

THE END OF THE WORLD FOR WHOM?

Nicholas Beuret

Richard Grusin, ed., *Anthropocene Feminism*, Minneapolis, University of Minnesota Press, 2017, 233pp, US\$28 paperback

It hasn't taken long to feel as though the concept of the Anthropocene has reached the point of academic saturation. The Anthropocene – the proposed name for our current geological epoch, one that designates the contemporary moment as one where human activity is the defining and dominant geological force on Earth – has served as a philosophical lightning rod. The Anthropocene is often taken as marking a rise of critical awareness of the environmental impact of humanity – be it as a species, as a product of industrialism, capitalism or globalisation. However, to act as 'astonished ingénues who suddenly discover they are transforming the planet' is dangerously disingenuous.¹ It is thus worth asking, as the book under review does, why the concept has caught on and for whom (p10).

There has been a recent turn towards the non-human or more-than-human world within academia, in part spurred by an emerging sense not of the world but that the scale and pace of environmental destruction and techno-scientific development has crossed some kind of catastrophic threshold. The edited volume *Anthropocene Feminism* is a good example of this kind of eco-scientific reckoning.

Much – but by no means all – of this volume is centred within recent scholarship that could be called the 'new materialisms': the broad transdisciplinary theoretical movement that emphasises the agency and powers of non-human and inhuman forces and entities, criticises anthropocentric conceptions of ethics, politics, creation and culture, and calls for the incorporation of the in-, non- and more-than-human into humanities and social science research programmes.² The emergence of this movement signals less a change in ecological awareness and more, I would suggest, a rising sense of despair as notions of human agency are slowly eroded by socio-economic, technological, scientific and environmental developments. The turn towards the material is a turn necessitated by a crisis of political agency.

The question of agency and of the Earth's indifference to our existence is at the heart of this volume. Colebrook's opening contribution sets the scene by asking not only for whom the Anthropocene supposedly marks a historical break, but what benefit there is for feminism as praxis in considering there to have ever been a break. Humanity has always made worlds, and we only come to have 'nature' as something 'whole and pristine' through its loss. The naming of the Anthropocene occludes this fact and in doing so posits some

1. Christophe Bonneuil and Jean-Baptiste Fressoz, *The Shock of the Anthropocene: The Earth, History and Us*, London, Verso, 2016, pxi.

2. William E. Connolly, 'The "New Materialism" and the Fragility of Things', *Millennium: Journal of International Studies* 41:3, 2013, pp399-412.

other 'uncontaminated world' that we must normatively respond to, in effect perpetuating the society/nature binary that underpins much 'Anthropocenic discourse'.³

The contributions by Braidotti, Povinelli and Huffer all focus on the question of life, taking the threat of extinction as the condition of Anthropocene debate, marking at once its stakes and limits (pp53-4). Braidotti suggests that we consider the implications of considering sexuality as a 'force beyond gender' (p21), one that not only compels an embrace of the non-human – not only 'within ourselves' but more broadly as a part of a project of 'species egalitarianism' (p32) – thus marking the ethico-political import of the Anthropocene as one that calls for a more-than-human polity (much as Haraway's most recent book *Staying with the Trouble* does). Focusing on the biopolitical implications of the threat of humanity's extinction, Povinelli argues that there has been a proliferation of biopolitical – or rather what she calls the geontological – figures and conceptual tactics for confronting the contemporary moment.

Povinelli outlines the difference between biopolitics and geontology as one where the focus has shifted from governing life to maintaining the distinction between life and non-life under the conditions of what she terms late liberalism. The geontological figures that replace (or supplement) Foucault's biopolitical figures (the desert, the animist and the terrorist (pp58-9)), rather than providing solutions or pathways out of the current moment, are 'ghosts' (p62) produced through the on-going breakdown of the distinction between life and nonlife.

Against the grain of the preceding chapters, Huffer's contribution calls into question the 'renaturalisation of life' taking place in and around the concept of the Anthropocene. Arguing that the renaturalisation of life 'skirts the danger of universalising the historically contingent frames of our present world' (p84), Huffer suggests that a genealogical account of life offers grounds for a non-vitalist ethics of the Anthropocene, one that presents feminism with a productive problem: 'can feminism articulate an ethics that takes seriously the dissolution of the human and life itself' (ibid)?

Alaimo's contribution foregrounds one alternative approach to the Anthropocene that may enable the kinds of ethics called for by the troubling of conceptual boundaries between human/nonhuman, life/nonlife. Proposing an aquatic perspective, one that focuses not on the Earth so much as the sea as a framework for change, Alaimo argues that the ocean provide a framework of immersion – of never being able to become separated from one's environment – and thus marking life as always being impossible to separate from its broader ecology. The question posed here, much by implication, is how to act on the world when separation – that mainstay of modern agency – is impossible.

The following two chapters by Hird and Zahara and Clover and Spahr both foreground the colonial encounter as a, if not the defining moment marking

3. Eileen Crist, 'On the Poverty of Our Nomenclature', *Environmental Humanities* 3, 2013, pp129-47.

the Anthropocene. Hird and Zahara focus on the production of waste as not only a symptom of neoliberalism (p122) – a necessary result of the particular mode of globalised production that characterises the contemporary moment – but as a means of managing or excluding particular people, specifically indigenous peoples (p123). They suggest that the various governmental strategies for managing waste at once produce humanity as a universal subject and at the same time continue the long standing neo-colonial practices of using waste as a means of excluding and managing indigenous peoples (p137).

Clover and Spahr turn to the concept of the ecotone – a meeting point between two biomes – as a device for reading the Hawaiian creation chant *Kumulipo*, arguing that the *Kumulipo* as allegory captures the transformation of difference (the social as an ‘aggregate arrangement’) into the differential (into a variation within value production). Drawing on Autonomist Marxist Feminist analyses of the role of gender differentials vis-à-vis the production of value and labour power for capital, Clover and Spahr argue that the same logic underpins the contemporary Anthropocene moment. They mean this in two senses: the first that it is the differential inclusion of women and nature into the circuits of capital that enable the accumulation of capital (i.e., the devaluation of both women and nature); the second that the processes that produce these differential inclusions – nature vs society, women vs man, etc. – are the grounds of political resistance. Nature, like gender, in other words, is not to be saved but abolished.

The final two contributions break from the theoretical frameworks of earlier pieces, focusing on the perspectives of an earth scientist (Jill Schneiderman) and an artist (Natalie Jermijenko). While both pieces are of interest, they sit somewhat uncomfortably alongside what are a set of theoretical contributions. That the volume ends with two chapters that sit somewhat at odds with the other contributions is itself something of a comment on the book. As suggested by Colebrook at the outset, it is what is occluded by the articulation of Anthropocene Feminism that is ultimately of interest here. Largely absent are any theoretical contributions from outside a narrow new materialist canon, generally ignoring contemporary or historical work done within political ecology, critical geography or eco-feminism. As notable is the lack of sustained engagement with Black feminist or Indigenous thought (with the notable exceptions of Hird and Zahara and Clover and Spahr’s chapters, of which Clover and Spahr’s chapter marks a more sustained engagement), as well as post- and decolonial scholarship.

Perhaps, like the new materialisms, the Anthropocene marks who it is that feels under threat of extinction in this moment; who feels despair at the litany of stories about the end of the world and ecological apocalypse. For many of the largely absent interlocutors, whole lifeworlds and ecosystems have been unravelling around them for generations. As it appears in the contributions to this volume, feminism in the Anthropocene is an ethical concern – a question of seeing and feeling differently. What is missing in this

volume is an articulation of a feminist praxis for struggling within ecological crisis, one that foregrounds the conditions of exposure to the slow violence of the Anthropocene vis-à-vis the conditions of womanhood and gender relations. How one feels the threat of extinction – in this instance, as an abstract theoretical concern, not one that is fuelled by the direct violence of the state or Capital – shapes what one thinks should happen. For many people extinction is not cause for reconsidering how we should see or feel the more-than-human world, but an everyday threat to be struggled against.

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FROM ILLUMINATION TO IRRITATION

Peter Buse

Kate Flint, *Flash!: Photography, Writing, and Surprising Illumination*, Oxford, OUP, 2017

When literary critics take on photography, one of two things can happen. They can start from the premise that ‘photography is itself a kind of modern writing’ and, emphasizing its novelty, show how the new medium impacts on literary texts, producing new styles and modes of representation.¹ This is the approach taken, for example, by Michael North in *Camera Works: Photography and the Twentieth-Century Word*, a study of photography, film and avant-garde writing. Alternately, the critic can dig into familiar texts to find every mention of photography and the photographic, and with the resultant haul, conclude that the texts were really all about photography in the first place. If the references to photography are few and far between in the literary text, this can lead to some strained interpretation, as in Marcy Dinius’s readings of Hawthorne and Melville in *The Camera and the Press: American Visual and Print Culture in the Age of the Daguerreotype*.² In both cases, the critics ultimately stick to the textual turf they know best, with photography providing a new way to illuminate prose, poetry or drama (but mostly prose). Even if it is not the intention, photography tends to come off second best in this encounter.

In her rich and compelling cultural history of flash photography, Kate Flint for the most part avoids such pitfalls. Fictional texts are important in Flint’s account of the changing meanings and uses of flash photography from its commercial introduction in the 1860s to its contemporary integration in camera phones. On the way she unearths a wealth of less-known texts, including Amy Levy’s *The Romance of a Shop* (1888), as well as turning to more obvious ones such as Hitchcock’s *Rear Window* (1954). At no point, though, does she privilege the literary over the (flash) photographic: the former is here to shed light on the latter, and not the other way round. Nor does she establish a hierarchy between the literary and other kinds of source: photographic journals, periodicals, manuals, and memoirs prove an essential and fertile field in which Flint seeks the traces of flash. In her comprehensive reconstruction of this technique of sudden and blinding artificial light, she takes a deep dive into *The Photographic Times*, *Amateur Photographer*, and the *Journal of the Photographic Society of Philadelphia*, among many others, as well as *Popular Mechanics*, *Ebony*, and of course *Flash!* It is in this archive of useful knowledge, the province of the serious amateur and professional photographer, that the secrets of *Blitzlichtpulver* are to be found. For even if this is not a technical history, Flint knows full well how important it is to get the technical side right, not least to satisfy the technophiles who compose a

1. Michael North, *Camera Works: Photography and the Twentieth-Century Word*, Oxford, Oxford University Press, 2005, p3. Another example is Nancy Armstrong, *Fiction in the Age of Photography: The Legacy of British Realism*, Cambridge, Harvard University Press, 1999.

2. Marcy J. Dinius, *The Camera and the Press: American Visual and Print Culture in the Age of the Daguerreotype*, Philadelphia, University of Pennsylvania Press, 2012.

small but significant part of the audience for a book like this. In this mode, she effortlessly takes us from explosive magnesium and its alternative 'photogen', through the progressive advances from flashbulb to flashcube to electronic flash. I, for one, was very glad to get such a lucid explanation of red-eye in humans and blue-eye in cats and dogs (p263).

The technophiles should be satisfied then. But the book's main quarry lies elsewhere. It lies, for example, in showing how technological developments are inextricable from cultural politics, as in the case of Gordon Parks' *Flash Photography* (1947), a photo-manual in which instruction on the best angle for flash photography of groups contains an implicit intervention into the politics of pigmentation (p169). Or in drawing out the inter-implications of stroboscopic experiment and experimentation with LSD (pp88-92). Or in exploring the constellation of meanings and practices that includes fireworks, flares, fireflies, and the atomic bomb. These are just three examples of the fascinating and heterogeneous fruits of a profound work of research. This heterogeneous material is held together by the three questions that Flint consistently asks of her subject: what was the experience of flash (for the photographer, and for its subject and onlookers); what are the aesthetics of flash (that is, what do photographs made with flash look like, and how has this look been exploited or why has it been shunned by photographers); and finally, what are the 'cultural connotations' of flash? (p2) Part phenomenology, part art history, and part cultural history, then, *Flash!* ultimately subordinates the first two to the third, asking how the experience and aesthetics of flash produced a series of associations for the technology, associations which evolved over time.

In answering her first question, Flint duly notes the great dangers of flash to photographer and photographed alike, especially in the era of combustible magnesium, when burns from the explosion could easily spread to wider fires; but her main interest lies in flash as a sudden, brief, and blinding manifestation of light. 'The eruption of flash disorients subject and photographer alike', Flint writes, and '[a]lthough it facilitates the recording of one's material surroundings, it does not enable the sight of the spectator... its shock to the eye obliterates, not illuminates'.(p10) Flash makes visible, then, but it is a delayed visibility that becomes manifest only in the resulting photograph. Among the distinctive photographic effects of flash: bleaching of lighter objects, heightened contrast between illuminated foreground and obscure background, and the intrusion of the flash itself, either through its direct inclusion in the image, or in bouncing off reflective surfaces. At its most intense, the latter produces a glare or flare that threatens to wipe out the image, especially in the hands of the unschooled amateur, an effect subsequently deliberately adopted by artists (pp264-7). As for the power of flash to emphasise contrast, Flint puts it beautifully when she says that 'it takes the intensity of the flashbulb ... to restore deep darkness to the modern city' (p281). Flash is usually deployed where there is insufficient

light for satisfactory exposure, but Flint is also very good on daylight flash (Friedlander, diCorcia's Times Square sequence), and on the rejection of flash by many photographers. Tracing the polemic against flash takes her from Cartier-Bresson turning up his nose at it in favour of available light, to debates among FSA photographers on its great utility or unacceptable invasiveness in shedding light on social deprivation (Chapter 4), to the contrast between Gordon Parks' enthusiastic embrace of flash and Roy DeCarava's principled refusal of it in photographing African-American subjects (Chapter 5). Margaret Bourke-White, free from the ethical dilemmas of the FSA, cuts a striking figure here, flashing away without compunction.

What wider associations did the experience and aesthetics of flash produce? It was, Flint tells us, 'treated first with awe and amazement, then with amusement, and then with increasing resentment for its intrusive effects...contributing to a popular denigration, or at least suspicion, of the photographer' (p3). Flash 'attracted an increasingly negative set of associations. Initially linked to the sublime grandeur and terror of lightning, it became far more frequently linked to aggression, intrusiveness, and a lack of subtlety.' (p269) Flint dedicates Chapter 2 to the analogy with lightning but concludes that the associations of flash with 'awe, grandeur, and the sublime' (p57) could not be sustained, even if a residue from that early era remains in the lightning icon on modern cameras. From the late 1920s, as the flash bulb began to contain and control the violence of the burst of light, its usage expanded rapidly, especially in photojournalism, and then even more with the flashcube in the 1960s. From these roots developed its negative power associating it with crime scenes (Chapter 7), celebrity and paparazzi (Chapter 8) and the bungling of amateurs (Chapter 9). The anti-hero epitomizing this descent of photography into 'the lowbrow, even the seedy and tawdry' (p200) is of course Weegee, whose nighttime pictures were virtually all made with a flashlight that 'is not an invisible means to an end: it is always announcing its presence' (p199). Flint also remarks briefly on what she calls Weegee's 'idiosyncratic jokiness' (p193) but takes this line of thought no further. Indeed, of the progressive stages she identifies – amazement, amusement, and resentment – Flint spends the least time on amusement, and although she gives some examples of the mocking and caricaturing of flash, she might have explored further why and how flash renders photography comic.

A more comprehensive meditation on the comic flash may or may not have helped us to understand what for me is one of the most striking instances of flash in the movies, after Jimmy Stewart's resourceful self-defense at the end of *Rear Window*: the opening sequence of Scorsese's *The King of Comedy* (1983). Flint notes Scorsese's affinity for the 'disruptive light' (p212) of flash but doesn't mention this most dividing of the director's films, unparalleled in its capacity to irritate and annoy, just like its protagonist Rupert Pupkin. Pupkin is there at the start, staking out the stage door from which Jerry Lewis emerges into a throng of hysterical fans and a constant explosion of

bulbs, their tinkling and clinking a brilliant and disturbing sonic effect. The assault by flash is accompanied by an assault by a fan, who manages to get into Lewis's car with him. Lewis escapes and the fan is trapped inside, her hand frozen against a window, silhouetted by flash, as the opening credits roll. I have never known before what to make of this troubling scene, but Flint's book now provides the historical background and critical analysis to explain the scene's affective force. As she says apropos the intrusions of journalistic flash, '[t]he repeated filmic association of flash with emotional distress that follows from different types of exposure to the white glare of publicity has played an important role in its denigration as a medium' (p213).

The tracing of the development and contours of the 'denigration' of flash is one of the many achievements of this book, which is the very model of a nuanced and generous cultural history of technology. Of course, no one in the contemporary traditions of literary criticism can see something denigrated and not want to redeem it, and this is what Flint does when she refers to flash here as a 'medium', as she does on one or two other occasions. There is always the temptation when dedicating a whole book to a subject of elevating it in this way. But this elevation stretches too far, for flash is surely not medium, but 'apparatus'. It is part of a photographic assemblage that cannot be reduced to camera or print, but it is not media in itself. And this is why in the chapters where Flint uses flash as a pretext to rethink hoary old chestnuts of photography theory and history (the question of memory in Chapter 3, the arresting of time in Chapter 4), the apparatus is levered into representing the whole medium, and so being asked to do too much work. But in the cases of the hounding of celebrities, the ghoulish illumination of crime scenes, and the provoking of polemics, there is no doubt that flash is irritatingly, obnoxiously, at the heart of the matter. *Flash!* should reach a wide and appreciative audience, not least for its remarkable collection of well over a hundred images, including leaping deer, a Sylvania Pop-art pillow and Greta Garbo's hand. It is only a surprise that in such an attractively produced book, none of them are in colour.

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A POST-EMPLOYMENT UTOPIA?

Mihail Evans

Bernard Stiegler, *Automatic Society 1: The Future of Work*, Cambridge, Polity, 2016
Rutger Bregman, *Utopia for Realists* Boston, Little, Brown and Company, 2017
Peter Fleming, *The Mythology of Work*, London, Pluto, 2015

The dramatic transformation of work sometime in the near future has been forecast for more than a hundred years. In 1930 John Maynard Keynes gave a lecture in Madrid entitled 'Economic Possibilities for Our Grandchildren'.¹ His vision there – and Fleming begins his first chapter with it and Bregman his second – is that people in our day would be facing the challenge of what to do with so much leisure given that we would be working only fifteen hours weeks.² In particular, he predicted that the global economy would grow sevenfold, something it has indeed already done. In Keynes' time the working day was becoming shorter following Henry Ford's discovery that production increased when he cut the working hours in his factories and he predicted this trend would continue. He was certainly correct that the development of technology would increase productivity inexorably and even Nixon, when Vice President in the 1950s, promised a four-day working week 'in the not too distant future'. In the 1960s it was largely those on the left who sought to appropriate these developments and build a radical politics on the basis of them. In France André Gorz held this torch over the years. The Belgian academic, Phillippe van Parijs has published important work and thirty years ago founded the BIEN association of activists for basic income. In the 1990s it was Jeremy Rifkin, an American futurologist rather than a political radical, who notably publicised a version of these ideas in the Anglo-Saxon world.³ In recent years – as all of the writers under consideration note – the idea that technology will result in many jobs becoming redundant, has been widely discussed.

One of the great political questions currently facing developed societies is how to respond to this challenge. Bill Gates, as Stiegler reports, told the American Enterprise Institute in 2014 that the best solution would be to lower income taxes and to make tax changes to encourage companies to hire people, that is, to reprise or continue with the trickle-down economics of Reagan. He specifically argued against raising the minimum income.⁴ In contrast, all three of the books under consideration suggest that the solution is for employment and income to be separated, giving rise to a situation that all three describe in terms that verge on the utopian. Bregman argues that 'the richer we as a society become, the less effectively [sic] the labour market will be at distributing prosperity' (p92). He suggests 'free money' or a basic income as a response. Stiegler speaks of 'the inevitable withering of wage

1. John Maynard Keynes, 'Economic Possibilities for Our Grandchildren' in *Essays in Persuasion*, Basingstoke, Palgrave Macmillan, 2010, pp321-332.

2. Fleming describes Keynes' essay as 'weird' and suggests, rather unfairly, that 'the ruling class's fear of a work-free world is certainly the red thread that holds this text together', p70.

3. Jeremy Rifkin, *The Future of Work: The Decline of the Global Labor Force and the Dawn of the Post-Market Era*, New York, Putnam Publishing, 1995.

4. <http://www.aei.org/events/from-poverty-to-prosperity-a-conversation-with-bill-gates/>

labour', and tells us, 'the end of employment ... has become obvious' (p173). This leads him to project: 'a fully automatized society where employment has disappeared and hence where wages are no longer the source of purchasing power, in turn implying the disappearance of the purchasing consumer, which clearly requires the *institution of a new process of distribution*' (p84). In particular, he proposes a contributory rather than a basic income or free money although he fails to flesh this out in any detail. Fleming suggests nothing less than 'a surplus living wage' set at a minimum of £30,000 and it is the basis on which he does so that I will first examine.

FLEMING'S IMMODEST PROPOSALS

Peter Fleming is Professor of Business and Society at London's City University. His earliest research looked at everyday practices of resistance to working life and this focus has remained at the core of his work.⁵ His *Dead Man Working*, written with Carl Cederstrom, a lecturer in business studies with Lacanian interests, received impressive reviews many of which praised its wit.⁶ *The Mythology of Work*, however, shows a much less sure touch. Early on, Fleming tells us that he intends to 'focus on six themes that I believe we ought to comprehensively understand if we are to develop a post-work future' (p18). Elsewhere he says: 'this book offers a number of suggestions about how to refuse the ideology of work today' (p29). Fleming's argument is often hard to make out and its strategy and targets far from clear. At one stage, in the space of a few pages he advances two almost opposing claims. Firstly, we have the assertion that 'late capitalism is extremely one dimensional, revolving almost singularly around questions of efficiency, utility and input-output effectiveness' (p8). But a moment later we are told that 'the neoliberal theatre of subordination is only partially interested in measureable productiveness' (p19).

The book begins on an anti-theoretical note with, right on the first page, the alleged sympathies of 'postmodern relativism' with neoliberal capitalism being criticised. However, as it progresses there is an increasing use of a vocabulary which might be taken to be 'theoretical'. While Nietzsche, Deleuze, Foucault, Adorno, Jameson and de Certeau all get mentions, with a couple of exceptions there is no extensive reading or employment of the work of any of these figures or any remarks even on the difficulties of employing such disparate thinkers together. Early on it looks like Marx might be important and that Fleming will rely on a labour theory of value. The introduction proposes that 'neoliberal class relations are distinct in that they transform exploitation into something that strongly resembles *subsidization*' (p3). But this is said to occur, bizarrely, through the tax system. Apparently, taxes are 'more oppressive than ever under [neoliberalism]'; although how is not explained given the tax burden of the average British worker is less now than it was in the seventies (p3). Fleming warms to his theme and at times we might feel we are listening to a Conservative politician: 'it is really through punishing

5. He is co-author with André Spicer of *Contesting the Corporation: Power and Resistance in Organizations*, Cambridge, Cambridge University Press, 2010; and is the sole author of *Authenticity and Cultural Politics of Work*, Oxford, Oxford University Press, 2009 and *Resisting Work: The Corporatization of Life and its Discontents*, Philadelphia, Temple University Press, 2014.

6. Peter Fleming and Carl Cederstrom, *Dead Man Working*, London, Zero Books, 2012.

taxation policies that the working people are hit hard' (p14).

In the absence of any other framework, much of the argumentative and explanatory work in the book is carried by loose psychologising: 'typical accounts of contemporary work tend to overlook its fetishistic character' (p3). Managers and 'the system of control within workplaces' are said to be 'sadistic'. Workers are 'paranoid', apparently partly from taking too much amphetamine but also because this is the 'default attitude in the office' (p24). On occasion this builds up to crypto-theoretical passages such as:

it is easy to see why so many find paranoia such a suitable pathology in the post-industrial economy. It connects the neoliberal obsessive complex to the labouring body that overworks automatically and is held in place by ritualistic attractions that are sacrificial in nature. (p29)

In places things take a more bizarre turn. At one stage there seems to be an attempt to pastiche romantic melodrama: 'standing on the outside looking in, the idea of killing yourself over a trivial thing like work is unfathomable. Over a lost lover? Yes. Ennui? Perhaps' (p51). One can only guess that here Fleming is rather unsuccessfully trying to recreate the humour of his previous co-production with Cederstrom. Similarly, his statement – 'sadly, others continue indefinitely into oblivion and even purchase investment properties – a truly horrific spiritual fate that embodies everything cursed about late capitalism' – is neither witty nor insightful, showing no appreciation of the way in which the pension options of those working in the private sector have become extremely limited in recent years (this is despite only a few pages later noting 'the slow degradation of pensions in OECD countries') (pp26, 39).

Towards the end of chapter one, Fleming remarks on a wave of studies on neoliberalism telling us they are 'informative investigations'. But, he questions whether they are not taking 'this ideological *doxa* a little too seriously' and suggests that 'in the end, neoliberal apologists only desire our attention and probably relish the idea of left-wing debunkers spending years reading Hayek' (pp44-5). He goes on: 'how does neoliberalism function? To be honest, who cares?' (p45). In a book with the subtitle 'how capitalism persists despite itself' to say this is rather disappointing is an understatement. This notwithstanding, a few pages later he does attempt to explain – rather opaquely – how neoliberalism functions: 'corporate domination now depends upon a dynamic social intoxication and suspiciously multiple passages between institutional domains' (p55). It is hardly surprising that when we come to them his practical proposals have a thrown-out-there air about them.

Fleming insists that he does not want to become embroiled in detailed criticisms of the current state of affairs but 'to affirm a world beyond class domination' (p193). On this basis he gives us six paragraph length proposals in the short conclusion to the book, one of which is the surplus living wage of £30,000 per annum (other proposals include a three-day working week). No

attempt is made to defend this particular proposal and the extensive literature in the field – a journal, *Basic Incomes Studies* established by Phillippe de Parijs at Louvain, has extensively discussed various options and issues – is ignored. Somewhat surprisingly, Fleming says, after having initially presented his proposals in a post-capitalism frame, is that this would have ‘overwhelmingly positive [consequences] from a social democratic point of view’ (p194). The book then rapidly concludes on the uncertain note: ‘and the reader knows what needs to be changed as much as I do’ (p199). After two hundred pages it is something of deflationary ending.

BREGMAN’S ENTHUSIASM

Bregman begins, perhaps rather unusually for a book proposing a radical politics, by observing the plenitude that characterises the developed world today. In the Netherlands, where he lives, he tells us that the average homeless person receiving public assistance has more to spend than the average Dutch person in 1950 and four times more than people in Holland’s Golden Age (p13). Further, whereas 94 per cent of the world’s population were living in extreme poverty in 1820, it was 44 per cent in 1981 and now approaches only 10 per cent (p13). Bregman’s placing the current wealth of the west in historical and geographic perspective is important, yet amidst his celebration he fails to question whether current levels of consumption are sustainable. He doesn’t note that others distant in time and place will pay the price for our high living standards (particularly for their reliance on carbon-based energy). He implies we can go on as we are and only need to distribute resources in a different way, failing to raise the perhaps even more pressing question of the sustainability of our current standard of living. Bregman suggests that what we most need now is wisdom about how to live well (p26). He asks a similar question to Fleming: ‘why have we been working harder and harder since the 1980s despite being richer than ever?’ (p28). But he argues, not that fetishism is the cause, but that economic growth is translating, not into more-or-less time spent at work, but into more stuff (p38). This is partly true but there are also other factors such as the necessity to pay off the vast debt that has been created in the inflation of property prices. Neither Fleming nor Bregman notes that a huge amount of working time goes towards paying off the cost of a mortgage or high rents (in this respect the Netherlands is not far behind the UK). Bregman’s own wisdom is simple: we need to consume our prosperity in the form of leisure. Yet he realises that this cannot just come down to a question of individuals deciding unilaterally to work less. He suggests governments need to change incentives which encourage employers to get existing workers to work longer hours rather than employ extra people. He also argues, as Keynes did back in 1930 and as will Stiegler, that education must prepare people for life more generally and not simply for work.

Bregman charts what has happened with productivity over the last century

or so. One of the most dramatic changes is how few people now work in agriculture. In 1800 it was 70 per cent of Americans, by 1900 30 per cent and by 2000 a mere 3 per cent (for a book written in Europe his approach is rather America-centric in his examples). Even over the last twenty years, we might add, in the UK it has dropped from 4 per cent to 2 per cent. American cows give twice as much milk in 2010 as in 1970, the productivity of wheat has doubled and that of tomatoes tripled (p138). Again, there is little concern shown for the sustainability of such intense production. Recent German studies suggest a shocking 75 per cent drop in insect populations in the last twenty-five years, an environmental Armageddon in the making, but no such environmental concerns cloud the picture painted. Bregman contrasts Kodak, which employed 145,000 in the late 1980s and which filed for bankruptcy in 2012, with Instagram, which employed thirteen people and was bought the same year for \$1 billion. The findings of a study of the US car making industry from 1963 are cited: new technologies wiped out 13 million jobs in the previous decade but created 20 million jobs. What has happened more recently, since 2000, is what MIT economists have called 'the great uncoupling' where very fast innovation is not linked to more jobs. In particular, this has been manifested in a decline in the number of jobs for the moderately skilled (with those of high skilled and low skilled remaining the same). We then have a complication which partly contradicts his initial picture of prosperity: globalization is eroding the wages of the middle class which has sought to maintain its spending power by borrowing.

In response to this development, Bregman makes a case for giving free money to everyone. He looks at a number of experiments: from one giving £3,000 each to rough sleepers in the City of London via ones in Africa to the 1970s Mincome project in Canada (pp55-63). These studies show that the claim that giving unconditional money will result in the recipients stopping working or that they will make bad choices are unfounded. Various other arguments are also rehearsed. Bregman shows how poverty leads people to bad judgements because of the short-term viewpoints they adopt (pp100-103). The costs of homelessness – two or three times as much as simply housing people – are examined (pp112-14). An account of Nixon's minimum income plan and the way it drew on the ideas of Karl Polanyi is given. In places it is quite apparent he is covering far too much ground too quickly: in order to show a link between poverty and mental illness a paper of 1855 is cited (p98). That Bregman never wrestles with significant evidence that is contrary to his theories makes his book more of a manifesto than a serious examination of the issues it proposes. Many who already think like Bregman will be further enthused, but those who are more questioning will find themselves unsatisfied. His critique of his former post-graduate course in development economics – 'the American professor argued that extreme poverty could be wiped out completely before 2025. All we need is a pile of money and a good plan. *His plan*, mind you' – could be easily directed back at the author (p177).

Bregman claims not just that productivity and technology are doing away with jobs but that there are an increasing number of people who do jobs we can do without. His argument here depends on an account of how Ireland got through a six-month bank strike in the 1970s and on a recent survey in which many people said they had a perception their job was pointless (pp142-4). Another shaky argument is his claim that Reagan era tax cuts encouraged 'the best minds' to switch from teaching and engineering to banking and accountancy, leading to a decline in innovation. He attributes too much to individual career choices and overlooks the much more complex question of the willingness of contemporary capitalism to invest long term rather than to seek rents. The extent to which companies invest in research and development will not be dramatically turned around by higher taxes on high incomes as he suggests (desirable as they might be for other reasons).

The penultimate chapter suggests opening borders would be much more effective than aid in alleviating poverty (it is noted in any case that the entire global total of aid given annually is the same as what a small wealthy nation such as the Netherlands spends on healthcare alone) (p190). According to the World Bank: 'if all the developed countries would let in just 3 per cent more immigrants, the world's poor would have \$305 billion more to spend' (p182). That is three times the value of development aid. Some unpalatable facts are rehearsed: a person living at the poverty line in the US belongs to the richest 14 per cent in the world, someone earning the median wage belongs to the richest 4 per cent (p184). We are told: 'even food stamp recipients in the U.S. live like royalty compare to the poorest people in the world ... In the 21st century, the real elite are those born not in the right family or the right class but in the right country' (pp185-6). Some of the arguments made here contradict those elsewhere in the book about the inevitability of employment declining: apparently immigrants won't displace citizens but will cause more employment to be created (p187). Studies are cited which suggest that immigrants have no effect on wages. Others show that open borders promote immigrants' return: 85 per cent of Mexican immigrants returned in the 1970s compared to 7 per cent now (p188). But ultimately, despite the promises of the book's subtitle there is no argument for absolutely open borders which, we are told, would affect 'social cohesion' (p189). What is particularly disappointing is that no attempt whatsoever is made to link the argument for basic income and the limited case for more open borders and the arguments made in the different sections are ostensibly contradictory. To be credible, there is a need to address explicitly the question of the extent to which the latter is compatible with the former.

STIEGLER'S NEW AGE

As if the potential end of employment and the institution of a minimum income were not a dramatic enough development, Stiegler commences by

linking their advent to nothing less than the end of the Anthropocene. We are told of ‘a transformation of this magnitude, so extraordinary that it seems to go beyond the limits of History and Proto-History, that we refer to as the Anthropocene’ (p85). Consequently, in the introductory sections of the book ‘the Neganthropocene’ is introduced as that which will accompany the end of work. Yet despite projecting such an epoch-defining change Stiegler only touches on this idea briefly in the introduction and a couple of times later in the book and it is treated in a hasty and utterly inadequately way. Basic definitional questions are ignored and there is no reference to the debate among scholars over when the Anthropocene commenced or even what it is. As is well known, the Anthropocene is the period of geological history defined by man’s impact upon the earth. The argument which accompanied the first coining of this term fifteen years ago was that human activities have become so pervasive and profound that they rival the great forces of nature. In the extensive literature that has developed around this claim there have been arguments about whether the period began 50,000 or fifty years ago, whether it commenced with the combination of hunting and burning leading to mass extinctions or with the atomic bomb, or with a number of other events in between.⁷ Yet Stiegler doesn’t discuss or even refer to this debate and says simply that the Anthropocene’s history ‘coincides with that of capitalism’ (p8). Given this is in disagreement with the current general consensus that the atom bomb marks the start of the Anthropocene, one would have expected Stiegler to make a case for why his definition is superior but he does not. Indeed, further complications are added almost in passing: ‘we must think the Anthropocene with Nietzsche, as the geological era that consists in the devaluation of all values’ (p9). How, and whether, Marx and Nietzsche can be so hastily combined and then aligned with geological history is simply never discussed. We are expected to take this as an *ex cathedra* pronouncement.

Given the Anthropocene appears to be, for Stiegler, both capitalism and ‘the geological era that consists in the devaluation of all values’, it is perhaps inevitable that the attempt to project a future that would escape from it gets utterly confused. Continuing with what he claims as a Nietzschean line of thought, he tells us that ‘nihilism is set loose as consumerism’ but that it can be transvalued by ‘*negentropy* – or negative entropy or anti-entropy’ (p10). Stiegler claims that ‘emerging from thermodynamics ... the theory of entropy succeed in redefining the question of value’ (p10). In particular, he argues that: ‘the *new value* that will re-found the economy and politics will no longer be the time of employment, but the time of knowledge, that is, *negentropy*, constituting a *negentropy* and the opening of the *Neganthropocene*’ (p86). This is based on the extraordinary statement that: ‘*knowledge is a cosmic factor that is inherently negentropic*’ (p15). No discussion of carbon outputs, let alone other ways in which man impacts on the planet such as through the massive human impact on the nitrogen cycle.⁸ Stiegler speaks freely of the ‘neganthropic possibilities opened up by *automation* itself’ but without in any way spelling

7. David Biello, ‘Did the Anthropocene begin in 1950 or 50,000 Years Ago’ *Scientific American* 2 April 2015. <https://www.scientificamerican.com/article/did-the-anthropocene-begin-in-1950-or-50-000-years-ago/>. Ian Angus, ‘When did the Anthropocene begin and why does it matter?’ *Monthly Review* 67:4, 2015. <https://monthlyreview.org/2015/09/01/when-did-the-anthropocene-begin-and-why-does-it-matter/> See also the summary by the Working Group on the Anthropocene of the Subcommission on Quaternary Stratigraphy on their webpage: <http://quaternary.stratigraphy.org/workinggroups/anthropocene/>

8. Scott Fields, ‘Global Nitrogen: Cycling out of Control’ *Environ Health Perspectives* 112:10 (2004), A556-A563.

out how automation alone would bring us beyond a geological era where man is a geological factor (p14). In all this the seriousness and precise nature of our predicament isn't really realised and Stiegler, merely in passing, refers to 'the Anthropocene qua destiny that leads nowhere' (p15). The imminent threat posed by man's activities – and what steps we must take to avert it – is nowhere laid out. Very late in the book, we are merely told once that 'for the first time the question arises of the survival of humankind within a few generations' (p170). Stiegler's response to this predicament seems to be nothing more than a weak attempt on paper to define the problem away.

By and large, however, the book does not concern the projection of a Neganthropocene. Rather, for much of the book Stiegler's focus is on 'the society of total control' which he believes we live in. He tells us that 'hyperindustrial society is fully accomplished as the *automatization of existences*' and that the hyper-industrial state moves what Deleuze called control societies into hyper-control (pp20, 58). His claim is that:

Symbolic misery results from the problematisation of sensibility that commenced in the early twentieth century. This de-symbolisation leads in a structural way to the destruction of desire, that is, to the ruin of libidinal economy (p20).

In this current volume he speaks constantly of 'total' and 'absolute situations: for example, symbolic misery is 'the liquidation of *all* attachment and *all* fidelity [my italics]' (p21). We are further said to be experiencing 'an *absolutely* and *totally* computational capitalism [Stiegler's italics]', are told that 'objects have become fully calculable', 'that there is 'total proletarianisation and ... total disintegration of the spirit' and 'complete commodification of existence and everyday life' (pp23, 28, 42). Indeed: 'desire ... *no longer exists* because, *all their objects* hav[e] been turned into *readymade commodities*' (p34). Stiegler's argument here has a resemblance to those made by Adorno or the late Heidegger, that modern societies have become dominated by almost inescapable instrumentalising logics. Yet from Habermas to Derrida, over the last half century, arguments of this type focused on instrumentalisation and making the claim that it is total in contemporary society have been very thoroughly rebutted in a number of different ways and seem rather simplistic now, especially when presented simply as stark declarations without any supporting readings. Stiegler knows this well and his condemnations of the media, in particular, seem implausible in the light of some of his early work. In the early 1990s, he interviewed Derrida on the subject publishing a series of fascinating, and surprisingly rarely referenced, interviews. In them Derrida elaborates the need for 'a critical culture of the media', something that is a far cry from Stiegler's absolute condemnations and failure to engage in close analysis.⁹

A lengthy section of the book is devoted to telling the story of the loss

9. Jacques Derrida and Bernard Stiegler, *Echographies of Television*, Cambridge, Polity, 2002.

of work-knowledge in the nineteenth century being followed by the loss of life-knowledge in the twentieth century and, now, in the twenty-first century, by nothing less than ‘the loss of theoretical knowledge’ (p25). The possibility of their recovery is at one stage linked to the book’s initial framing: ‘the stakes of the neganthropic question are de-proletarianisation’ or ‘the *power of dis-automatization*, that is, as constituting the neganthropic future of a new industrial age of life on earth’ (pp136, 166). Again, quite how restoring the worker to his work-knowledge, important as this project might be, is necessarily linked to relieving man’s geological impact on the planet is not specified. Rather we become embroiled in an extremely dubious claim that: ‘the worker’s loss of individuation described by Simondon, deprived of his or her knowledge [...], seems to anticipate the scientist’s loss of individuation, deprived of his or her knowledge by the intensive computing’ (p55). Again, Stiegler does not back up this assertion with argument, but takes it as gospel from a piece called ‘The Ends of Theory’ by Chris Anderson, a journalist and entrepreneur. This was published in *Wired* magazine, but we can only find out the nature and place of publication by turning to the footnotes. Perhaps not surprisingly Stiegler wishes to keep from us the realisation that the end of science has been announced in the monthly computing press! This might seem strange in a work presented in a highly elaborate theoretical style, yet it fits with a general tendency to avoid extended discussion of the works of philosophers and other thinkers.

Stiegler made his name philosophically for his criticism of Husserl and Heidegger’s thinking of, or rather their failure to think, technology. He argued convincingly in *Time and Technics* that technology is not something which man simply uses but which at a deep level makes him what he is. We are reminded in *Automatic Society*: ‘since the beginning of hominization, the practice of tools and instruments has *disorganized* and *reorganized* the brains, minds and spirits of workers’ (p159). Given Stiegler’s background one would expect to be told more about how current and coming technical developments might change humans but, again, there is disappointingly little detail. What there is almost solely confined to a central section of the book that concerns intermittence, or ‘daydreaming’, as the ‘*power to disautomatize the automatisms*’ (p72). Here he refers extensively to Jonathan Crary’s *24/7: Late Capitalism and the Ends of Sleep*. The book’s thesis is summarised: ‘24/7 capitalism is totally [again, *totally*] computational and it is, more precisely capitalism conceived in terms of the power of totalization ... it aims through its operations to impose *an automatic society without the possibility of dis-automatization, that is, without the possibility of theory – without thinking*’ (p72). This he calls ‘algorithmic governmentality’ and claims it. ‘eliminates anything incalculable – and does so on a planetary scale’; total disadjustment ‘putting an end to intermittence as such’ (pp150, 176). This is proposed, again, without any attempt at analyses of any kind. A rare exception is an autobiographical reference concerning how he wrote books while driving a car.¹⁰ Stiegler argues that ‘mental intermittence

10. Another is when we are told ‘the *liquidation of capacities* ... results from automatization in general’ and are given the examples of sliding doors and GPS. p121.

originating from the machine can be cultivated and lead to a new practice of apprenticeship and dis-automatization' (p112). He tells us: 'many of the books I published between 2004 and 2009 were written while driving a car between Paris and Compiègne on the A1 motorway' (p123). On this basis, he suggests, that technology will somehow give us space to think, that: 'the time saved must ... consist in time for knowledge, in turn conceived as time for de-proletarianisation' (p94). There is an important point to be made about how technology might well free us for other things but the example of writing books while driving a car is not actually very apt illustration of how that might happen (although an interesting revelation of how Stiegler's composes his own work). Stiegler insists we live in a society of 'total control', that is one completely dominated by instrumentalising logics. His proposal to a move to a society based in intermittence implies an escape from this but the extent and limits of this is never discussed. As with his invocation of a neganthropocene, the failure to do so allows the unjustified utopian pathos of his book. A more rigorous analysis, which started from a recognition that no society is 'totally computational' – again, the point Stiegler could have learnt from his engagement with Derrida – would have discussed the ways in which different societies inevitably instrumentalise in different ways and to different degrees.

Towards the end of the book Stiegler turns to argue for 'a right and a duty, to *access not employment ... but work*' (p.166). His discussion mostly consists of disagreeing with Rifkin's 1995 *The End of Work* and distinguishing himself from some of Gorz's positions. He argues Rifkin celebrates time freed for consumption and never offers any warning of a looming end of employment (pp171, 184). He also alleges that for Gorz work more and more refers to free time rather than to liberated work (pp177-9). He notes Gorz is critical of Rifkin's idea of 'third sector' as an offloading of the responsibilities of state (as has been proved to be the case with Cameron's 'Big Society' and its pensioners replacing trained council librarians) (p180). Stiegler's distinctive argument is for 'a *law of work* in an economy of contribution', that is, contributory income rather than a negative tax, or a guaranteed minimum income (pp190, 180). His model here is that of the French *intermittents du spectacle*, the regular income paid to actors since the 1930s, whether or not they are working. This proposal has much to say for it but Stiegler again fails to provide detail, relying simply on the verbal play with 'intermittence' and the promise of an unspecified escape from instrumentalising social logics.

A decade or so back, a group of eminent economists got together and attempted to answer the question of why, seventy-five years after Keynes' prediction, and with his hundred year forecast on growth already met, work times had not yet dramatically fallen.¹¹ Many contributors argued that Keynes had underestimated the extent to which people would consume more rather than work less, similar to Bergman. A few contributors also argued theses concerning the appeal of work but, similar to Fleming's fetishism, these

11. Lorenzo Pecchi and Gustavo Piga, *Revisiting Keynes: Economic Possibilities for Our Grandchildren*, Cambridge, MIT Press, 2008.

mostly don't ring true; at least for the majority of the workforce. In the face of the monstrous debt mountain that has been created by the expansion of mortgage lending in the last twenty years, it remains that very few workers have the practical option to take time instead of income. In addition, with increasing numbers of people working freelance there are great pressures on precarious individual workers to work longer. Yet Keynes' vision, of time traded for things, is perhaps still the key to saner and more environmentally sustainable ways of living as well as of addressing the coming obsolescence of large parts of the workforce. Basic or contributory income will very likely play an important role in responding to these developments. But it remains to work other than the three books under discussion to make that case convincingly and in detail.¹²

12. Phillippe van Parijs has recently authored together with Yannick Vanderborght, a restatement of his case: *Basic Income: A Radical Proposal for a Free Society and a Sane Economy*, Boston, Harvard University Press, 2017.

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MACROBIAL CULTURES

Joseph Darlington

Carsten Strathausen, *Bioaesthetics: Making Sense of Life in Science and the Arts*, Minneapolis, University of Minnesota Press, 2017.

The sciences are empirical while the humanities study language. Biology deals in fact while literary criticism, quite literally, deals in fiction. Or at least, this is the divide which has emerged in the past century. So what happens when one methodology is applied to another? Can they be unified, or do they clash? This is the core concern of Carsten Strathausen's *Bioaesthetics* (2017) and his findings are in some ways surprising, in some ways exactly what you would expect.

Strathausen's primary focus is the different types of faith the two cultures place in language. The hard sciences, we are told, 'are content to treat language as a transparent medium for the representation of abstract ideas', while the humanities assume ideas to be 'fundamentally shaped' (p7) by the language in which they are expressed. This divide is visible everywhere. In conferences, scientists prefer to speak directly while presenting their findings in graphs and charts, while the humanities favour prewritten papers where their language can be carefully chosen. Scientific theories contend over who is objectively correct while the humanities embrace a 'methodological pluralism' (p153). Each area has evolved to best fit its object of study. As a result, when evolutionary theory is transferred over to the humanities, as in E. O. Wilson's *Sociobiology* (1975) and *Consilience* (1998), the scientists tend to argue that the humanities should either admit that they are incorrect or else find a way to make their theories align with natural selection. By contrast, when humanities embrace the sciences the tendency is to read scientific language as metaphor. Strathausen lists 'biophilosophy, biopolitics, bioart, bioethics, biopoetics, biotechnology, [and] biomedica' (p2) as the latest attempts at this partnership; demonstrating how 'methodological pluralism' takes root even in these early stages of science entering the arts. To make sense of all these overlapping concepts Strathausen turns to Kant. Kant, the undisputed master of categorisation, is also an important figure as, during his own time at least, he contributed as much to the sciences as the arts. The 'paradoxical intertwinement of concepts and objects as both artificial and real' (p14) is Kant's central theme, and by adopting Kant's precision Strathausen does an enviable job of navigating a fraught debate. Like Kant, he explores the differences between concepts the better to arrange and align them.

Bioaesthetics is structured in a roughly chronological manner. Some debates, we are shown, change considerably over time while still retaining their central dynamic. In Kant's era, for example, the central argument in biology was

between the ‘preformationists’, who believed all life existed pre-formed and ‘unfolded rather than developed’ (p37), and ‘epigenesists’ who argued that new categories could emerge through environmental ‘degeneration’ (p39). Kant attempted to combine the two schools but missed the essential Darwinian ingredient: time. Genetic theory expands preformationism’s idea that certain animal traits are assigned before birth – i.e. DNA – while natural selection expands epigeneticism’s idea of change, demonstrating that change generates new life rather than just degrading it. But this did not resolve the matter. As we move to the present we find neo-Darwinians and autopoieticists staging similar debates. Does all life come from natural selection or were there ‘self-organising processes’ (p56) which initiated life so that natural selection had something to act upon? Importantly, each of these positions also prescribe, or at least imply, certain roles for culture in humanity’s development. Preformationism’s culture is built-in and ‘natural’. Epigeneticism’s culture is subject to collapse. Neo-Darwinists see culture as a genetic adaptation. Autopoieticists, one of whom Strathausen appears to be, assign culture a semi-autonomous development distinct from environmental adaptation.

So we come to the question of what culture actually is. Strathausen points out that attempts to apply neo-Darwinian theories to texts inevitably rely upon realist novels and representational paintings. Empiricism struggles with the fantastical, the conceptual, the ambiguous; in fact, any region defined by an aesthetic *je ne sais quoi*. Granting, on these grounds, that culture must have its own internal logics, at least to some extent, Strathausen then restages the late-1960s debate between Jacques Monod and Louis Althusser. Monod, whose book *Chance and Necessity* was described by Althusser as a ‘spontaneous philosophy of the scientists’ (p87), argued that culture, having evolved by chance and become semi-autonomous, need have no teleological direction. Just because humans developed culture to *give* their lives meaning, he argued, does not necessarily mean that culture *has* a meaning. Monod, interestingly, intended his arguments to target Darwinian orthodoxy; culture, to the scientists, was still a survival strategy. Althusser took exception to Monod for a different reason. If culture evolved by chance, then what role is left for historical materialism? Althusser’s rigid ‘anti-humanism’ demanded that culture (or ‘ideology’) always follow economics ‘in the last instance’. Strathausen demonstrates here how the Althusserian school of historical materialism bears much in common with Richard Dawkins’ version of genetics: ‘much like the selfish gene... uses human individuals as hosts to replicate its ontogenetic code, any given society... interpellates human individuals as “subjects” in order to reproduce its specific relations of production’ (p91). We may never be able to explain why one particular piece of abstract art benefits one particular individual’s genetics, or reproduces capitalism within them, but if we stand far enough back from the canvas then the concepts might start to align. Herein lies the problem.

The most successful hermeneutic practice that the humanities have so far developed is the practice of close reading. It recognises that there can

be no substitute for actually getting to grips with the particular text, the individual painting, the film as it is seen. Biology, by contrast, does not claim to explain every case. The processing of empirical data requires that outliers be disregarded in order that functional ideas might result. Strathausen spends the majority of his study demonstrating the dangers of reductionism: evolutionary theory simply cannot explain the specific meaning of a passage of Shakespeare, nor is it meant to. Pleasingly, his final chapter then turns the tables and criticises the bio-humanities' obsession with Deleuze. After spending most of the book criticising scientists for taking reductionism too far, Strathausen condemns Deleuze for not intellectually reducing the world enough. For Deleuze, Strathausen notes, 'the virtual forces of becoming literally make sense on their own, and they do so without and beyond the stratified territory of living beings and human minds' (p231). Theories of 'affect' take anti-reductionism to its opposite extreme where things simply *are* and observation is denied any power of judgement or analysis. By denying humans the capacity to create categories, Deleuzian vitalism is ultimately no better than a form of spirituality. It may appeal to large numbers of academics but, if we seek to learn from biology in good faith, Strathausen makes a clear case for us rejecting Deleuze's 'post-human' overstatements.

The question remains as to what Strathausen proposes in place of these incomplete theories. This, also, is my only quibble with the book, as it does not really seek to provide an answer. Strathausen comments throughout on what 'bioaesthetics' should or should not do as if it is already a school of thought. Rather, it appears only to signify the space remaining after Strathausen himself has cleared the theoretical ground through negative critique. The solution he presents to the biological questions raised in the text, particularly the mind/brain debate, is found in the recent discovery of neuroplasticity:

although our genetic heritage determines the overall framework for human brain development, the specific growth of synaptic connections within each individual brain depends mainly on postnatal life experiences (p201).

The middle ground Kant sought between nature and nurture finds some physical basis here. Bioaesthetics, I suspect, will be the study of the cultural implications which emerge from this discovery. *Bioaesthetics* (2017) does not delineate this new field, but it does a tremendous job of preparing the reader for it. It is well written and compellingly argued. I hope that biologists read it as well as humanities scholars, and I eagerly await Dr Strathausen's next work. The struggle is over, the fittest survivor has been selected, and it is time for a new species of thought to multiply.

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BOOKNOTE

Ida Djursaa

Brenna Bhandar and Jonathan Goldberg-Hiller (eds.), *Plastic Materialities: Politics, Legality, and Metamorphosis in the Work of Catherine Malabou*, Durham and London, Duke University Press, 2015, 339pp; £29.99, paperback.

In *On Futurity: Malabou, Nancy, Derrida*, Jean-Paul Martinon articulates the notion that any critique of Malabou's concept of plasticity inherently calls for the questioning of the plasticity of that critique itself. This is one of the paradoxes of the concept of plasticity, and as a result, Martinon suggests, one can only 'weigh' Malabou's work, stay faithful to it and follow it as it forms another path, in itself plastic.¹ This is the path that *Plastic Materialities* to a large extent takes up. Relating Malabou's work to the New Materialisms movement, the book is concerned with the possibility of the future of a world in which global capitalism reigns and neurological advancements tell us that the brain, our 'self', is essentially changeable – is essentially *other* than itself. Thus, the guiding question of the book is 'What future?' Where are the gaps in the present which allow for change? And what kind of change would this be? Essentially, what is the promise of a *plastic change*, a *plastic future*?

By plasticity, we mean the double movement of giving and receiving form, such that it at the same time is a saying farewell to something past and a saying hello to something new, a complete coincidence of new and old – a kind of creative explosion, so to speak. This concept of plasticity was first developed from Malabou's reading of Hegel in *The Future of Hegel*, and was later materialized in her work on brain plasticity. This later work emphasizes the fact that we constantly shape and reshape our brains, without knowing that we do so. Malabou urges us to become aware of this notion that our self is essentially and constantly changing, but that we always have the opportunity to wriggle and slip out of – to resist – the determination of the brain and likewise the determination of the world of global capitalism.

Malabou's work thus urges us to believe in, and act upon, the possibility for change. *Plastic Materialities* does exactly this. Consisting of three chapters written by Malabou and twelve chapters written by different scholars, the book explores different ways of incorporating plasticity into pressing issues in the contemporary world. Whilst some of the chapters seem to slightly miss the point of Malabou's work and thus harbour their critique of plasticity less convincingly, most of the chapters are highly interesting and compelling. For example, Silvana Carotenuto's chapter explores the plastic potentiality of art to express the uncertainty of the future of the Middle East, and her focus on uncertainty thus directly benefits from the metamorphic character of plasticity. In the true spirit of plasticity, Jairus Grove considers the notion

1. Jean-Paul Martinon, *On Futurity: Malabou, Nancy and Derrida*, Hampshire: Palgrave Macmillan, 2007, p32

expressed in Malabou's *What Should We Do with Our Brain?* that our brains can and do always change, without 'us' knowing it. According to him, 'the horror of plasticity in an age of control' is the possibility for change without resistance: 'control represents the real possibility of order without the leverage or friction of ordering.' (p239) He successfully concludes that we must read plasticity in the context of control, in order to realise that 'the fragility of things is real; freedom as we currently cultivate it can be broken.' (p256)

Plastic Materialities is thus an important and exciting contribution to the New Materialisms movement as an extension of Malabou's work, and each article should be granted the careful reading that it deserves. Whilst critique of any work is of course always necessary, the special character of the concept of plasticity is that it contains the potentiality for infinite ways of thinking anew. Thus, the most successful readings of plasticity in *Plastic Materialities* are those which resist the urge to immediately critique, and instead allow for plasticity to linger a little, in order to test its metamorphic potentialities, as the authors search for the gaps that contain the possibility for answering the question: what future?

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