanne Collins, but also in similar series such as *Divergent*, *The Scorch Trials*, and more. The successful self-published works by Andy Weir ('The

Egg' in 2009 and *The Martian* in 2011) and Cory Doctorow are only the tip of a vast iceberg of self-published original and derivative (often fan-fictional) prose texts that are using the near-zero cost of digital publishing to sidestep traditional publishers altogether. This is a tendency that has not only transformed the production of fictional science fiction but also vastly proliferated and democratised its critical apparatus as well.

A parallel bleeding at the margins is happening on the level of media form: trends in science fiction as a genre are increasingly hard to discuss without reference to the sorts of visual SF media that have become global phenomena, in many cases viewed and discussed in numbers that utterly swamp prose fiction. This is true not only of the sort of franchise blockbuster SF that has dominated box offices since *Star Wars* (1977) – including the return of *Star Wars* as an ongoing concern in *The Force Awakens* (2015) and the first of the *Star Wars* anthology spinoffs *Rogue One* (2016), but also the Marvel Cinematic Universe (2008–), *Avatar* (2009–), and so on – but also of the increasingly sophisticated and intellectual SF film and television that has emerged with the sharp decrease in the cost of digital film effects and the proliferation of platforms like HBO, Amazon Prime, and Netflix. Works in that field include *Primer* (2004), *District 9* (2009), the early seasons of *Battlestar Galactica* (2004–9), *The Expanse* (2015–), *Westworld* (2016) and *Arrival* (2016) [8.5]. The last of these was based on a prose work by Ted Chiang, which neatly makes the point that SF cannot be broken up by media form without losing some perspective on what the genre is now doing and how it is doing it. Storytelling forms such as the video game (perhaps most notably the *Mass Effect* series) and the comic (such as Robert Kirkman's *The Walking Dead* (2003–) or Brian K. Vaughan and Fiona Staples's acclaimed *Saga* (2012–) and even the podcast (for example, *Life After* and *The Outer Reach*, both in 2016) have become significant ways in which to tell contemporary science-fictional stories. In addition to the bleeding between genres discussed above, firm boundaries between SF and the mainstream, or between prose SF and other media forms, seem more and more difficult to sustain.

Still, the intense, ongoing fight over the Hugos shows that there is still something *special* about prose, the place where SF began, and the place where it still finds its most ambitious and elaborate long-form articulations. Something about prose SF still calls to us, even as readership numbers and demographics transform, and even as the short story marketplace

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Figure 8.5 Still from *Arrival*, 2016.

has largely bottomed out altogether. As assumptions about genre specificity, the materiality of the book, and the independence of the written word from other forms of communication continue to flux, prose SF stubbornly soldiers on, and with it the tradition of science fiction storytelling that began with Shelley, Poe, Verne, and Wells, 200 years ago.

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