Choksey, Lara. "Deindustrialization and the selfish gene." *Narrative in the Age of the Genome*. London: Bloomsbury Academic, 2021. 21–53. *Bloomsbury Collections*. Web. 26 Apr. 2023. <<http://dx.doi.org/10.5040/9781350102576.0007>>.

Downloaded from Bloomsbury Collections, www.bloomsburycollections.com, 26 April 2023, 11:48 UTC.

Copyright © Lara Choksey 2021. Released under a CC BY-NC-ND licence (<https://creativecommons.org/licenses/by-nc-nd/3.0/>). You may share this work for non-commercial purposes only, provided you give attribution to the copyright holder and the publisher, and provide a link to the Creative Commons licence.

Deindustrialization and the selfish gene

In the early 1970s, twenty years after Francis Crick and James Watson published the structure of DNA in the shape of a double helix, molecular biology was in its golden era. The double helix offered a new poetics in the form of a string of alternating letters programming each cell of a living body, and forming whole ecosystems: the foundation of life itself. But the lure of reading life as text also introduced questions of what reading meant at the level of biological process. What is reading what, and how? And what matters outside the code? The elegance of the double helix and the neat linearity of the Central Dogma – that DNA is immutable, isolated and all-powerful in forming proteins – left some big questions unanswered: what, exactly, do genes code for, and how does genetic programming relate to development, behaviour and biological difference? While molecular biology dined out on poetic form throughout the 1950s and 1960s through a global mushrooming of laboratories and research programmes, narrative was chomping at the bit: what did all of this mean for the multiplicity of human experience?

The crisis of Anglo American hegemony during the early 1970s is a significant context for how the genome became a prototype for a new kind of subject in the late twentieth century. The development of genomic sequencing techniques by Fred Sanger during this decade marked a watershed moment for possibilities of reading the genome. Post-war alliances were being placed under pressure by geopolitical uncertainty, and the balance of power seemed to be turning against Anglo America. Keynesian economics was about to give way to neoliberalism, but, for a moment, alternatives seemed possible. In this uncertainty, a new articulation of freedom emerged, which swept up the radical propositions of the 1960s into an ideology of limitless choice based on an idea of the individual as an endlessly malleable entity. At the same time, a different kind of governance would be required – not a radical break from liberalism, but rather a different set of operations, in which this individual would be broken down into

component parts formed of desires, movements, labour, but – most importantly – remain trackable. This new subject was born out of data, a hyperextension of an eighteenth-century statistical imaginary, now reduced to molecular form. Sequencing practices offered a prototype for the imaginative formation of a neoliberal subject, and the transition from the state discipline of individuals, to the corporate control of data.

If, as Evelyn Fox Keller has argued, the twentieth century was ‘the century of the gene’ (2000), then in the 1970s the gene transformed from icon to economic unit. The idea of genetic material propagating itself through evolutionary history as the primary unit of natural selection, positioned processes of genetic heredity as antithetical to welfare, planned societies and collective action on behalf of a commons or community. Genes were anthropomorphized into competitive entities driven towards moving themselves through time, with bodies as vessels for genetic material. The story of the gene’s bent towards self-perpetuation derived part of its immense cultural power from the transformation of global politics during this decade, and a Conservative backlash against post-war decolonial and anti-capitalist movements, as well as Black Power, the Civil Rights movement, second-wave feminism and Stonewall. These were social and political movements which, in different ways, were responding to a long history of deterministic explanations for social and global inequalities – that is, to such inequalities being described as natural (and increasingly across the course of the nineteenth and twentieth centuries, as biological), rather than social. This is part of a longer history of liberal humanism, which has been premised on the exemption of enslaved, colonized and indigenous peoples (Lowe 2015) – what Sylvia Wynter calls ‘Man 2’: the Western bourgeois male subject (2003). The strategy of this backlash was not to insist on the biological case for white male supremacy, but to code the survival practices of whiteness as the biological status quo.

Evolutionary theory has long relied on economics for its metaphors. Darwin’s theory of natural selection drew on Thomas Malthus’s 1798 essay on resource scarcity and natural checks to population growth, and Adam Smith’s invisible hand – individual actions out of which good social outcomes emerge. Ian Hacking describes this reduction in the context of the emergence of the statistical imagination during the eighteenth and nineteenth centuries and the ‘counting’ of human behaviour: ‘Data about averages and dispersions engendered the idea of normal people, and led to new kinds of social engineering, new ways to modify undesirable classes’ (1990, 9–10). Foucault’s concept of biopower is that it derives from practices of tracking birth rates, death rates, biological disabilities

and environmental effects, a form of power that ‘deals with the population, with the population as a political problem, as a problem that is at once scientific and political, as a biological problem and as power’s problem’ (Foucault 2003, 245). It engenders disciplinary infrastructure that creates arbitrary boundaries in human experience: racial difference, sexual difference, gendered difference and differences of ability. Phenomena are translated into discrete units of observed characteristics as the coordinates for social organization, obscuring sociopolitical change not determined from the top down, and not accounting for biological events that appear as non-genetic inherited changes.

Updating evolutionary theory at a time of increasingly computational laboratory practices meant adapting its metaphors. At this crisis point, the collapse of social arguments into biological absolutes was enfolded into a tug-of-war between free market capitalism and state-oriented welfare liberalism. Military metaphors were central to this, as new forms of governmental security emerged to monitor and surveil, rather than to discipline and punish, as Gilles Deleuze argues in ‘Postscript on the Societies of Control’ (1992). Achille Mbembe theorizes this as a new geography of resource extraction correlated to ‘an unprecedented form of governmentality that consists in the management of multitudes’:

The extraction and looting of natural resources by war machines goes hand in hand with brutal attempts to immobilise and spatially fix whole categories of people or, paradoxically, to unleash them, to force them to scatter over broad areas no longer contained by the boundaries of a territorial state. (2003, 34)

Mbembe distinguishes this from techniques of policing and discipline in ‘the colonial *commandement*’, which have been replaced by ‘technologies of destruction that have become more tactile, more anatomical and sensorial, in a context in which the choice is between life and death’ (2003, 34). This chapter is organized around the role that the genomic imaginary played in this transition from discipline and punish to military surveillance, first through the metaphor of overpopulation in Doris Lessing’s *The Memoirs of a Survivor* (1974), and then in Samuel Delany’s *Trouble on Triton* (1976), where the prophylaxis of endless choice for white-collar consumers becomes a technique of population-level control.

In this new regime of governmentality, in which the gathering of data is central, genes as discrete segments of information offer the material basis for tools of necropolitical governance, in which – following Mbembe – ‘weapons are deployed in the interest of maximum destruction of persons and the creation of

death-worlds' (2003, 40). This focus on data organized around the disaggregation of human bodies into units of information effectively eradicates the need for a landscape external to it, whether this landscape is characterized as the human bodies that house this data, or the ecologies those bodies inhabit. Under the aegis of both the Modern Synthesis and the Central Dogma, molecular biology made developmental biology largely peripheral to its concerns; that is, the question of whether or not adaptive demands of and upon an organism's environment play a part in selective evolution (Huneman and Walsh 2017). If it does not – and this was by no means a consensus – then what did that say or deny about the power of human agency (individual, collective) to transform these conditions of existence and social organization? The exclusion of development, itself a narrative bound in particular kinds of exclusion, accelerated the emergence of 'new and unique forms of social existence in which vast populations are subjected to conditions of life conferring upon them the status of the *living dead*' (Mbembe 2003, 40). Narrating the self in the era of the genome bracketed plural, non-chronological and environmental accounts of development; the individual does not develop across all kinds of intersecting temporalities. Rather, it is divided into a-temporal genetic units of code that determine a rigid chronology, which is itself reliant on a strictly genetic account of lineage. The only time that matters is the time of reproduction, when an inheritance is passed on.

In 1973, the evolutionary biologists John Maynard Smith and George Price published a paper in *Nature* called 'The Logic of Animal Conflict'. In it, they present an argument for why conflicts between animals of the same species tend to take the form of limited war: battles that involve both sides using 'inefficient weapons or ritualized tactics that seldom cause serious injury to either contestant' (1973, 15). Why, if natural selection means that individual organisms are constantly engaged in struggles to ensure the promotion of their own genes for subsequent generations, wouldn't natural selection have fitted animals with 'maximally effective weapons and fighting styles for a "total war"' (15)? Why do snakes wrestle rather than kill, or deer hold back from 'foul blows', or antelope 'kneel down to fight' (15)? The question Maynard Smith and Price ask in 'The Logic of Animal Conflict' is an extraordinary one: in essence, why don't animals of the same species kill each other, if the primary purpose of natural selection is the promotion of individual germ-lines? Why is nature not in a state of total war?

Their answer is that selection needs to promote a range of responses in order to give individuals the best chance of surviving, even if this sometimes means retreat. Applying game theory to evolutionary models did two things: it offered a way of

calculating the probability of certain kinds of behaviour, and accounted for these behaviours by describing them as genetic. There are selective advantages for a range of possible responses to a given conflict, and that these responses correspond to genes. Game theory characterizes behaviour as essentially competitive, and suggests that this behaviour can be more or less reduced to genetics; this held the further implication that it was sealed in the code of the double helix, impermeable to external influences, and that strategies (and subject positions) of mouse, hawk and bully were therefore fixed as calculable probabilities.

Lessing and Delany imagine new forms of social organization after moments of crisis, and with them, formations of subjectivity that grapple with the ideology of natural selection. These texts are deeply concerned with the relation between infrastructure and lineage, and particularly in how socio-economic forms can transform inheritance. The city is a key site in these negotiations: for Lessing, a version of London after an unspecified disaster, and for Delany, the planet Triton, where every social possibility is permissible, but which has transformed material history into endless surfaces. In Lessing, the more radical possibilities of this new iteration of London are still embedded in the muscle memory of modern categories of who deserves more or less care. The subjects that are marked for survival, and those who head off into uncertain futures, are divided across a failing post-war consensus between the working, middle and governing classes – and these are racialized divisions. The emancipatory rhetoric of second-wave feminism collapses into the centring of white female leadership as a strategy of gender equality, in lieu of a functional welfare state accessible to all. Informal markets emerge to supplement the diminishment of state welfare, and this is also racialized. In Delany's *Triton*, the city Tethys is divided into the unlicensed and licensed sectors, which the novel's protagonist Bron moves between in a misguided search for inspiration or reproduction. A war serves as background noise, while Bron tries to find a sense of purpose and place in a society where taking on any identity – in theory – is possible.

Both Lessing and Delany's novels probe the conceptual gap between programme and junk: what is predetermined, and what is incidental or waste material. These narratives are marked by a troubling of chronology, through the unpredictable and uneven vacillation between memory – as monologue, sequestered within parentheses, or behind walls – and action. This vacillation forms subjects who seem to move without restriction through new lifeworlds, but who are simultaneously bound to typological constraints of selfhood and identification: forms that do not change, despite the crisis, and where heredity figures as the transmission of sociobiological memes.

In these novels, biology is a site for possible transformation, but is tied into processes of social reproduction which render disputes around labour and social organization redundant. Genetics becomes an alibi for social norms. Cities in these texts are spaces for producing what will later become the algorithmic subject of late capitalism, pieced together by bioinformatics, in which the genomic provides a conceptual and technological keystone for the disaggregation of subjects into component genetic parts. This new subject is not confined within a disciplinary regime, but rather a biopolitical regime of security and personalized health (Foucault 2003; Novas and Rose 2005) that serves as an alibi for necropolitical governance.

In making some of their key claims for general audiences, evolutionary biologists in the 1970s frequently turned to economic and political metaphors to set out their arguments. In what follows, I consider how Richard Dawkins and E. O. Wilson use narrative, character and metaphor in their respective imaginaries of human potential, and the limits of agency when it comes to biological programming. It is partly through their books that the gene transformed from an icon of heredity to a unit of evolutionary currency that might be exchanged or taken out of circulation. Surveillance is key to this: the genome is above all an object that is made visible through techniques of mapping. As I go on to explore, the cities in Lessing and Delany are sites of ambivalent and mysterious forms of surveillance: no one is ever really sure if they are being watched, but everyone acts as if they are.

While the global megacity appeared as a new geographical site of a multitude of probabilistic mappings that took populations as their units of calculation, the idea of the genome was imagined as a site of competition, genes jostling for space and recognition, while also acting as control mechanisms. It is in this decade that it becomes possible for the genome to become imagined as akin to what Stephen Shapiro describes as a pre-emptive networked response system for 'the control of danger by recourse to a mathematically-enabled knowability' (2018, 56). These imaginaries do not need an opposition between individual and collective; crucial, instead, is the aggregation of data, and the creation of signifying, mass narratives about what that data might mean at the level of population. Lessing and Delany depict this disjointed process of aggregation and signification as in flux, and inescapable.

Gene and strike

In his preface to the 1989 edition of *The Selfish Gene*, a startling detail about the composition of its first two chapters jumps off the page: Dawkins recounts

writing them amid power cuts and blackouts during the 1972 coal miners' strike. The strike spanned six weeks, from early January to late February, with high-risk areas going without electricity for nine hours a day (Johnson 1972). Unable to do laboratory work, Dawkins drafted the chapters that would become 'Why are people?' and 'The replicators'. The strike was over a pay dispute between the National Union of Mineworkers (NUM) and Edward Heath's Conservative government. A state of emergency was declared one month in, on 9 February. The strike was successful: the Wilberforce Inquiry – which was begun and ended in one week during the strike – recommended a pay increase of 27 per cent. Further strikes happened in 1973 and 1974. When the blackouts ended, Dawkins went back to the lab, coming back to the book while on sabbatical in 1975.

This is not a small biographical detail, given that these chapters put forward an argument about the relationship between labour power, genetic programming, and automation that casts the human worker as a computer carrying out instructions from a programme at a distance, a collection of data that is expressed at different points, and the body as a conduit for code. Dawkins's side note situates his claims explicitly in the ideological conflicts of British deindustrialization: the transition from industrial capitalism, factory and mine, to finance capitalism and office spaces connected to a network of transnational, and increasingly digitalized, monetary flows.

The 1972 strike was the first in a decade of strikes that broke the post-war 'stalemate' between the British working and middle classes (Worsthorne 1959, 421), a stalemate characterized by what Jim Phillips calls the almost-universally 'grudging attitudes to the postwar economic, social and political "settlement"' (for either going too far or not far enough) (Phillips 2006, 202). The 1972 strike had a profound effect on British domestic politics, undermining Heath's government, and 'sharpen[ing] social conflict', after pit closures in the 1960s (Phillips, 187). Phillips argues that Margaret Thatcher's description of the strike as 'a victory for violence' served to legitimize her own attacks on organized labour the following decade (187). The government had responded with strategies of strike breaking, arrests and police violence at the picket lines. Michael McGahey, the Scottish miners' president, decried a 'fundamental working-class bias in the laws used to control pickets' (Phillips, 188), foreclosing the end of Heath's tenure, at a time when he was pushing for entrance into the European Economic Community (EEC). But from the perspective of British industrial history, the 1972 strike registered both the devastation of pit closures during the 1960s for miners, and foreshadowed mass deindustrialization during Thatcher's rule.

At the outset of *The Selfish Gene*, Dawkins declares that he is making a case for generosity, given that at the level of genes, nature is programmed to be selfish. Organisms are nothing but 'survival machines' – conglomerations of competing genes – and societies are, at most, constellations of individual survival machines. These machines encounter other survival machines in their milieu as competitors, unless directly related or in some kind of biological kinship relation. Another survival machine 'is something that gets in the way, or something that can be exploited' (66). It is important to cultivate generosity and altruism, Dawkins argues, because care for non-biological kin is not part of the evolutionary story, but rather only behaviours that advance the propagation of one's own genetic material, 'because we are born selfish' (3). Evolution does not work at the level of the group or species – contra Vero Cooper Wynne-Edwards, Konrad Lorenz, Robert Ardrey, Eibl-Eibesfeldt. It works, for Dawkins, on the individual.

This reads as a treatise against collective forms of organization, positing them as antithetical to biological interests. For Dawkins, appealing to the natural equality of all peoples flies in the face of the laws of natural selection, which favours selfishness as a vessel for genes to travel through time as long as they can. The early caveats in the book about the importance of cultivating generosity and altruism, and that just because genes are selfish, it does not mean that humans have to be, are nonetheless bound up in a refutation of class struggle as a means of social change.

Writing a popular science book for a mass audience, Dawkins uses easy-to-grasp metaphors to describe biological processes, and he has a particular fascination with machines. The processes of the body should be understood as mechanisms akin those that motivate sewing machines, looms, automatic bottling factories, or hay baling; and in many of these artificial machines, 'timing is achieved by that brilliant invention the cam' (48). A mechanism which the classicist Andrew Wilson dates back to the third century, and also described in the Arabic scholar al-Jazari's *The Book of Knowledge of Ingenious Mechanical Devices* (1206), the cam works by transforming rotating motion into linear motion. It is a way of regulating the timing of mechanical devices, and – as Dawkins intimates – was fundamental to some of the technologies that enabled the industrial revolution. He also mentions the punched card invented by Herman Hollerith in the early 1900s: a piece of card with holes punched into it that signify particular configuration of data, like those used in music boxes or automatic pianos (a punched card features in the opening credits to

the first season of *Westworld* (2016–), a show whose plot is organized around technologies of automata and predestination.)

For Dawkins, these earlier technologies of automation are not the best fit for analogizing biological processes. ‘Survival machines’, he writes, ‘seemed to have bypassed the cam and the punched card altogether’ (48). Instead, biological mobility involves uses a timing apparatus that ‘has more in common with an electronic computer’ (48). In this swift switch of analogies, Dawkins outlines the tension between two modes of capitalist production – industrial and finance – and distinguishes two modes of socio-economic governance: liberal and neoliberal. The former assumes what Hardt and Negri call a ‘scarcity economy’ (2009): that is, the impossibility of sharing resources due to their shortage, and with this, the division of public and private spheres based on a capitalist account of property. The latter operates precisely by obliterating the borders between public and private. Dawkins goes on to proscribe neoliberal governance through the metaphor of a genetic control system, distinct from the laissez-faire free market model of classic liberalism proposed in Wilson’s account of sociobiology.

In the first chapter of *The Selfish Gene*, Dawkins notes the ‘great intuitive appeal’ of group-selection theory, while dismissing belief in it as being akin the naïve and untutored idealism of undergraduate zoology students ‘indoctrinated by misinformation in school textbooks’ (8). On the following page, after citing Ardrey’s 1970 book *The Social Contract* and its promotion of ‘animal righteousness’ in contrast to human self-annihilation at the level of species, comes this revealing speculation:

Perhaps one reason for the great appeal of the group-selection theory is that it is more thoroughly in tune with the moral and political ideals that most of us share. We may frequently behave selfishly as individuals, but in our more idealistic moments we honour and admire those who put the welfare of others first. We get a bit muddled over how widely we want to interpret the word ‘other’, though. Often altruism within a group goes with selfishness between groups. This is the basis of trade unionism. At another level the nation is a major beneficiary of our altruistic self-sacrifice, and young men are expected to die as individuals for the greater glory of their country as a whole. Moreover, they are encouraged to kill other individuals about whom nothing is known except that they belong to a different nation. (Curiously, peace-time appeals for individuals to make some small sacrifice in the rate at which they increase their standard of living seem to be less effective than war-time appeals for individuals to lay down their lives.) (9)

If this sounds like a confusing conflation of social groups – union, nation, army – then it is worth staying with the confusion. Dawkins is playing on the substitution of biological process for social lifeworld in the movement between anthropological and biological descriptions of living processes. While making a case against unionism as a form of altruism that, paradoxically, requires displaying selfishness towards another group (here, the middle classes), he also makes a case against the evolutionary purpose of war, which impedes individuals promoting their own gene lines. In both cases, either a kind of extended individualism bolsters the barricades, or is put to one side for the sake of another group identification: the nation. In describing the particular form of control that genes represent – neither police nor paramilitary, but forms of distant command – Dawkins describes a new kind of governance. Genes are not a disciplinary system, having very little to do with checks and regulations, but more like a control system. ‘Sealed off from the outside world’, genes are akin to ‘computer programmers’, he writes (47). Bodies carry out their programmes ‘without the help of the master’ (47), and mothers are machines ‘propagating copies of the genes’ (123).

Another context is important here. As the strike took place, Heath was in the process of campaigning for Britain’s access to the EEC – later subsumed into the European Union. The combination of the collapse of the Bretton Woods monetary system and the oil crisis had led to Heath’s attempts to create a domestic ‘demand’ economy, leading to inflation and the attendant need to limit wage growth (Bancroft). He went about the latter without consulting the Trades Union Congress, and this was, in part, what had led to industrial action (Bancroft). EEC membership would offer the government legal grounds for limiting unofficial strikes and inter-union disputes (Phillips, 191). The decentring of the nation in favour of a European regionalism based on economic integration accentuated the antagonism between working-class and middle-class interests. But if, according to Dawkins, it was individual interests, and not national ones, that were of primary biological significance, then accession to a system that promoted such interests made greater evolutionary sense. Group selection – at the level of union or nation – runs contrary to selective advantages.

Finally, Dawkins’s arguments are embedded in colonial imaginaries and a racialized, Malthusian discourse of overpopulation. For Dawkins, genes represent a form of control that extends across vast distances to determine the mechanisms of the survival machines they encompass, a description of imperial governance via globalized computation. In a later chapter, ‘Family Planning’, he lists a number of natural checks on population numbers; famine, plague, war, ‘or, if we are lucky,

birth control' (111). The preceding paragraph is about population increase in Latin America: the site of peripheral profligacy is no longer the slums of England's cities, as it was for Thomas Malthus whose rhetoric on 'natural checks' he imitates; rather, it is the Global South, where 'if the population continued to increase at the present rate, it would take less than 500 years to reach the point where the people, packed in a standing position, formed a solid human carpet over the whole area of the continent' (111). Genes want to reproduce, and the survival machines that carry out their programmes are designed to do just this. Hence, to deal with this drive towards selfishness, birth control measures in areas of the world where there is high population growth would be a form of generosity towards the rest of the world, ensuring a fairer distribution of resources. That these measures and natural checks are situated in the periphery and semi-periphery implies that for Dawkins, core sites have managed to facilitate equilibrium between social control and biological programming.

One year earlier, the American evolutionary biologist Edward O. Wilson had published his book *Sociobiology* (1975). This was a much longer argument for the genetic basis of behaviour, and how selection acts to promote lineages of certain characters: hunters, home-keepers, carers and so on. For Wilson, certain behavioural traits have been stabilized via selection, and derive from genes. Without giving a definition of what he means by behaviour, he argues for the genetic predisposition of certain social actors to particular kinds of behaviour, and his examples traverse the categories of social organization that were under so much pressure at the time he was writing: gender, ideology, sexuality, labour, race, ability. Racialized and classed hierarchies and divisions of labour have selective advantages, and (it would follow) a genetic basis. Women are 'predisposed to be more intimately sociable and less physically venturesome' (133). Anarchist forms of sociality are 'biologically impossible' (208). While there may be some negotiation at the level of phenotype, these negotiations are always centred on the selection of individual lineages.

For Wilson, ethics should be loosed from the hold of philosophy and handed over to biologists. There is no such thing as 'ethical intuitionism' – an inherent understanding of the difference between right and wrong, formalized by logic. Pitching himself against Enlightenment thinkers – Locke, Rousseau and Kant – he contests John Rawls's theory of 'justice as fairness', arguing that the intuitionist position 'relies on the emotive judgement of the brain as though that organ must be treated as a black box' (287). Rather, it is 'the true, biological joy of warfare' that gets closest to a universal principle of human relations, through which 'the spread of genes has always been paramount importance' (298). For

him, it is the biological tendency towards violence, rather than justice, that has led to the evolution of the human species to its current form. In the last few pages, Wilson extends this to a plea against 'planned societies', his arguments registering laissez-faire liberalism:

If the planned society – the creation of which seems inevitable in the coming century – were to deliberately steer its members past those stresses and conflicts that once gave the destructive phenotypes their Darwinian edge, the other phenotypes might dwindle with them. In this, the ultimate genetic sense, social control would rob man of his humanity. (300)

This is not just an argument about economic libertarianism, but also a defence of warfare as a means of ensuring human freedom. For Wilson, the state does not and should not need to intercede in social relations, because biology's natural rhythms of selection and destruction ensure that certain phenotypes retain their 'Darwinian edge' (meaning, here, the process of selection). Hence, biology is not only a justification for certain kinds of governance (or retreat of the state); it also becomes tied to spatial metaphors for human societies.

These arguments caused considerable outcry among scientists and non-scientists alike, whose main line of argument was that first, evolution is more complex and multilayered than natural selection operating on the individual (organism, or gene), and that reducing social experience to biological inheritance tends towards justifications of the status quo (Allen et al., 1975). A group of prominent Marxist biologists resisted Wilson's co-option of sociology and anthropology, including Richard Lewontin and Stephen Jay Gould, identifying sociobiology as a broader harnessing of Darwin to conservative rhetoric about the genetic basis for social organization and cultural practices. For these critics, this only reflected the author's world view. The so-called sociobiology debate erupted across the pages of the *New York Review of Books* in letters dating from 1975 to 1978, resulting in the publication of an essay collection with contributions from some of the key responders (mostly critical), and including rebuttals from some of the anthropologists Wilson had cited to back up his theory. These commentators argued that there was a lack of scientific justification for 'the spurious promise of reducing such disparate fields as economics, government, and psychology to a biological science' (Gould et al. 1979). They denounced Wilson's view of behaviour and social structure as 'organs' of genetic programming, describing Wilson as one of 'the long parade of biological determinists whose work has served to buttress the institutions by exonerating them from responsibility for social problems' (Allen et al., 1975).

Planned and laissez-faire societies are not in opposition, but mark an oscillation between different moments of liberalism, which organize themselves around the question of warfare and economic power, tending to privilege territorialization. It was Dawkins who anticipated what was on the horizon: the large-scale expansion of neoliberalism, and the disappearance of individuals into conglomerations of genes, premising selection at the level of molecular replicators (genes), not organism. In *The Selfish Gene*, he posits a model of governance that leap-frogs the reinstating of classic liberalism as a counter to post-war Keynesianism, and a new modality of state power, analogous to the mechanisms of genetic governance, or at least how these mechanisms appear to him. While, for Wilson, the genetic basis for behaviour implied the inefficacy of state regulation – and argued for the evolutionary explanation for free market economics – for Dawkins, the fundamentally selfish activity of genes constitutes a need for security, given that individuals are only survival machines for hosting swarms of selfish genes. As Clare Hanson argues, while this might resemble theoretical feints of poststructuralism and postmodernism,

Neo-Darwinism offers a decisive picture of human nature and history, a Lyotardian ‘grand narrative’ backed by the epistemological authority of science. The category of the human may have been decentred but in place of our tradition self-conception, neo-Darwinism tells us that much of our behaviour stems from dispositions which evolved in the ancestral past. (2020, 9)

The curious paradox Hanson outlines above informs the readings of Lessing and Delany that follow: humans at some point made history, but this history is now embedded in genetic programme. This grand narrative formed the ideological basis for the Human Genome Project over the following two decades, as Chapter 3 explores.

Reading Wilson and Dawkins together shows an intermingling of liberal and neoliberal ideologies in the new sociobiological determinism of the 1970s, with Wilson advocating a laissez-faire approach akin to classic liberalism, and Dawkins – in a neoliberal bent – suggesting the incorporation of state control (militaristic, institutional) as a way of managing the inherent selfishness of gene promotion, and likening this form of control to a satellite system of militarized surveillance. When Dawkins says that he is ‘not advocating a morality based on evolution’, but rather describing ‘how things have evolved’, he is also making a case for the kinds of interventions that would enable a certain kind of individual flourishing to persist, and one located in particular regions of the world (2). That is, a racialized narrative of overpopulation, which continues to centre Western bourgeois man as the individual whose propagation matters most. I turn now to

the metaphor of overpopulation in Lessing's *The Memoirs of a Survivor*, a narrative that challenges the perpetuation of this subject at a time of social disintegration. Lessing also anticipates the disappearance of an idea of the developing human through the collapse of public and private, and in the mechanisms of a control system for tracking, rather than disciplining. Characters remain trapped in imperial spatializations that are based on logics of surveillance, and racialized topographies are key to this.

Overpopulation and whiteness in *The Memoirs of a Survivor*

Lessing's *The Memoirs of a Survivor* (1974) depicts racialized inequities that are sustained and reproduced through socio-economic collapse, in imaginaries of overpopulation, anti-unionism and the role of white feminism in nourishing the liberal public sphere. It asks what might happen when the historical basis for the privileges of whiteness is threatened by the emergence of postcolonial counter-histories after the disintegration of empire, when the home country has begun to disintegrate. *Memoirs* unfolds in the *longue durée* of racial capitalism. The novel reconstructs how whiteness functions in the broader field of necropolitical power wielded in the name of nation and empire, and explores how white feminism is entangled with neocolonial forms of population control. The reconstitution of imperial hierarchies takes place through a rupture in women's alliances across racialized faultlines: white female leadership enables the sociobiological establishment of neocolonial white supremacy.

The novel takes place at a point of national crisis in a city of a former imperial centre: unnamed, but recognizably London. A disaster has struck the city. Resources are short, electricity supplies are unstable, public transport infrastructure has broken down, and people travel by foot. The narrator is an unnamed middle-aged white woman, who takes in a twelve-year-old girl, Emily. Emily and the narrator exist in uneasy and uneven sorority, while Emily gets on better with Hugo, the narrator's cat. The narrative's back-and-forth, fragmented composition reflects how the seams of social organization are becoming unstitched, held together by a feeble nostalgia for a disintegrating past. Emily meets the younger June Ryan, from a large Irish-Catholic family, and, later, Gerald, the leader of a pseudo-anarchist children's commune. These two characters are key to the way that the crisis gets worked out through Emily's position in relation to both of them, in terms of re-establishing the conditions for whiteness within a reformulation of public and private spheres.

The space of the city is critical to this. Most of the novel takes place within the narrator's flat, a single unit in a development 'built by private money' (6). From here, she looks out over the activity on the street below, watching groups of people migrate out, in search of survival. As a group of young people are leaving, they sing 'We shall not be moved', a Civil Rights song, and 'Down by the Riverside', a Black spiritual. The Rhodesian Bush War was ongoing at the time of *Memoirs*' publication, and the narrator likens an old hotel to an African township outside a mine where the Black workers live: Rhodesia's mining slums, out of which emerged a series of strikes in the 1930s that would eventually lead to the independence movement. The history of empire is held in the degeneration and depopulation of the city:

[B]y that time, with so many people gone from the city, the families who lived in these blocks were not all the class for whom the buildings had been put up. Just as, for years, all through the eroding streets of the poor, empty houses had been taken over by squatters settling in families or groups of families – that for a long time it had been impossible to say, 'this is a working-class area, this is homogeneous' – so, too, in these great buildings once tenanted only by the well-to-do, by the professional and business people, were now families or clans of poor people. (6)

While the crisis seems to have transcended class boundaries, living space remains segregated. 'Squatter' holds the implication of homelessness and trespassing, and 'clan' implies a tribal identity, pre-urban: etymologically, from Old Irish 'cland' and Scottish Gaelic 'clann' (offspring, family). It also signifies a group identity, the migration of an entire genetic cluster, and holds the threat of possible invasion – group selection, not individual diversity. These words draw a racialized border between the narrator and the newcomers with regard to class and place of origin. She is the neutral not-clan, the not-squatter, the permanent resident, the settled, singular. 'They' are the multiple, the pagan, the destitute, the migrants. While social organization has changed as a result of this unknown crisis, the stratification of social hierarchy based on owning private property remains.

The names of the people living on the ground floor of the building along with the narrator are the Whites, the Smiths, the Joneses, Miss Foster, Miss Baxter: Anglophone names. They are not multiples, but 'self-contained units', one or two people per flat, and the narrator barely sees or talks to anyone on her floor (113). Compare this to the Indian family from Kenya, the Mehtas, and the Irish-Polish family, the Ryans, who live upstairs. These families are described

in the language of sprawl, not in a proper place, always in motion. The Mehta children – appearing as a group, a multiple – are playing in the street, outside. To the narrator, they appear as a uniform group of ‘dark-skinned boys and girls, all dazzling white shirts, crisp pink and blue dresses, white teeth, gleaming hair’ (15). She breaks them down into details that appear to her – implicitly setting up a contrast of their pale clothes and white teeth with the darkness of their skin, how they appear en masse. To her, they are a mass of contrasts of colour, simply appearing. She never speaks directly to them; their communication is restricted to a nod and smile. She accesses Mr Mehta’s informal economy upstairs, which she compares to a street market, ‘through an irregular gap in the wall’ (116), hidden behind a heap of things. The Mehtas are narrated through an orientalized veil of excess and irregularity that exists simultaneously with the ordered white world below where the narrator has come from, supposedly part of this territory but split off from it.

If the Mehtas have carved out a space of informality to supplement their exclusion from state provision, then the Ryans are narrated through their exhaustion of welfare resources. Mr Ryan is a violent and alcoholic Irishman, Mrs Ryan a Polish refugee; both are Catholics. Catholicism here is implicitly placed in opposition to the Anglican whiteness of the narrator and Emily, and also serves as a signifier of uncontrolled reproduction and the profligacy of the poor, straining the resources of the state. The parents are usually drunk, the eleven children will not stay in school, and their fifteen-year-old daughter gets pregnant (118–19). They do not hold the same social position of whiteness – coded white Anglican British – as the residents of the ground floor, and it is always from this position that we see these characters. In her description of the Ryans, the narrator remarks, without intended irony:

It often happens that a single case takes wing out of its anonymity and represents others; in our city alone there were thousands of ‘Ryans’ of all kinds, colours, nations, unknown except to their neighbours and to the authorities, and these people in due time found themselves in prison, Borstal, remand homes, and so on. (118)

The Ryans are made to stand in for all types of non-white groups, representative of a mass of the unemployed, unknown and dissolute, who cause social problems that neighbours and authorities have either to take on or solve. This mass is multicultural; to draw on Judith Butler’s critique of multiculturalism, they are presupposed by the narrator as ‘already constituted communities, already established subjects’ (Butler 2009, 31–2). The narrator’s description has no insight or interest in

the Ryans except as a social ill, a general degeneracy; they could be any number of non-white communities, described as ‘communities not quite recognised as such, subjects who are living, but not yet regarded as “lives”’ (Butler, 32).

The narrator’s description of the Ryans articulates a neo-Malthusian anxiety around the ‘over’ breeding of the urban poor, racialized as non-white and classed as the sub-proletariat. Malthus’s arguments in his *Essay on the Principle of Population* (1798) set the stage for Francis Galton’s later theorization of eugenics. Malthus depicts poverty as a natural category of certain kinds of human, the poor characterized, in Philippa Levine’s words, as ‘fecund beyond their limited resources and unconcerned at bringing weak or poor stock into the world’ (2010, 51). Similarly, the British welfare state needed to create undeserving subjects in order to define the limits of its action: this is the long history of the sensibility of ‘enough is enough’. Virginia Noble (2008) and Michael Lambert (2017) have written on the construction of the ‘problem family’ as an object of exclusion, not through provision and in legislation of the welfare state, but rather through street-level decisions made by welfare officers about who would and would not be eligible for benefits – and that this street-level decision making became policy, rather than the other way round. Lambert argues that the problem family was not just a discursive category but also a ‘very real and material product of the operational structures of the welfare state to condition access to benefits based on the performance of gendered norms’ (2017, 246). These negotiations often took the form of ‘unspoken, unseen, and unheard agreements which underpinned the governance of society’ (246), carried out by street-level bureaucrats – welfare officers and social workers.

The novel is split between the transformation of public space outside the flat, and remnants of the past on the inside. Another space opens up in the walls, a kind of double world of disused rooms littered with broken and destroyed commodities of empire. The rooms on the other side of the wall function as a historical imprint and as an explanation for these social divisions. There, empire is reconstructed. One room is described as an eighteenth-century salon of the ‘French, Second Empire’, a rich and formal room, scattered with old wood furniture upholstered in silk, now laid to waste, in disorder, full of piles of rubbish. Another looks like the scene of a recent battle:

The place looked as if savages had been in it; as if soldiers had bivouacked there. The chairs and sofas had been deliberately slashed and jabbed with bayonets or knives, stuffing was spewing out everywhere, brocade curtains had been ripped off the brass rods and left in heaps. The room might have been used as a butcher’s shop. (40)

Savages and soldiers are characters in a scene of colonial invasion. The semicolon between the two groups is important: it suggests a relation of equivalence between savage and soldier, making it unclear which side committed violence. The scene describes a disembodied destructive force, an invisible tearing apart of an established order. There are two different historical moments suspended together here: the violence of colonial invasion and the spoils of imperial wealth. Confrontations between savages and soldiers happen at frontiers of invasion, and here the frontier is the salon brought into existence by a European project of wealth accumulation through territorial acquisition. The space behind the wall compresses these two moments, whereas in chronological time they are divided into discrete units of historical record (or left out entirely). Imperial trauma has become part of the cultural backdrop.

Figures of militarized liberalism that defend borders mark the transition between liberal and neoliberal forms of control. The narrative sets up pairs of pre- and post-crisis authority figures: the narrator, confined to the walls of her apartment, and Emily, able to move between spheres but unable to escape her own socialization; Professor White, the white patriarch 'placed high in administrative circles' (MS 56), who patrols the borders of his territory (the block of flats) like a sergeant, and Gerald, post-crisis white male vanguard who oversees a network of subordinates on the streets and in squats, upholding racial and sexual norms of imperialism for the sake of maintaining the network. The difference is that in this new order, it does not matter who comes and goes, as long as whiteness retains its position.

This eugenic legacy goes back to Galton, whose ideas set up a framework for biologizing race as a technology for improving the white race through selective breeding, rather than only as a justification of imperialism. In *Hereditary Genius* (1869), Galton instrumentalized Charles Darwin's arguments about biological heredity in *The Origin of Species* to posit it as the cause for innate inequalities between humans, and to imagine class as a subcategory of race. Galton argues that intellectual ability is inherited through parents, and that a 'high reputation is a pretty accurate test of high ability' (11). For him, hereditary superiority surfaces through social rank, and he speculates that 'it would be quite practicable to produce a highly gifted race of men by judicious marriages during several consecutive generations' (11). He ranks Black Africans below white Europeans in terms of natural ability, and argues that the ablest race in history was the ancient Greeks: '[T]he average intellectual standard of the Negro race is some two grades below our own' (307). Philippa Levine argues that Galton's link between race and natural ability was 'fostered in a climate suffused with notions

of European imperial superiority, bolstered by a growingly confident scientific establishment' (6). His invention of a science of good (eu-) origins (-genes) to bolster his phylogenetic ranking of human capacity became, in the twentieth century, inextricably linked to genetic theory; a biological justification for social organization which placed European man – whiteness – at the top of the tree.

What is important about drawing Galton into a reading of *Memoirs* is his justification of eugenic partnerships on the basis of reproducing 'good stock'. Gerald and Emily seek to improve society through their partnership, adopting a different set of governing techniques. In Gerald and Emily's living space, there is 'no furniture at all, but there were curtains, and shutters were scrubbed and whole, and mats and mattresses were rolled and stood along the walls'; the communal rooms of middle-class domestic organization are gone – dining room, sitting room (128). There is only a 'long room for eating, with trestles and benches, everything scrubbed bare'; apart from this, 'each room was self-sufficient as a workroom or as a home' (128). The function of objects – mattress, table – are not fixed, but used according to need, and belongings are distributed among the community. This sparse space is stripped of the commodities laid to waste on the other side of the narrator's wall, the rolled-up mattresses act as ramparts against the walls, where the past might lurk, and private ownership has been overturned in favour of communal property.

Even here, Emily tells the narrator, "It is impossible not to have a pecking order. No matter how you try not to," as the narrator watches the way the nameless children react when they see Emily: 'This was how people respond to Authority' (129). Emily is the reluctant leader in this new society, run through controls which function 'like a self-deforming cast that will continuously change from one moment to the other' (Deleuze, 5). Emily's complaint about a pecking order is not a Hobbesian observation about the necessity of government to suppress the natural human tendency to violence, but rather an acknowledgement that while she and Gerald have attempted to repress the memory of the old world, she has nonetheless risen to the top of governing the new one, and not by accident.

This control society is an extension of the disciplinary one, not a radical break with it, and follows the same protocols of racialization and sexual socialization. Emily is prepared to reproduce whiteness by choosing Gerald, the rational, enlightened benefactor, as a sexual partner. Instead of resisting the old world, Emily is also socialized into it; behind the wall, she becomes white. The scene of trying on the white dress shows her trying on various kinds of social possibilities for inhabiting the place of a white female leader; most often the dress is a bride's dress, connoting marriage; then a young girl's dress for purity and innocence;

then a transparent night-dress to signify sexual availability and beyond this, fertility; then an evening dress to connote her mastery of polite society. There is no real Emily to be seen here, either in the trying on or in the assumption of various positions; she slips between roles, invisible to the narrator, who has forgotten 'the hidden person in the young creature [. . .] the self which instructs, chooses experience – and protects' (57). The narrator's forgetting is not a sign of senility or being elderly; rather, she is only able to conceive this 'self' in an abstract sense, as an ideal, while in the real world, 'Emily' moves between archetypes. This schizophrenic subjectivity facilitates the development of this new society of control.

Emily's role is to move between public and private realms in the constitution of a new sphere for economic growth that remains organized around the promotion of British, Anglican and white subjects. This role produces a rupture along lines of class and racialization between June and Emily. Their alliance is challenged and eventually annihilated by the difference in value assigned to their bodies in this reconstituted economy of whiteness. Irish–Polish Catholic June is described as smaller, younger, in awe of Emily, in love with Gerald. Emily adopts her like a child, looking after her like a benefactor, but refusing any kind of equal relationship. When June becomes a competitor for Emily's position after a sexual encounter with Gerald, Emily knows that this marks a break in her relationship with her; she seems frustrated by the protocols that demand this break. But she also knows that he has to 'make the rounds' of female bodies within his network (142), tracking and incorporating, a constant modulation, accumulating data and resources. June, on the other hand, comes back from her sexual experience with Gerald traumatized. The word 'raped' is not used, but June's growth has stunted, falling apart after a premature sexual relationship. She eventually disappears with another group, out of the city and out of the events of the novel, becoming invisible and untrackable the only resistance made available to her character.

Memoirs tells a story about how eugenic ideology foreclosed the collective social contract that formed the basis of the post-war consensus. The eugenic underpinnings of welfare restrict the transformative potential of post-war social movements and mass migration, and identity politics are de-politicized into individual characteristics that represent potential (Emily), profligacy (June), authority (Gerald), colonial nationalism (Professor White), colonial nostalgia (the narrator) and informality (the Mehtas). What's key is the reinstitution of whiteness as the governing order of a world in crisis. By privileging the white female leader as the only character moving through a developmental trajectory,

the narrative effectively annuls any sense of autonomy or collective freedom that this trajectory has been assumed to afford (the invisible hand is of no use if there is only one person being guided by it). The novel's primary violence is the reflex of heteronormativity, which is organized around the perpetuation of white lineages. In *Trouble on Triton*, Delany explores a similar crisis of developmentalism where an endless choice of identifications collapses the difference between inner and outer worlds and the attending distinctions between social organization and subjective cohesion. Rather than adopting some of the more radical implications of this collapse of the bourgeois private sphere, the novel's protagonist lives between full expressions and parenthesis – what is expressed, and what is suppressed or forced back – in order to mitigate his alienation from an idea of what individual development should look and feel like.

Brackets and choice: Samuel Delany's *Trouble on Triton*

Trouble on Triton is an experiment in queer narratology, set on a planet where heteronormative framings of kinship, identity and social organization are no longer relevant, but which is still reliant on biological categories of identity. These categories sustain a biomedical industrial complex of biosocial reconfiguration, where self-identification is inexorably tied to state surveillance. The narrative follows the unfailingly unreliable Bron Helstrom, a cisgender heterosexual white man from Mars establishing himself as an expert in 'metalogics' after a traumatic career as a male prostitute. Bron's gaze makes what Guy Davidson calls the 'panacean possibilities of Tritonian society' peripheral – even grotesque – in his 'devotion to masculine bravery' (2008, 106). This devotion leads him to undergo gender transition, via surgery and hormones, to become the perfect woman – the kind of woman whom, he imagines, will be the 'counterpart of his deluded macho self-image' (Davidson 2008, 106). His friend Sam, once a small blond cocktail waitress who has now transitioned into a tall, Black male government agent living across multiple co-ops in various kinds of intimate configurations, tries to indicate a more plural and capacious set of practices around sexuality, intimacy and care to Bron. Nonetheless, for much of the text Bron is driven to assert his dominance over the novel's female characters as a way of securing his own sense of inhabiting a coherent and congruous identity. Both Sam and Bron are caught in a bigger story: Triton's endless war, and its correspondingly endless capturing of its citizens' data. Identity politics are co-opted into military datalogics, and any opportunities for its protagonist's

personal development – held up to surface of the text – disappear into the novel's cipher-like composition, which circles its subjects rather than trying to figure them out.

On Triton, no one is really watching, but the government holds everyone's data. The novel takes place in chronological time, but Bron's narrative is repeatedly undercut by parentheses and monologues, which constantly take him out of his voice, marking the edges of what he wants to be and think and do.¹ His thoughts form a series of undulating interruptions, marked by a frenetic going-towards whatever it is that is currently the object of interest or desire. He constantly attempts to categorize his experiences, to place these in some kind of order, setting up a distance between actions and impressions, while taking any opportunity he can to reminisce – often at length – about his past. This place between parenthesis and expressed or direct narrative mimics the description of the activation and silencing of genes, described at length by another scientific rationalist.

This correlation between narrative form and Bron's ongoing attempts to make himself make sense on Triton anticipates forms of alienation under data capitalism, wherein labour is no longer a site around which to organize. The novel charts the sublimation of collective resistance into forms of bioengineering that evacuate identity politics from history, reducing identity from political community to individual choice. In the context of his own choice to transition, 'hungering for a settledness that *girl* and *woman* had never given me', Eli Clare describes 'trying to wrench my transformation away from the medical-industrial complex', while knowing that 'in truth, the people who control transition technology are all embedded in the white Western system of medicine, trained to identify and repair body-mid trouble' (2017, 179). What Clare describes here is not just the imbrication of individual decision-making and private profit, but also the way in which collective movements become reduced to chemical compounds, Big Pharma profits, and the ideology of 'cure' (2017, 179). For Clare, this tension is not resolvable, and instead, he allows 'choices and politics [to] jostle against each other' (2017, 181). Bron is ultimately unable to do this, seeking instead a point of resolution, and relying on all kinds of parenthetical gestures to streamline his individuation across all his internal contradictions and interpersonal dead-ends. He remains cordoned off from messier versions of reality and relationality, and punctuated by hormones and genes.

¹ The pronouns used for Bron here follow Delany's in the text: 'he/him' until gender transition, then 'she/her'.

The novel begins in Tethys, a city on the planet Triton, a planet involved in an interplanetary conflict between Earth and Mars. For much of the novel, the war is background noise. Five million people are killed in a single explosion on a planet we never see. In Tethys, distractions from interplanetary terrors are the way characters get through their days, and Bron's passages through spaces of the text are marked by a meandering waywardness. He moves from the men's co-op he lives in – the Serpent's House – to his white-collar office, then pursues the text's white rabbit, performance artist The Spike, through the dark streets, narrow alleys, and miscellaneous dwellings of Tethys's unlicensed sector ('the u-l'). Many people have moved to Triton because there are freedoms and benefits there which, on Earth, would be restrained and restricted. People on Triton are tracked but not disciplined. The war is prompting redundancies, and Triton's civil rights problems roughly resemble Earth's: Miriamne, Bron's temporary Black female co-worker, is fired by Bron because he sees her as a sexual competitor for The Spike's attention, and because she has no sexual interest in him. Bron goes on an undercover mission to Outer Mongolia, more or less accidentally, gets interrogated and tortured by soldiers on Earth, and is eventually rejected by The Spike. Arriving back on Triton, he becomes an accidental war hero – arriving in the right place at the right time to save some of his friends from being blown up. Experiencing PTSD but unable to name or talk about it, Bron's fixation on finding a mate heightens, while the 'horrors of war' become central to his performance of masculinity. His hope is that by transitioning, he will be able to preserve the species by encouraging reproduction of his own genes; in a logic reminiscent of Wilson, Maynard Smith, Price and Dawkins, he sees those genes that programme heroism and aggression as an evolutionary route to species survival.

Bron thinks he still lives in a world governed by statistics. Davidson notes *Triton's* appearance at a moment of economic stagnation in the West, which 'necessitated significant changes in the organisation of capital', from the mass production lines of Fordism to the flexible forms of accumulation in post-Fordism, 'in which economies of scope supplant economies of scale, resulting in a seemingly unrestrained proliferation of 'niche' consumer options' (2008, 101). *Triton's* narrative is constructed through the difference between understanding the self as a statistical object – a type, a tendency – with its implication of being part of a developmental story about human potential, and the dissolution of this subject into any number of possible identifications – and with this, the dissolution of a developmental narrative. There is an excess of possibility on Triton, where citizens have all number and manner of self-transformations at

their disposal and, it seems, without bearing huge financial costs. In this world, identifications of gender and race become 'surfaces' (Chan, 190), 'aligned with the more obviously cosmetic, and ever more easily rearranged, significations of identity such as dress and adornment' (Davidson, 106). While what Davidson calls Triton's 'statistical imaginary' provides an anchor for Bron's sense of self-coherence, offering possible answers to his problems and a platform on which he might unravel his dishevelled psyche, the psychological (reduced to a spectrum of types) is only another space for shoring up the consumption of every available experience.

On Triton, genetic engineering is one of the technologies of these transformations, while metalogics forms the basis of an economy running on informational descriptions of reality. Genes are a pathway to different expressions of human experience. Bron spends lots of time trying to see himself clearly in a reflection, describing his body in parts – hair, eyebrow, body-type. Early on, sitting in front of one of the 'ego-booster booths' at the transport station which gather information from the civilians who use them for 'the Government Information Retention Program', he takes in this disjointed impression – 'his face . . . distraught. One eyebrow . . . rumpled', the leather collar, 'the irregular coloured web for his chest' – and thinks, 'I haven't really looked at my final person. I – ' (7). This 'I – ' marks the interruption of Bron's ability – which underlies the whole text – to locate a sense of self developing through time. While *Triton* is, as Davidson argues, 'preoccupied with the classification of people in terms of types' – and therefore, with an informational gaze – the text also points to the instability and incompleteness of these optics in envisioning a free self. As Bron tries to find an ending by any means possible (which really means staying connected to a nostalgic sense of what masculinity 'means' for and to the species), the text's form holds him in a 'continuous unending searching and questioning', to borrow from Kathy Acker in her 1996 preface to the novel (xii). This searching and questioning is an ongoing offer of possible freedom that Bron never takes up, which seems to elude him, but which in fact he spends much of his time running from.

Readings of the novel have been organized around the question of whether Triton is a postmodern utopia ('a utopia of difference' – Pearson 2009) or – in Edward Chan's words – a 'heterotopian narrative'. The former – in Wendy Gay Pearson's words – 'succumbs to an impoverished view of difference' that restricts interpretation to 'the meagre axes along which Western epistemologies are able to think about and name it' (2009, 465). Chan reads *Triton* as 'a book about surfaces' formed by 'micrological details', a heterotopian narrative that questions

the epistemologies that found the basis of utopian imaginings, and 'hits us over the head with the shock of what we imagine as social difference' (2001, 182). While typology is the 'manifest level' of the book – the subject that its characters talk about and struggle with – it is through the manipulation of bodily surface that Delany tackles the problem of social identity (190). Pearson notes that *Triton's* cultural critique depends on 'a heterotopian dismantling of the apparent naturalness of the social ordering predominant at the time it was written' (2009, 464). This dismantling comes through anticipating the weaponization of postmodern identity politics into neoliberal military regimes, and the generation of antipathy through what might be termed an excess of meaning. Biological accounts of ontology – as well as the kinds of gaps they leave for understanding and reconciling being in the world – are central to this weaponization.

Bron is caught between sociobiology and the selfish gene, between the liberal developmentalism of progressive evolution, and the neoliberal extraction and rearrangement of biological information. His conversations with The Spike are organized on this axis. The Spike tells him early on, "You seem to have making a family down as an economic right denied you which you envy, rather than an admirable but difficult economic undertaking" (112), one option among many – and, for her, bound up in the language of commerce, money, profit and risk. The family is no longer the primary unit of bourgeois participation; accessing this sphere is made possible by learning how to perform participation and to convince others that this is culture. All that really matters is exchange. The Spike is the perfect conduit for neoliberal contradictions: the peace-promoting performer, outside the formal sector, whose activities are funded by military security budgets. Her name is Gene, connoting origin, a word charged in this text with references to a medical industrial complex of transitional technologies, and biological renderings of identity: Gene as a segment of code, floating in the air, telling stories to individual listeners, programming from a distance, and something to be deciphered. Bron cannot understand her. She seems always to be very far away from him, and he does not learn how to read her.

The Spike's performances are also integral to military campaigns. When Bron meets her on Earth as part of a travelling diplomatic mission, they hear a young woman in the background say that "no one is fighting [the war] with soldiers" (150). The Spike's theatre company is on tour as "part of an exchange programme between warring worlds so that all cultural context isn't cut off" (154), she tells Bron. Perpetual war can go on for as long as cultural exchange – reduced to de-politicized appearances across warzones – is facilitated, while destruction takes place offstage. This regime highlights again the emphasis on security,

rather than discipline, as the primary means of ensuring this form of freedom. On another planet, Lux, five million civilians are killed without comment, and these are not counted as losses. What matters instead is the representation of the full gamut of human experience on Triton, for which only a few people need to remain alive. Bron's early sexual harassment and unfair dismissal of his Black female colleague Miriamne does not only not matter to the movement of his own plot; it does not register as a problem to him, because race and gender have been reduced to opt-in/opt-out identities without specific histories. His hatred/adulation of Sam and his hatred/dismissal of Miriamne are viscerally anti-Black, and his ultimate inability to parenthesize either of them is one of the text's small victories against white supremacy.

Anticipating current discussions around the generation of data through online tracking systems, and the recent classification of Big Data as a potential military weapon, Bron considers the feat of getting people to give up information that could be used against them through the ego-boosting booths dotted around the city. He compares this to 'mak[ing] Dachau or Auschwitz a paying tourist attraction before the War was over' (5), making a point about how to make civilians buy in to the securitization of civil society – with its invisible guards and fences – and their own oppression. This is the only war story available; it is the only one that produces a reaction from those he tells it to, getting 'a number of laughs' (5). Bron's real experience of war begins at a border guard station, and ends over lunch with colleagues back at the office.

Genetics comes more explicitly into the narrative when Bron decides to transition. It functions as a vocabulary of misdirection and obfuscation, a conceptual toolkit for adhering to sociobiological reductionism. Bron is looking to save the species by becoming the perfect woman, while his transition counsellor, Brian, gives a genetic account of sexual difference. A chromosomal rearrangement and some hormones cannot 'make' Bron a woman, and Brian explaining the process of sex change in technical terms. Her explanation to Bron parallels Bron's explanation of metalogics to Miriamne at the beginning of the novel. These are performative expositions, which place science as the primary arbitration of truth. This is the 'reality' of the gender-sex relation that Bron is asked to accept, the genome as a complex, quasi-computational system that technology can hack into and try to rewrite, but which he cannot supplement. This means accepting that some things might never be whole, or fully cured. Brian emphasizes the biological as a site of unknowns in a nihilistic key – "life enclosed between two great parentheses of nonbeing and straited on either side by inevitable suffering" (225) – and that improvement or even development

goes against this logic. All you can do is follow the data, track the algorithms and hope for the best. To follow Clare, this exposes an ideology of cure that espouses the normal or natural as averages, 'the most common and best states of being for body-minds' (2017, 173). Here, genetics works in the same way as the ego-boosting booths: a way of examining one's reflection in parts and choosing what to pick out, while also a forming a molecular prison.

These violent parentheses of nonbeing structure Bron's own narrative, a way of coping with categories of social space that he is 'unable to reorder to his satisfaction' (Pearson, 464). Parentheses do not just mark the difference between speech and non-speech, but arrange Bron's experience of space and time into a hierarchy of meaning. The arbitrariness of this ordering of detail into higher and lesser importance in Bron's stream of consciousness indicates the way that Bron is unable to correlate observation and embodiment, the former often breaking up the latter between brackets and subclauses, before resolving into an action. This bracketing makes it possible for him, as a subject, to move through the spaces of the text:

He smiled at the pink pavement. (The frown still hung inside, worrying at muscles which had already set their expression for the crowd; there was no crowd . . .). At the corner, he turned toward the unlicensed sector. (8)

The parentheses follow the plotting of space; as Bron moves through the city, he crams incidental or passing details – a frown formed through the experience at the ego-boosting booth – into non-essential grammatical space. This is about appearing in public, and appearing to be a coherent individual capable of public 'expression'; that is, of following a programme arbitrated by the pressure of the crowd, even when this crowd is absent. These parenthetical gestures delineate what Bron considers to be important and significant, but also what is necessary to express in order to appear in public. They become a way for him to hold the contradictions between the body's reactions and the world in which it operates – '(for the crowd; there was no crowd.)' Muscle memory prepares itself for realities that do not exist, but which Bron has nonetheless been socialized to expect, preparations and expectations which Bron is then compelled to silence in order to deal with them. This play between expression and silencing is rendered in the vocabulary of being responsive, and of reacting appropriately.

Parenthesizing seems to be a social phenomenon on Triton:

The underpass was lit either side with cadaverous green light-strips. Bron entered. Those afraid of the u-l gave their claustrophobic fear of violence here (since statistics said you just wouldn't find it inside) as their excuse.

This is a space lit by the colour of decaying bodies, between formal and informal sectors of the city, where death happens out of sight. The fears of those living in the planned area of the city of its informal parallel world are projected onto this non-space. Here, statistics are subordinated into parentheses, because they do not offer evidence for this fear. What is highlighted instead is the parallel between 'claustrophobic fear' and the green-lit underpass, connected through a sense of compression and hiddenness, as if fear has become part of the infrastructure of the city. Parentheses in both these cases are used to exclude details about the city that are not relevant to the unfolding of narrative, but which nonetheless point to other possibilities that are not part of consensus reality – muscles prepared to face a non-existent crowd with a frown, and statistics that show that there is no evidence to fear the unlicensed sector.

The repeated use of parenthesis is an example of genomic form. Brian ascribes a grammatical form to the genome when describing the expression and silencing of genes, where certain details are emphasized and others bracketed off. Similarly, Bron's subjectivity is dominated by differentiating between what is relevant and irrelevant to his stream of consciousness, and to his sense of being in the world. He cannot exist fully in his voice, going into constant asides, making details incidental. At the same time, these subordinated details are awkwardly arranged. He is arranged into formal and informal spaces of awareness and observation.

There is a disjunction here between the temporality of the body, and the socialized time that it follows. Bron's constant bracketing is a way of streamlining the messiness of being; he regulates the constant flow of information and its accompanying interpretations that the city activates and silences as a way of staying within his sense of himself. In her theorization of the erotohistoriographical – which she defines as 'a politics of unpredictable, deeply embodied pleasures that counters the logic of development' – Elizabeth Freeman notes that 'bourgeois liberal entities from nations to individuals are defined within a narrow chronopolitics of development at once racialized, gendered, and sexualised' (2005, 58, 57). Bron's attempts to adhere to what he considers to be the official timeline of Triton is the imposition of his own chronopolitics of development, resulting in chronic and undiagnosed anxiety. The bracketed information flows unevenly into the narrative space of the text, gesturing both to the way that information needs to be managed between unregulated and formal activities, and how this regulation does not follow divisions of public and private spheres. In both the quotes above, the public – as 'crowd' and 'statistics' – is relegated to parentheses, becoming incidental to the passage of the individual through the city.

Bron's anxious parenthesizing for the sake of this narrow chronopolitics manifests as an identity crisis. After transition, she returns to the clinic, concerned that she does not "feel like a woman . . . all the time, every minute, a complete and whole woman", but only remembers when she thinks about it, or when "some guy makes a pass at me" (249–50). Brian's response is another misdirection, but an instructive one: genes cannot be isolated and made to account for experience, because "any string of nucleotides they might isolate is really only a section of a very complicated interface, both internal and external" (250). Ontology escapes genetic grammar, because it is also contingent on the kinds of environmental conditions that determine the usefulness and relevance of certain traits. Using the example of women with perfect teeth in "a terribly inbred town in the Appalachian mountains", Brian emphasizes the importance of the environment as "the external part of the interface" which makes "certain elements plentifully available, and other fairly absent" (250): that is, the conditions for perfect teeth. Brian then maps this comparison onto being a woman, "a complicated genetic interface", living in a body from birth, "growing up in the world, learning to do what you do . . . with and within that body" (251).

While Brian's explanation seems at first to be an argument for the complex interrelation of environment, phenotype and genotype in the production of experience, there is something more troubling going on here, highlighted by her ultimate belief in the stability of the category of 'woman'. Brian's explanation articulates the explanatory void around which biologized descriptions of identity circle, in an attempt to retain the supremacy of scientific reason. Subjects end up being left out of their decisions. Due to the complex interface she has described, "you will never be a 'complete' woman," says Brian, the word 'complete' carving out a space in existence that Bron cannot reach. Chan notes the 'technical sophistication with which the [transition] operations are done' and – as an aside – that this implies 'some interesting things about the intersection of business, technology, and public opinion' (2001, 194). That is, the reason these individual decisions about identity do not matter is first, because they are tied into a social obsession with individual typology which is itself shown to be a fiction, and second, because the manipulation of surfaces is bound to an economy fuelled by scientific rationalism. While Brian is careful not to reduce traits to genes, *à la* Dawkins, her account of the difference between gender and sex marks a troubling essentialism, where 'the environment' becomes a site of determination and fixing. Her invocation of an isolated, 'inbred' community in a remote and peripheral area shows how Triton's analogies and comparisons derive from modern cartographies of geographical and cultural difference that seem

resolutely Earthly and imperialist. Triton's transition technologies are premised on a feedback loop between an individualized biomedical infrastructure, and public consensus around what 'being a woman' constitutes. The peculiar circumlocutions of Brian's explanation, while promising an account of biological plasticity in the making of gender, end up collapsing this promise into modern colonial arbitrations of gender and sex, using the sociobiological chronopolitics of development as an alibi.

This is not by chance. Brian's explanation is intimately connected to military datalogics, a means of weaponizing individual uncertainty into apathy towards mass destruction and genocide. In these moments of obfuscation and indeterminacy, Delany's interrogation of colonial epistemologies of gender, sex, sexuality, race and ability is most apparent. It is not just the categorization and typologizing of life itself that needs dismantling – liberal governmentality – but the proliferation and de-signification of data that this inevitably leads towards. To follow Chan and Pearson, what the heterotopian narrative highlights is not so much an ideal of endless personal choice, but rather the limited efficacy of technologized personalization in producing collective iterations of freedom. The instrumentalization of personalized decision-making becomes a way of holding off transformations of bodily affinities and temporalities, for the sake of upholding techniques and technologies of mass surveillance and control. Read this way, the interplanetary war is not a backdrop, but constitutive of Bron's crisis. At the end of the text, reduced to sociobiological account of herself, Bron's choices disappear. As Pearson puts it, 'Bron is caught in the tensions between [biological] destiny, destination, and *destinerrance*; this, quite ironically, makes him in many ways the most utopian character in this ambiguously heterotopian world' (469). Her nostalgia for patriarchy – a world in which their preferred type of masculinity can flourish and reproduce – is still 'a blueprint for a better world', which her peers seem to have given up on (469). Instead of realizing this utopia, she is lost in a hinterland of monologues and parentheses, still trying to make sense of the past.

The lure of a typological multiculturalism is an abstruse cover-up for parenthesizing crimes against humanity. Dean Spade and Craig Willse identify something similar in their discussion of multicultural imperialism, and a troubling complicity between the promotion of the United States as the centre of the 'free world' along the lines of progress made towards equal rights for racialized minorities, women and LGBTQ+ people, thereby justifying continued military intervention and imperialist expansion abroad. For Spade and Willse, multicultural imperialism describes the reduction of potentially transformative,

wide-scale identity movements to a typology of state-sanctioned identifications, in turn used to bolster an explicitly 'Western' construction of liberty. The rhetoric of liberated subjects deployed around gender and sexual politics is used to produce a divide between modern and anti-modern states – as in Samuel Huntington's 'clash of civilisations' thesis (1996) – and to justify military interventions. In the case of the construction of the Middle East in post-9/11 Euro US, in which women's rights and LGBTQ+ rights are suppressed under a monolithic Islamic, heteronormative patriarchy, the West is constructed as a site of liberated subjectivity. Multicultural imperialism does not function outside the restrictions of sovereign typology, but places a multiculturalism of fixed types in opposition to repressive uniformity.

Sam represents a conflicted alternative to this, a character who gradually moves from the periphery of Bron's lifeworld into the centre after her transition. When Sam is first introduced, Bron 'hates' him. An intermittent resident of the one-gender, nonspecified co-op that Bron lives in, Sam is worldly, brilliant and powerful – 'Sam had about as much power as a person could have, in anything short of an elected position' (26). He is also plural and expansive in his practices of intimacy: 'one of the reasons that Sam was away for so long between visits (Sam explained one evening) was that he was part of a thriving family commune (the other fifth of the population) of five men, eight women, and nine children in Lux' (26, 27). The parentheses here look like anxious annotations as Bron attempts to find a place to put Sam. Sam seems to resist these attempts, which ends making him irresistible to Bron. Sam spends time at Bron's co-op because in his other places of habitation, he cannot get away from politics; the Serpent's House is, for him, peacefully apolitical. Sam does not share Bron's need for cohesion, but is interested, rather, in local forms of synthesis. Nor is he performatively obscure, as is The Spike. Sam's mystery, we realize, is derived from the limits of Bron's own capacities to read the world. Sam is a product of Bron's bad reading, and his refusal to do 'practical social reflection just in finding ways of being queer', instead, 'avoiding such a self-understanding and the social reflection it would imply' to borrow from Michael Warner (1991, 6).

Sam does not live in the same time-zone as Bron. He has cultivated a way of being that 'exceeds the present', in Freeman's words, surviving not through a masculinist logic of heroism and destruction, but 'through the ability to invent or seize pleasurable relations between bodies . . . across time' (2005, 58). Instead of sequestering, silencing and holding back, Sam lives across multiple worlds and is able to move between them. This movement is neither painless nor innocent, but means that he is able to inform and warn – and save – those who have made

a life out of sticking to the pantomime theatrics of Triton's death-worlds, trapeze artists and war heroes alike. Sam is constantly surprising Bron, taking him out of his nervous classifications. This is not for the sake of power games, as Bron tries to do with Miriamne; Sam answers questions, but he does not want anything from Bron that Bron can comfortably recognize or give. Meeting Sam by chance in a bar soon after her final conversation with Brian, Bron asks to come and live with Sam: "Let me come and live with you and your family" (261). Sam turns her down, and Bron is devastated and confused:

Why had she been approaching Sam?

Sam was no more a man than she was a . . . No. She had to stop that thought; it could lead nowhere. Still, again, she had been about to sacrifice all her ideals, her entire plan, just for an . . . emotional whim! Yet, while it had been happening, it had seemed those ideals were just what she had been pursuing. . . .

Sam?

Here, '.' takes the place of parentheses. Bron is fully within the confusion of her thoughts. 'Stopping the thought' becomes literal: she is thinking about stopping thinking, so that that the absent end of the thought that has been stopped is emphasized: 'woman'. She thinks she is not a woman, and being 'not a woman' at this point could lead her to nonbeing. This is a moment where Bron's refusal to learn how to be queer takes up expression in the main. Was her 'plan' to save the species always to become a woman so that she could be with Sam, a trans male queer? The sequence extends and expands to encompass her querulous and fearful question, parentheses of nonbeing temporarily held at bay by a visceral working-through.

The question mark suggestively gestures to a different kind of proximity between private and public experiences of time, and how this proximity might bank onto another set of possibilities for survival. This proximity is not based on a collapse into surfaces, but on what Tyler Bradway – reading Delany's queer experimentalism – calls 'the hermeneutic relation to embodied uncertainty' which 'keeps open the possibility for dialogic history to emerge' (2017, 64). This is in contrast to the 'forgetting perpetuated by narratives predicated on the myth of historical objectivity' (2017, 64). This historical objectivity and its deliberate amnesia are figured in *Triton* across both the social and biological. Delany's heterotopian narrative shows the contradictions involved in the dissolution of a chronopolitics of development, when the main instrument to perform this dissolution is a string of disassembled code. Bron's prolonged inability to relate to others outside a conceptual matrix of gender binaries (being a 'complete'

woman), a matrix which continues to determine social relations even as its central subject – the male hero – does not, ultimately, matter in terms of changing the broader historical narrative of the planet, which is its war. As a playful compromise, the text leaves a question mark over forms of kinship that might be forged, instead, through the messier meetings of politics, care, health and transition, without closure.

Lessing and Delany's novels chart the disintegration of liberal developmentalism (sociobiology) into a neoliberal logic of exchange and substitution (the selfish gene), which also shows the collusion between these ideologies of the self and social organization. In *Memoirs*, this disintegration is bound up in eugenic models of social organization, which typologize humans into genetic categories through which relative productivity and usefulness can be measured. At the same time, eugenic practices make possible maintaining the supremacy of heteronormative whiteness at a point of socio-economic crisis. *Trouble on Triton* riffs on the ruse of completion, and of being a whole subject in time, dividing its protagonist across indices and syntax, luring her through narrative possibilities that never materialize. Genetic engineering represents a set of practices of biological self-fashioning, and a formal analogy for subjects that live between full expressions and parentheses, unable to distinguish or decide on what is most relevant for their sense of ontological security. Both show the complicity between biological constructions of the self and governmental control. Metaphors of biological programming in the 1970s offer an alibi for, if not total, then certainly endless war. This emphasis on security and a self that is no longer 'itself', but subject to and participant in the endless exchange and rearrangement of information, is a crucial context for the development of the Human Genome Project, which I turn to in Chapter 3. In the following chapter, I consider a different context for genomics, on the other side of the Iron Curtain.