

Reading 'Earth Incorporated' through *Caliban and the Witch*

Sian Sullivan

In the 1990s, millionaire Maurice Strong – Secretary General of the 1992 UN 'Earth Summit' in Rio de Janeiro and simultaneously initiator of the CEO-led network the World Business Council for Sustainable Development – asserted in a series of widely quoted lectures that 'global sustainability' can only be achieved through applying the principles of business. Formerly an entrepreneur in the Alberta oil patch and president of the Power Corporation of Canada, as well as Secretary General for the 1972 UN Stockholm Conference on the Human Environment, Strong proclaimed that:

In addressing the challenge of achieving global sustainability, we must apply the basic principles of business. This means running 'Earth Incorporated' with a depreciation, amortization and maintenance account.¹

This sentiment has become almost a truism in environmental governance. It is associated with a growing primacy of expertise in business, accounting and finance as core to the management of environmental health, coupled with the creation and calculation of new exchange values for units such as certified carbon emissions reductions, species banking credits and biodiversity offset scores. Underlying this transformation is a consolidated framing of the natural environment as a provider of 'ecosystem services' that should be paid for, and as a 'bank of natural capital' whose assets should be invested in and may be leveraged financially.²

In combination, these innovations are underscoring new processes of enclosure of beyond-human natures as they become conceptualised and calculated as privatised and tradable units to which monetary forms of value can attach and accrue. I have understood this process to be a 'financialisation of nature' in a manner akin to evocation of the 'financialisation of the social' effected through impact investing and other extensions of

venture capital into social welfare.³ Regardless of how much money may be made in the variously financialised creating of 'Earth Incorporated', its world-making significance is profound. It entails a creeping extension of accounting and financial discourse, expertise and valuation practices to the natural world, such that vast swathes of land and habitat, as well as the communities that dwell there, become (further) enmeshed in corporatised business in which 'only production-for-market... [is] defined as a value-creating activity'.⁴

In this chapter I celebrate Silvia Federici's *Caliban and the Witch* (2004) for the role it played for me some years ago in disentangling the dissonance of assertions that an extension of marketised forms of value will curtail the environmental degradations engendered by marketised forms of production, exchange and consumption. Specifically, I remember sitting in a café in Glastonbury – not far from localities claimed in local lore to be some of the last meeting places for English 'witches' of the Middle Ages – scribbling pages of notes as Federici's clarification of primitive accumulation and of modernity's new techno-statistical divisions of both nature and the body came into focus. Her electrifying integration of the insights of Marx and Foucault encouraged in me a resistant analytical response to the new enclosures becoming naturalised as Earth Incorporated seeks to accumulate from nature's conservation, as much as from its productive transformation. In this chapter I outline the contribution of Caliban to my understandings of contemporary 'primitive eco-accumulation' and the calculations of nature that are thereby required, particularly in two pieces – 'The environmentality of "Earth Incorporated"' and 'Banking nature?' – on which I draw heavily here.⁵ I close with some reflections on the positioning and potential of struggles in a moment of populist politics in which women's bodies and the natural world are once again experiencing intensified capture, violation and erasure.

Primitive Eco-Accumulation: Enclosing the World's Body as 'Earth Incorporated'

Primitive accumulation in Marx denotes the acts of possession necessary for the creation and capture of all subsequent capitalist relations of production and exchange.⁶ For Marx, the two critical enclosures are of land as property and human activity as labour, the creation of which required an historical rift of each from the other to effect a disembedding of people from land-entwined social relations, as Karl Polanyi later put it.⁷ Federici and other scholars highlight additional historical forms of primitive accumulations as integral to the capitalist strategy of bending nature *in situ*, as well as human life and bodies, to the commodity form. Michael Perelman,

for example, understands the eradication of scores of annual religious 'holy-days' throughout the Middle Ages as primitive accumulation.⁸ The removal of these days from the annual calendar further released an increasingly individualised and disciplined labour force for capital, both by increasing the number of work days annually and by eroding collective solidarities consolidated through the celebration of Saints' Days.

In *Caliban* Federici clarifies two further key enclosures in the service of capitalist primitive accumulation. First, women's wombs and reproductive labour were accumulated as a free service through systematic destruction of women's productive autonomy, linked with the terrorising 'witch-hunts' in Europe in the sixteenth and seventeenth centuries in which some two-hundred thousand women⁹ were murdered by emerging European states. Secondly, Federici traces an amplified self-disciplining of the body's urges in its refashioning as 'body-machine' as enabling the primitive accumulation of commoditised labour to supply the homogenised and increasingly automated organisation of capitalist industrial production.

All such accumulations of productive forces not *a priori* manufactured for sale require dramatic, albeit subsequently naturalised, conceptual transformations. The conversion of land into private property, which underscores the current wave of financialised ecology-commodity creation, thus requires the rejection of prior values, access or use rights so that land itself becomes capital that can be owned for most intents and purposes absolutely. Its abstracted monetary price, linked with associated resources and amenities, is then able to rise and fall in relation to other commodities, and its deterritorialised exchange is able to occur at a distance with money as symbolic medium and measure of 'value'. In combination, it is the transformation of land and human activity from subject to object that permits their reification as marketable commodities.¹⁰ This is a process that disregards and makes strange the myriad other practices of relationship, value and ethical requirements enacted by people in relation to natures-beyond-the-human.¹¹

Marx states additionally that '[a]s soon as capitalist production is on its own legs, it not only maintains this separation [of labour from the means of capitalist production], but reproduces it on a continually extending scale'.¹² As Federici maintains, 'primitive accumulation has been a universal process in every phase of capitalist development', re-launching 'similar strategies in the face of every major capitalist crisis'.¹³ Massimo De Angelis thus refers to primitive accumulation as the *ontological*, as opposed to historical, condition of capitalist production.¹⁴ Many other authors have stressed this ongoing nature of primitive accumulation, from Rosa Luxemburg writing in 1913, to David Harvey writing in 2010. As such, recent analyses frame the process as 'continuous',¹⁵ 'permanent'¹⁶ and 'contemporary'.¹⁷

The current proliferation of new nature values and tradable commodities for environmental conservation can be understood as a similarly productive wave of primitive accumulation. They are structuring ostensibly untransformed and variously restored nonhuman natures into reified and potentially exchangeable commodity forms in previously unthought ways,¹⁸ at the same time as creating additional ways of bringing diverse peoples into the global market as producers-consumers of these new commodity forms. Primitive 'eco-accumulation' in this reading is the engine driving a series of expansionary and overlapping intensifications in the commodification of life itself, so as to more fully saturate and subsume 'the eco-socius'¹⁹ – despite the resistances afforded by affected communities and the immanent diversity and liveliness of beyond-human materialities.

In creating Earth Incorporated the 'reproductive capacities' of the body of the earth are becoming conceived, measured and alienated in terms of productive labour or service-work. Unlike the unpaid reproductive labour of women, however, in Earth Incorporated nature's 'labour' should be paid for: through 'payments for ecosystem services' and associated initiatives instituted at varying scales of exchange. There is an additional parallel here with Federici's exploration of the medieval commutation to money payments of rent for land,²⁰ in that 'payments for ecosystem services' discourse and practice similarly effects a commutation to money payments of the generative capacities of beyond-human nature. As in the former commutation, any payments arising from the latter commutation also go to those able to assert ownership over the services that are thus produced. Indeed, the stated intention in 'payments for ecosystem services' discourse and policy is to enhance resource rents on owned land, such that these rents will out-compete alternative land uses. Through delineating ecosystem service units and creating possibilities for enhancing tradable value – for example, by bundling²¹ and stacking 'multiple, spatially overlapping credits representing different ecosystem services' such that these units can be 'sold separately to compensate for different impacts'²² – new sources of income are thereby able to accrue to alienated land. Simultaneously, new motivations are created for the alienation of land as well as of any new exchange values abstracted for so-called 'ecosystem services' and 'natural capital assets'.

A 'growing multibillion-dollar international market in carbon, habitat, and water-quality credits'²³ is thus set within multiple assertions that so-called 'natural capital' 'represents an undeveloped, but emerging private sector investment opportunity of major proportion.'²⁴ This new metaphorical framing and fabrication of nature-as-capital is in fact a brilliant subversion of the biological metaphors through which eighteenth and nineteenth century economists understood capital, and particularly its

interest-generating capacity. In *Capital* Marx observed the tendency to see '... a property of money to generate value and yield interest, much as it is an attribute of pear trees to bear pears'; such that '[a]s the growing process is to trees, so generating money appears as innate in capital in its form as money-capital'.²⁵ The metaphor of 'natural capital' turns this conception on its head to state instead that the generative capacities of 'nature' are akin to those of the interest-bearing capacities of capital. In doing so, conceptions and materialities of 'the natural world' are wrapped further into the logic and values of capitalist market economy, in paradoxical disregard to the manner in which marketised exchange thrives on the dissociative impetus underscoring the degradations that 'natural capital thinking' is apparently intended to redress. Indeed, fantastical notions of 'decoupling' economic activity from ecological materialities and generating 'no net loss' of biological diversity, even though losses to populations and habitats have taken place, extend this splitting impetus into arguably pathological conceptualisations of possibility.²⁶

Coupled with amplified 'land grabbing' in the global south in recent years, in part as a response to financial crisis, the acquisition of land for the commoditised 'green' economic values it might produce has been variously termed 'green grabbing', 'accumulation-by-conservation' and 'accumulation-by-restoration'.²⁷ Market-based conservation technologies are celebrated by some as a means of amplifying possibilities for local peoples to assert claims to new sources of income.²⁸ They have also been linked, however, with evictions from land,²⁹ the disempowering of local decision-making structures³⁰ and heightened counter-insurgency tactics,³¹ alongside amplified reach and wealth extraction by private sector investors. As such, contemporary primitive eco-accumulation can be understood to offer new impetus for old processes whereby capital creates and appropriates new commodity fictions from which surpluses can accumulate.³² As Federici writes for the creation of the mastered labouring body that was central to the success of earlier accumulation regimes, this extension of the techno-calculative grid of economic value-making into previously uncalculated domains fabricates the natural world as a 'work machine' to make possible new forms of 'green enclosure'. It is to this dimension of the making of 'Earth Incorporated' that I now turn.

Calculating 'Earth Incorporated'

Primitive eco-accumulation has involved innovations in the ways that nature is calculated, effecting techno-statistical divisions of 'the world's body' so as to bind nature to capital in previously unforeseen ways.³³ In foregrounding the calculative practices fabricating and mastering the

body as a work-machine whose labour can be sold as an alienated commodity, Federici's *Caliban* again offers insights into the conceptualisations, practices and mechanisms by which this calculative and governing impetus is taking hold in environmental management. Here she shifts from Marx to Foucault (amongst other authors) in examining the 'philosophical debates' and 'strategic interventions' transforming 'the individual's powers into labor-power'.³⁴ Her insights and analysis are potent for considering the similar processes in application in the conceptualisation and transformation of nature's diverse powers into labour-power that can be paid for.

As Federici summarises, in *Discipline and Punish* Foucault analysed how new regimes of governance are structured and bolstered by new social sciences, which recursively and productively reinforced new disciplining techniques of management and administration. Foucault made much of the accompanying presence of a novel spirit that partitions, makes distinctions, classifies, codifies and calculates as central to the rise of the bourgeois class and the Age of Reason in Europe.³⁵ Foucault was talking about the body, and about the emergence of new social sciences that helped to construct, master and accumulate the body as a utility-maximising 'body-machine', as well as to rationalise and administer bodies as populations. Federici extends this structural analysis to affirm that '[t]he product of this alienation from the body ... was the development of individual identity, conceived precisely as 'otherness' from the body, and in perennial antagonism with it'³⁶ – a point to which I will return below.

The contemporary era of primitive eco-accumulation accompanying neoliberal environmental governance is infused with a similarly intensified extension of subjectification practices to alienated socio-ecological domains. Just as the new sciences of demography, nutrition, etc. made possible the administrations of the modern era through the application of *accounting* to social relations,³⁷ ecosystem service science today is effecting the application of accounting to socio-environmental relations as 'natural capital accounting', also in service to particular administrative regimes.³⁸ In further transforming and accumulating 'Nature's' exceeding immanence into 'work powers', the animated, embodied and sentient world that may be experienced by non-capitalist rationalities is of necessity erased. Nature's operations are made 'intelligible and controllable', 'void of any intrinsic teleology'³⁹ or agency.⁴⁰ As such, human nature is rendered deaf but in apparent authority over a mirroring mute and intractably distinct beyond-human nature.

This reading of Earth Incorporated views beyond-human natures as being disciplined and mastered through a conceptual transformation that seeks to catch them 'in a [new] system of subjection', whereby diversely productive characteristics can be further 'calculated, organized, technically thought' and 'invested with power relations'.⁴¹ Like the human body, and

the body-politic of populations, conserved nature as service-provider and store of capital is being entered into 'a machinery of power that explores it, breaks it down and rearranges it' to productively bend and release its immanent forces towards economic utility.⁴² Through 'ecoinformatics' and natural capital accounting, ecological and economics data are connected and entrained so as to create 'value' at various ecosystem scales, in a process that mirrors the 'accumulation by molecularisation'⁴³ made possible through capital investment in bioinformatics at the scale of molecular biology. These infiltrations of capital at both large and small scales of nature are 'amplifying power's effects within a wider economic field of calculation'⁴⁴ by consolidating claims to unforeseen domains and inventions of life.⁴⁵ The micro-physics of power operating in the capillaries and institutional apparatuses of ecosystem service science thus strategically reshapes socio-environment relations such that they are those of 'Earth Incorporated'. The reign of money's sign over all aspects of the natural world has come to occupy centre stage in ongoing proliferations of financialised eco-control.

In later work, Foucault elaborated this intensification as biopolitical governmentality effected by the 'truth regime' of the market under neoliberalism, requiring work to create the governing incentivising and regulatory structures permitting the 'free market's' need for 'frugal government'.⁴⁶ As Martin O'Connor has also noted,

The logic of the marketplace states plainly that all capitals will realize their 'full value' only by insertion within the sphere of exchange value. Under the doctrine of utility maximisation, their best use will be signaled by price: they should always go to the highest bidder.⁴⁷

Muradian et al. describe how this naturalisation of capitalist 'free markets' in environmental domains is also rationalised by a Coasean institutional economics that assumes the emergence of social and environmental optima through the incentivised bargaining of those with private property allocations.⁴⁸ These contexts conspire to produce a 'governmentality' that ironically requires significant government and public engagement to facilitate the construction and regulation of the incentive structures that discipline individual and corporate behaviour to conform with the logic of the 'free market'. This, as Noel Castree notes, is 'the paradoxical need for 'free' markets to be managed'.⁴⁹ In understanding neoliberalism to take hold as governmentality – i.e. to be both reinforced and hybridised through multiplicitous yet patterned acts and practices of governance, participation and resistance – it becomes possible to notice how similar practices are unfolding as the 'truths' of contemporary environmental governance.

Extending this conceptualisation to environmental arenas thus engenders an 'environmentality'⁵⁰ whereby all environmental phenomena are rendered intelligible and governable through insertion into financial(ised) logics. Current rationalisations and monetisations of nature in terms of the disaggregated, commodified and banked services 'it' provides, thus constitute a new mechanisation of nature management to satisfy discourses of efficiency in the realm of environmental conservation, whilst maintaining accumulation as 'the engine which powers growth under the capitalist mode of production'.⁵¹ As such, these proliferating economising rationalisations can be regarded as variously productive power effects, which permit the repositioning and territorialisation of vast regions of the world as sites for capitalised global ecosystem services conservation and supply.⁵² By further secularising beyond-human nature and human-with-nature relationships they constitute a massive rendering mute⁵³ of the nature knowledges and value practices associated with non-capitalist ways of living. The displacement effects of this restructuring range from so-called 'green land grabs' for conservation⁵⁴ to the more subtle erasure of knowledges, values and commons that constitute an 'outside' to the logic of this financialising impetus,⁵⁵ mirroring the capture and denigration of women's bodies, experiences and capacities noted above. In 'Earth Incorporated', 'nature's agency' is further desacralised and discounted, continuing the processes documented in *Caliban* that discipline frequently feminised human and beyond-human bodies into master-slave or doctor-patient relationships.

A Concluding Comment on Continuing Enclosures and Erasures

Reading *Caliban and the Witch* over the years has engendered a range of experiences for me. I have felt relief at the clarity of thought and analysis connecting the appropriation of women's bodies and reproductive labour with anti-feudal struggles, colonialism, slavery, and capitalised land appropriation in Europe, the 'New World' and the contemporary 'global south'. I have been shocked to learn more of the obsessive vilification and violent taming of women during the witch-hunts of especially the sixteenth and seventeenth centuries, and the ways this control ushered in a new sexual differentiation of spaces and bodies that historically instituted women's loss of social power.⁵⁶ And I have been inspired with recognition as the calculative and capitalising impetus directed now towards 'the world's body' came into focus through Federici's insights into the centrality of the calculative practices for mastering the immanently productive body as controllable 'work-machine'. As I re-read *Caliban* today, however, and given a global

moment wherein the bodies of women and the natural world appear to be experiencing renewed capture, violation and erasure, I find myself with new questions concerning new/old enclosures and erasures, as well as possibilities for new/old struggles.

Federici's text positions the historical 'transition' to capitalism as the unfortunate outcome of the multiplicitous anti-feudal struggles she outlines for Europe and the colonial 'New World'. Fueled by the appropriation and mining of resources from slaves to silver, the mercantile interests of the Middle Ages, in combination with the protection of their patrons in emerging modern European states, comprised the ultimately successful 'counter-insurgency' of the day. Today, neoliberal capitalism is the new political economic normal, despite the vibrant global movements of the 1990s and early 2000s contesting neoliberal values and policies.⁵⁷ Indeed, privatised capture of both public provision and public assets is being intensified in the current moment of populist 'post-truth' politics. What, then, are the implications now for a longer-lasting social impetus for change linked with contemporary contestations over the capitalisation of nature as Earth Incorporated and of human bodies as (re)productive labour?

Recalling Federici's critique⁵⁸ above of the antagonisms to the body wrought as individual identity becomes conceived as alienated from the body, the populisms of the contemporary moment appear to deepen such antagonisms to human and beyond-human bodies. A dissociative discourse of decoupling economy from ecology in the quest for green economic growth empowers a strand of ecomodernist thought directing techno-fixes to solve environmental degradation and climate change that are described as 'delusional' by some analysts.⁵⁹ A similarly dissociative discourse of 'being born in the wrong body' provides new impetus to an objectifying approach to the body focusing on making the body – as object – have the properties so desired.⁶⁰ A disassembling and reconstruction of bodies in service to identity choices, realities, and as a consciously directed attack on 'the myth of the natural'⁶¹ thus guides trans-humanist,⁶² gender reassignment and cosmetic surgery industries, and perhaps also some consumer choices regarding reproductive technologies. Taken together, these splitting impulses and the enclosures and foreclosures⁶³ they articulate may invite resistant anti-capitalist 're-embodiments'.⁶⁴

Caliban clarifies further that the separations and divisions effecting capitalist enclosure during the anti-feudal struggles took place during a time of 'escalating misogyny'.⁶⁵ Ultimately the period claimed the lives of hundreds of thousands of women categorised as witches in Europe, resulting from 'a true war against women clearly aimed at breaking the control they had exercised over their bodies and reproduction'.⁶⁶ More recently, Federici describes the contemporary moment as characterised by a similarly

staggering increase in violence towards women globally. It includes a rise in misogynistic identification and sequestration of especially older women as witches in 'witch-camps', which Federici interprets as linked with neoliberal structural adjustment policies that destabilise community structures – including those around gender.⁶⁷ Federici writes further that,

...the capitalist class is determined to turn the world upside down in order to consolidate its power, which was undermined in the '60s and '70s by anti-colonial, feminist, and civil rights struggles, particularly the Black Power movement. ... we are witnessing an escalation of violence against women, especially women of color, because 'globalization' is a process of political recolonization, intended to give capital uncontested control of the world's natural wealth and all human labor, and this cannot be achieved without attacking women, who are directly responsible for the reproduction of their communities.⁶⁸

This currently escalating misogyny is entangled with an equally staggering increase in extractive industry and violence towards the earth that is 'greenwashed' precisely through the marketised environmental governance technologies that have formed the focus of this chapter.⁶⁹

These phenomena that have tended to attack feminised bodies⁷⁰ are occurring in a moment shaped additionally by new theoretical, political and pragmatic destabilisations of universal(ising) categories of 'male' and 'female', as well as 'men' and 'women'.⁷¹ From a capitalist-critical perspective, an understanding that capitalism is 'deeply invested in the compulsory two-gendered system as it guarantees maximum efficiency and control in the production and reproduction of labor power and the harnessing of bio-power', means that '[r]efusal to cooperate with the two-gendered system [becomes] a radically resistant action played out variously by different bodies'.⁷² In intersecting with patriarchal structures of power and accumulation, however, it is not exactly clear how 'queered, resistant Bodies'⁷³ of contemporary modes of contestation can in and of themselves subvert rather than reproduce these structures, particularly given 'repetition within commodity culture where 'subversion' carries market value'.⁷⁴ It is also unclear how any essentialising of a 'two-gendered system' as core to capitalism might intersect with, and/or delimit,⁷⁵ the makings of masculine and feminine in cultural contexts that have otherwise proved resistant to modern state and capitalist forms of organisation.⁷⁶ As Judith Butler writes, 'feminism' needs to continue 'to be careful not to idealize certain expressions of gender that, in turn, produce new forms of hierarchy and exclusion'.⁷⁷ Remembering the subtitle of *Caliban* ('Women, the Body and Primitive Accumulation'), then, my suggestion here is that Federici's materialist analysis of the historical accumulation of female bodies and reproductive labour – and of the particular sexualisations of bodies, spaces

and identities associated with these processes – might offer fresh insights for theorising newly normative gender troubles of the contemporary moment.⁷⁸

In particular, *Caliban and the Witch* retains relevance for understanding the depth of historical context whereby the variously sexualised, racialised and objectified bodies of women, people of colour and beyond-human natures have been silenced and exploited in tandem as classes of pacified beings-becomings. Contemporary circumstances demonstrate that the struggle for the rights of these classes, as well as for recognition of their/our realities, remains critical, if increasingly complex, today. Federici helps us to see additionally that the creation of divisions that implode solidarities has long been a key strategy of capital and the sustained power of the ruling class.⁷⁹ Relational solidarities that reach beyond individualised identities clearly remain critical if struggles are to refract the alienations required for capital to further subsume psychological, social and ecological experience.

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Notes

1. See, for example, www.mauricestrong.net/index.php/speeches-remarks3/34-asia; www.mauricestrong.net/index.php/speeches-remarks3/79-korea-economic-policy; www.mauricestrong.net/index.php/speeches-remarks3/46-scenarios (all last accessed 20 July 2018).
2. See Sian Sullivan, 'Green capitalism, and the cultural poverty of constructing nature as service-provider', *Radical Anthropology* 3, 2009, pp. 18–27; Credit Suisse and McKinsey Center for Business and Environment, *Conservation Finance. From Niche to Mainstream: The Building of an Institutional Asset Class* (2016); available at: www.credit-suisse.com/media/assets/corporate/docs/about-us/responsibility/banking/conservation-finance-en.pdf (last accessed 21 May 2016) and, for a discussion, Sullivan, 'Making nature investable: from legibility to leverageability in fabricating "nature" as "natural capital"', *Science and Technology Studies* 31(3), 2018, pp. 47–76 and Sullivan, 'Bonding nature(s)? Funds, financiers and values at the impact investing edge in environmental conservation', in Sarah Bracking, Aurora Fredriksen, Sian Sullivan and Philip Woodhouse (eds), *Valuing Development, Environment and Conservation: Creating Values that Matter* (London: Routledge, 2018).
3. E. Chiapello and G. Godefroy, 'The dual function of judgment devices: why does the plurality of market classifications matter?', *Historical Social Research* 42(1), 2017, p. 153; see also D. Harvie 'Big society and (market) discipline: the financialisation of social reproduction', *Historical Materialism* 27(1), 2019, pp. 92–124.

4. Federici, S., *Caliban and the Witch: Women, the Body and Primitive Accumulation* (New York: Autonomedia, 2004), p. 74.
5. 'The environmentality of "Earth Incorporated": on contemporary primitive accumulation and the financialisation of environmental conservation' (2010). Online <https://wordpress.com/post/siansullivan.net/375> (last accessed 20 July 2018); 'Banking nature? The spectacular financialisation of environmental conservation', *Antipode* 45(1), 2013, pp. 198–217.
6. See especially chapter 16 of *Capital*, Vol. 1. Federici (*Caliban*, p. 117) points out that for Marx 'primitive accumulation' was 'so-called' to signal his rejecting of the earlier ahistorical usage of the term by Adam Smith and the implication that accumulated inequalities 'just happened', as if in the absence of the ongoing and intentional class-based appropriations emphasised by Marx as essential to the concept.
7. *The Great Transformation: the Political and Economic Origins of Our Time* (Boston: Beacon Press, 2001 [1944]).
8. 'The secret history of primitive accumulation and classical political economy', *The Commoner*, 2 (September 2001), at www.commoner.org.uk/02perelman.pdf.
9. I understand 'women' in the subtitle of *Caliban* to refer to adult female human beings whose experience was caught in and patterned by the historical moment of the shift from feudalism to mercantile capitalism. In this reading, Federici's analysis in *Caliban* is concerned with how the bodies and experiences of adult female human beings were targeted in particular – through the 'primitive accumulation' of women's wombs and reproductive labour enabled by systematic erosion of women's productive autonomy, linked with the 'witch-hunts' precipitated by this historical moment. This is not the same as saying that all women had (or have) the same experience or the same bodies; or that many others – as signalled by 'Caliban' in her title (and discussed further in this chapter) – did not experience similar violations. But it is to affirm that Federici's analysis draws into focus how women as a class of human persons were subjected to particular patterns of subjection and accumulation, often accompanied by particular forms of violence.
10. See Massimo De Angelis, 'Marx and primitive accumulation: the continuous character of capital's "enclosures"', *The Commoner* 2 (September 2001), p. 7, at www.commoner.org.uk/02deangelis.pdf.
11. Discussed further in Sullivan, 'On "natural capital", "fairy-tales" and ideology', *Development and Change* 48(2), 2017, pp. 397–423.
12. Marx, *Capital*, vol. 1 (trans. S. Moore and E. Aveling) (London: Lawrence and Wishart, 1974 [1867]), p. 668.
13. *Caliban*, pp. 16–17, 104.
14. De Angelis, 'Marx and primitive accumulation: the continuous character of capital's "enclosures"' (2001).
15. De Angelis, 'Marx and primitive accumulation: the continuous character of capital's "enclosures"' (2001).
16. Werner Bonefeld, 'The permanence of primitive accumulation: Commodity fetishism and social constitution', *The Commoner* 2 (September 2001), at www.commoner.org.uk/02bonefeld.pdf; David Harvey, 'The geography of capitalist accumulation: a reconstruction of the Marxian theory', *Antipode* 7(2), 1975, pp. 9–21.
17. Jim Glassman, 'Primitive accumulation, accumulation by dispossession, accumulation by "extra-economic" means', *Progress in Human Geography* 30(5), 2006, pp. 608–25.
18. N. Kosoy and E. Corbera, 'Payments for ecosystem services as commodity fetishism', *Ecological Economics* 69(6), 2010, pp. 1228–36.

19. Cf. J.T. Nealon, *Foucault Beyond Foucault: Power and its Intensifications since 1984* (Stanford: Stanford University Press, 2008).
20. *Caliban*, pp. 28–9.
21. S.A. Bekessy and B.A. Wintle, 'Using carbon investment to grow the biodiversity bank', *Conservation and Policy* 22(3), 2008, p. 510.
22. M. Robertson, T.K. BenDor, R. Lave, A. Riggsbee, J.B. Ruhl and M. Doyle, 'Stacking ecosystem services', *Frontiers in Ecology and the Environment* 12(3), 2014, pp. 186.
23. *Ibid.*, p. 186.
24. Center for Business and Environment, *Conservation Finance. From Niche to Mainstream: The Building of an Institutional Asset Class* (2016), p. 3.
25. Marx, *Capital*, vol. 3 (trans. S. Moore and E. Aveling) (London: Lawrence and Wishart, 1974 [1894]), pp. 392–3. See also the discussion in Michael T. Taussig, *The Devil and Commodity Fetishism in South America* (Chapel Hill: University of North Carolina Press, 2010 [1980]), pp. 31–3.
26. This is discussed further in Sullivan, 'What's ontology got to do with it? On nature and knowledge in a political ecology of "the green economy"', *Journal of Political Ecology* 24, 2017, pp. 217–42.
27. J. Fairhead, M. Leach and I. Scoones, 'Green grabbing: A new appropriation of nature?', *Journal of Peasant Studies* 39, 2012, pp. 237–61; B. Büscher and R. Fletcher, 'Accumulation by conservation', *New Political Economy* 20, 2015, pp. 273–98; A. Huff and A. Brock, 'Accumulation by restoration: degradation neutrality and the Faustian bargain of conservation finance', *Antipode Intervention*, online at <https://antipode-foundation.org/2017/11/06/accumulation-by-restoration/> (accessed 10 July 2018).
28. See, for example, G. Van Hecken, V. Kolinjivadi, C. Windey, et al., 'Silencing agency in Payments for Ecosystem Services (PES) by essentializing a neoliberal "monster" into being: a response to Fletcher & Büscher's "PES Conceit"', *Ecological Economics* 144, 2018, pp. 314–18.
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