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Human dislocation, environmental injustice and climate apartheid**

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Source: *Justice, Power and Resistance* Volume 2, Number 1 (April, 2018) pp. 1-21

Published by EG Press Limited on behalf of the European Group for the Study of Deviancy and Social Control electronically 1 August 2018

URL: <http://www.egpress.org/papers/southernizing-green-criminology>

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Southernizing green criminology: Human dislocation, environmental injustice and climate apartheid

Avi Brisman, Nigel South and Reece Walters¹

Abstract

The politics and conquests of the Global North have long necessitated the forced migration, colonization and ecological plunder of the Global South for imperial and capital expansionism (Amster, 2015). In recent decades, these excesses of accelerated industrialization have created new victims, with entire populations of 'climate refugees' (Barnes and Dove, 2015) or 'environmental refugees' (Seelye, 2001) dislocated by human-induced climate change. This article adopts Connell's (2007) southern theory and Carrington and colleagues' (2015) idea of a 'southern criminology' to examine critically the notion of 'climate apartheid' and explore its impacts on the increasing number of individuals displaced by environmental harms.

Key words: Southern Criminology, Green Criminology, Climate Change, Human Dislocation and Corporate Power

Introduction

The United Nations estimates that about 20 million people a year are displaced by 'natural disasters', global warming and climate change—with more than 85% from poor and/or developing countries (Brisman, 2015; Guha-Sapir and Hoyois, 2015).² Whilst the nations of the Global South experience disproportionate human dislocation (see Gross, 2017), we are also witnessing the emergence of 'privatized green enclaves' created by the rich within those countries threatened by global warming and climate change. The 'Eko Atlantic' in Nigeria, for example, is a proposed vision for the future—an ultra-elite and privileged metropolis for the super-rich, protected by private security from the

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² Some scholars take pains to point out that it is unlikely that climate change *by itself* will cause massive migration. As Castles et al. (2014: 211) caution, 'climate-change induced migration should *not be analysed in isolation from other forms of movement*—especially economic migration and forced migration.'

impoverished, who dwell beyond the guarded walls. This has been described by some as the new emerging ‘climate apartheid’—‘a world in which the rich and powerful exploit the global ecological crisis to widen and entrench extreme inequalities and seal themselves off from its impacts’ (Lukacs, 2014).

This article describes the related projects of southern criminology and green criminology as they pertain to *inter alia* knowledge production and problems of bias, inequalities and injustice. We describe some of the ways in which global warming and climate change may impact the (im)mobility of those who have contributed the *least* to anthropogenic climate change. From here, the article examines a particularly perverse form of climate *adaptation*—that involving preparations to enclose the elite from the relocating and dislocated masses. We conclude by suggesting that just as the causes and consequences of global warming and climate change are transboundary in nature, so, too, should the criminological study thereof, and that recognition of the shared concerns of southern criminology and green criminology could be helpful in this regard.

Before proceeding, we wish to be clear about the ‘historic-futuristic’ dimensions of this article. As Barnes and Dove note (2015: 8), ‘environments have never been static and people have always not only affected their environments but also have been affected by them and have perceived, interpreted, and responded to these changes’—which we quote as a reminder that climate *change* is both old and new. At the same time, we want to underscore that it is not (the relatively recent phenomenon of) anthropogenic global warming (and the resulting climate change) by themselves that we envision will lead to massive dislocations, a mounting number of ‘climate refugees’ and an expanding ‘climate divide’, but decades-long economic policies and related practices of social exclusion more rapidly disrobed and laid bare by increasing air and ocean temperatures, altered precipitation and storm patterns, rising sea levels and growing desertification (see generally Amster, 2015; Barnes, 2015; Barnes and Dove, 2015; Boucher and Loring, 2017; Fleming and Jankovic, 2011; Kusz, 2017; South, 2012; Zimmerer, 2014). Finally, we wish to make clear that migration is not or will not necessarily be a negative phenomenon. Indeed, as Barnes (2015: 10) prompts us to recall, for ‘many. . . people[,] migration has historically been a central part of their everyday lives, with or without climate change’ (citing Farbotko and Lazarus, 2012). What determines whether migration is accompanied by tension, conflict and violence is not the fact of migration, but the willingness and capacities of the receiving nation-state (see generally Gilbertson, 2017).

Southern and Green Criminologies

Southern criminology and green criminology are both powerful reactions against the status quo in criminology and provide standpoints from which to reconsider the contemporary causes and distribution of various forms of inequality, exploitation and harm. We consider each of these criminologies in turn. Carrington and colleagues (2016: 3) argue that the development of criminology in the Global South has often occurred in a position subordinate to the metropolitan assumptions of a northern/western criminology. Importantly, they propose that a *southern* criminology does not seek to denounce or oppose criminology as a field or subject, but to enable re-orientation and augmentation. An important part of this is the pursuit of a 'series of projects of retrieval' (ibid)—discovering, highlighting and recognising work that offers insight, theory and evidence that has been overlooked. Hogg and colleagues (2017: 4) argue that one of the fundamental elements of Connell's conceptualization of (a) Southern theory(ies), is the proposition that the

formation of the modern social sciences was intimately related, not merely to the endogenous problems and questions posed by the advent of urban, industrial societies in the European metropole, but also to the imperial context and character of this global transformation. Northern dominance was derived from the colonisation of the life worlds of other societies, which from the very outset constituted an essential feature of the making and extension of a capitalist economic and social order.

Within criminology, northern/western, metropolitan/urban, dominance has also functioned as a means of exporting ideology, perpetuating the assumptions of colonialism and development-aid programmes that prescribed and imposed western ways in contexts of culture, knowledge and practice where this was unnecessary, inappropriate and often unwelcome. For example, Bowling (2011: 362-363) points out that 'western' criminology can be 'criticized because its theoretical presumptions are often misleading when applied to other contexts, miss the point, or are unhelpful in other ways.' Cain (2000) draws attention to two 'persistent problems' suffered by a sociology of crime: (1) a tendency to 'orientalism', in the sense outlined by Said (1978), of a discursive, romanticized, 'wayward and unknowing "other"' (Cain, 2000: 239), in need of guidance and instruction from the more advanced or sophisticated; and (2) the adoption of 'occidentalism', the unreflective and insensitive assumption of 'sameness', leading to the imposition of theory, policy and practice from one

(western/northern) context to everywhere else (Cain, 2000: 239-240; see also Cohen, 1982).

The significance of a *green* perspective for criminology has now been widely recognised in the criminological literature (Brisman and South, 2017a, b), but like southern criminology, it has grown out of recognition of bias and absence in the field. Although there had been various past studies exploring environmental damage, crime and victimisation,³ the strength of engagement with green issues that was apparent in many other fields of study across the social and natural sciences and humanities, was not being replicated in a criminology that remained very ‘human and urban’ centred (Lynch, 1990; South, 1998; South 2014).⁴ This has changed since the 1990s and there is now a substantial body of work ranging across green, conservation, environmental, wildlife, ecological and related topics and themes (South and Brisman, 2013; Walters et al, 2013; White and Heckenberg 2014).

Southern criminology and green criminology complement each other in various ways, not only in terms of their central concerns regarding that which has been overlooked (White, 2016b), but also with respect to how their history is illuminated by the idea of a ‘project of retrieval’ (see Goyes and South, 2017), noted above. This is because, to some extent, both these ‘new’ criminologies are old. They are statements of the accumulation of thought and they necessarily draw upon earlier thinking that has questioned, resisted and called for re-balancing of knowledge-power and knowledge-claims. In some cases, this prior argumentation and critique has made a mark and exerted some influence that persists—but there is a crucial point here about what has been ‘lost in translation’ or has never received wide acknowledgement because of ‘no translation’. Many powerful, original ideas and significant research findings are not taken up widely in the global literature simply because they were not written or translated for publication in English language journals or books. For example, the introduction of a green perspective into criminology has usually been dated as occurring from the 1990s (Lynch, 1990; South, 1998), although it is recognised that some criminological concern with environmental issues was evident in some literature pre-dating an explicitly ‘green’ or ‘conservation’ (Gibbs et al, 2010) criminology. It should be recognised, however—and this is particularly important for bridging southern and green criminology—that there

³ See, for example, papers reprinted in sections 2 and 3 of South and Beirne (2006) and in all three parts of White (2009).

⁴ This critique of ‘absences’ includes neglect of non-human animal life (see, e.g., Beirne 1995, 1997, 1999, 2009, 2014; and Sollund 2011, 2012, 2013, 2015, 2017a, 2017b, 2017c) and rural life (see, e.g., Brisman et al. 2014; DeKeseredy 2013; DeKeseredy and Donnermeyer 2013; Donnermeyer 2012).

is also a considerable amount of knowledge that could be regarded as a contribution to a 'green' perspective in criminology that has been either forgotten or overlooked for reasons related to language barriers—what Santos (2014) calls 'epistemological blindness' (see Goyes, 2016).

This process has been regarded as 'unremarkable', in the sense of 'not being worth noting', reflecting Aas's (2013: 211) description of the 'seemingly context-free nature of Western social theory and its assumptions about the universality of its knowledge production.' In the case of criminology, U.S. traditions and developments have been globally exported, reproducing an Americanised view of the world through the production of enormous numbers of books, articles and conference papers, and thus elevating Anglophone knowledge production and publication to the position of global dominance (see Goyes and South, 2017). As Aas (2013: 209) observes, this process is responsible for the creation and 'reinforce[ment] [of] existing asymmetries of knowledge'—a situation addressed by both southern and green criminologies.

In an analysis that sets out the foundations and method for a southern criminology, Carrington and colleagues (2015:15) have called for the acknowledgment of spatial particularities and for the democratisation of epistemologies 'by levelling the power imbalances that privilege knowledges produced in the metropolitan centres of the North'. As noted above, Goyes and South (2017) have undertaken a similar 'project of retrieval' regarding the history of 'green' thought in criminology and challenging the assumption that criminology has flourished only in Anglophone countries. In fact, as Brisman and colleagues (2017) have shown, while most of what is *acknowledged* as modern green criminology has been produced in English and in English-speaking countries, in fact, green criminological research has been conducted in a much wider range of countries. It is not merely incorrect but intellectually and politically impoverishing to accept a view or history of criminology that sees it as purely a product of the Anglophone north/west.

Both southern criminology and green criminology have recognised and emphasised the problems of bias, inequalities and injustice woven into the global flows of knowledge, wealth and resources. The contiguity of core concerns of both can also be illustrated by considering, for example, the work of one of the pioneering critics of the 'plunder of nature and knowledge'—Vandana Shiva. Shiva (1998) argues against familiar justifications for the dominant forms of knowledge management and commercial operation that have enabled multi-national corporations of the twentieth and twenty-first centuries to extend the *modus operandi* of the forms of colonial theft,

privatization of resources and denial of rights prevalent throughout earlier centuries (for green criminological examples, see, e.g., Goyes, 2016; South, 2007; Goyes and South, 2016). Many other cases of conflict between ‘expert’ and ‘indigenous’ knowledge (Samson and Short, 2006) reflect an imbalance of power. For example, the work of Kuletz (1998: 28) describes the radiation-related health problems facing the Navajo and other peoples of desert areas of the American West where uranium has been mined and nuclear tests carried out. The contestation of knowledge in this case means that what is regarded ‘anecdotal knowledge’ (based on inter-generational folk wisdom as well as real contemporary experience (see generally Barnes, 2015:140)) is de-legitimated and not weighted as strongly as ‘scientific evidence’ (which is privileged as inherently and evidently ‘neutral’ and unbiased) (South, 2007: 241-2).

Dismissal of indigenous knowledge perversely enables it to be appropriated as part of a process of northern/western legitimated mobility of ideas, images, objects and people (Urry, 2000) such that the *value* of such “knowledge” passes beyond the control of the originators and is “realised” by corporate bodies that declare property rights over it.⁵ The impacts of global patterns of exploitation of knowledge and natural resources, and of the legacies of colonialism, are central to southern and green criminologies. As Amster (2015: 159) remarks:

Resource wars and patterns of economic colonization are often initiated by the nations of the Global North vis-à-vis those of the Global South, yielding a two-tiered world of privileged consumers at the top and vulnerable producers on the bottom. The false security created by such a system is reinforced by a mindset in which human cultures are seen as separate from nature, and where traditional societies that exist closer to nature are viewed (in Social Darwinist terms) as inferior to modern societies in their sociopolitical, economic, and moral development. These dichotomies (North/South, Nature/Culture, Traditional/Modern) are historically untenable, ecological destructive and self-refuting even when taken at face value. But even more problematically, these dualisms often provide the ideological software that serves to perpetuate an unsustainable world in which people are alienated from one another and are dislocated from the essential workings of the environment all at once.

⁵ At the same time, we may be witnessing what we might call a ‘nature-knowledge extinction cycle’ whereby the annihilation of a species leads to the loss of knowledge of how to interact with an aspect of nature and our environment. As Daleszczyk and colleagues (2016: 35) point out, “[t]he know-how and the will to coexist with European bison and large mammals in general have been lost over the centuries. In order to integrate this species into today’s anthropogenic landscapes, conservation faces manifold challenges.’ Other examples abound.

While Amster does not make specific reference to the related projects of southern and green criminologies, his sensitivity to the social and ecological injustices arising, in part, from the perpetration of—and on-going fidelity to—the unsustainable logic of such dualisms is certainly apropos. We see how this unfolds in the context of climate change in the next section.

Climate Change and Global Dislocation

While the Earth's climate has cycled through many periods of warming and cooling over geologic time (Debinski and Cross, 2009; Lee 2009), the 'human influence on the climate is recent and of a planetary scale (Crutzen, 2006; Latour, 2004)' (Orlove et al., 2015: 49). The Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC), finalized in 2014, describes unequivocal warming of the Earth's climate over the past fifty years—with further confidence since the Fourth Assessment Report (AR4), finalized in 2007, that the warming is the result of increases in anthropogenic greenhouse gas emissions. Indeed, the Earth reached its highest temperature on record in 2016, which exceeded the record established in 2015, which beat the one set in 2014 (Gillis, 2017). This milestone represents the first time in the modern era of global warming (which began around 1970, after a long stretch of relatively flat temperatures) that three records were established in three consecutive years (ibid). Moreover, sixteen of the seventeen hottest years on record have occurred since 2000 (ibid).

Rising global average temperatures—the magnitude of warming has varied across the Earth's surface—has resulted in greater variability with respect to precipitation trends: some regions of the world have experienced significant increases (high latitudes) and others significant decreases (subtropics) (see, e.g., Barnes, 2015: 127, 129). In addition, changes in average temperatures and precipitation means global warming has and will continue to lead to increased climate variability and heightened occurrences of climatic extremes, such as coastal erosion, severe droughts, floods, landslides and extreme heat events (see, e.g., Brisman 2012, 2013, 2014, 2015). This intensity, frequency, and duration of droughts, floods and heat waves has and will continue to have a number of direct and indirect *geopolitical*, *cultural*, and *criminological* effects. Taking these in turn, rising sea levels could wipe out entire atoll nations, such as Kiribati, the Maldives, the Marshall Islands, and Tuvalu (Brisman, 2013: 252 n.32; Schultz, 2017). As Maeed Mohamed Zahir, the director for Ecocare, an environmental organization in Malé, the capital of the Maldives, cautions, "If

the Maldives don't exist, we're not losing just 400,000 people. We're losing a nationality, an identity, a cultural history, a language, a script. We're losing the beaches. We're losing the coconut palms. We're losing everything." In response to rising sea levels, some nations have begun 'purchasing' land from other countries in order to resettle entire populations. This is occurring in relation to Kiribati, where 24 square kilometres of land has been purchased from the Fijian Government to undertake entire 'wholesale population resettlement' for Kiribati peoples. This process presents a host of legal and social dilemmas for the nation of Fiji, which itself already suffers from rising sea levels and the threat of population displacement (Bilimoria, unpublished).

Rising global temperatures and the concomitant loss of biodiversity could result in 'cultural extinction' in another way—specifically, indigenous groups' loss of traditions, arts, and languages associated with various habitats and food practices, such as the way in which melting ice in and around the Inupiat Eskimo settlements of Kivalina and Shishmaref in Alaska have made it difficult, if not impossible, to hunt for seals—a mainstay of their traditional diet (Brisman, 2013: 253 n.33, 34) Elsewhere, economic stress and crop failures could lead to increased competition for dwindling resources such as food and water, sparking large-scale migrations and, in turn, escalating tensions, upheavals and violence (ibid: 254-56 and accompanying footnotes; see also Zimmerer, 2014: 267, 275, 276-77; cf. Barnes, 2015: 10; Castles et al., 2014: 211, 212).

Agnew (2012a, 2012b) is particularly helpful for understanding some of the criminogenic dimensions of global warming and climate change-induced migration. As he describes:

Drought will force farmers and herders off the land; sea-level rise will force coastal inhabitants to move; social conflict will force many to flee to safer areas (more below); and extreme weather events and forest fires will destroy homes and livelihoods—again prompting migration. ... While a portion of this migration will cross borders, much of it will be internal. Many of the migrants will move to megacities in developing countries, which are often polluted, overcrowded, and lacking in basic infrastructure such as clean water and sewerage. [2012a: 24 (internal citations omitted)].

If work and employment opportunities are limited and if resources are scarce in the receiving region, this could create strains for the migrants that could lead to criminal behaviour (e.g., theft, prostitution); at the same time, they could also be susceptible to victimization. Agnew is cautious, however, about assuming that migration will necessarily result in crime, either by or to the migrant

population. Context is paramount and the likelihood of criminality is linked not only to the presence/absence of resources, but to pre-existing social divisions, the preparedness of the receiving area, and the degree of hostility to the migrants. The presence of such conditions exacerbates strains, Agnew predicts, thereby increasing the likelihood of illicit/illegal responses. Relatedly, Agnew (2012a:29) points out that '[m]igration may ... foster state crime and other harmful behaviors, such as closing borders to those desperate for basic necessities...'. This, in turn, could create conditions ripe for human trafficking (see, e.g., White, 2016a). Such efforts to smuggle people into nation-states with more/better resources could, in turn, lead to military assaults on migrant groups and, potentially, genocide (Agnew, 2012a; Zimmerer, 2014).

But it would be overly reductive to assume that those who *leave* a given area would necessarily be the poorest. While 'climate change will hit the most vulnerable people first and hardest' because "[i]t's always the poor who are hurt the most because they are less able to absorb the shocks and adapt because they have fewer assets" (Vidal, 2011), this does not necessarily mean that they have been or will be able or have the means to evacuate.

Essentially, those who are forced to leave their families/friends/neighbours, home, livelihoods and land, may become 'climate refugees'. Those who remain involuntarily—because they have no ability to migrate—may become the 'climate abandoned'. Those with financial resources may be able to enjoy a new type of separation or quarantine from everyone else—the kind of 'gated leisure' or 'elite survivalism' described in the next section.

A New World of 'Eco-Enclaves' and 'Climate Apartheid'?

As suggested in our introduction, corporate entities are exploring means by which they can profit from human dislocation and 'climate apartheid', including the creation of privileged spaces for the new 'environmental elites'. These are envisaged as opulent enclaves of luxury for the super-rich who can invest in 'technologies', 'ecological services' and the construction of 'artificial environments' that can provide protective and defensive responses to the ecological, military and political threats of the Anthropocene 'by creating new life support systems on an enhanced scale' (Marvin, 2016: 237). In the elite spheres of the mega-wealthy, enclosed eco-topias and floating cities are planned as Disneyfied escapes from the realities of the state of the planet. In the future, the architecture of the elite will promise elysian sanctuaries, enclosed in bubbles, off-shored on islands, or looking down from the peaks of

mountains—all accompanied by the promise of engineered micro-climates and the supply of pure water, fresh food, and unpolluted air. For some, all of this represents the shaping of a new world of ‘eco-shelters’—the ecological variant of tax-havens—and the accompanying prospect of ‘climate apartheid’ (Lukac, 2014).

As also mentioned in the introduction, about 20 million people a year are displaced by ‘natural disasters’, global warming and climate change; 85% or more come from poor countries (Guha-Sapir and Hoyois, 2015). In the future, as climate change contributes to the incidence and scale of ‘disasters’, continuing inequalities will mean that the impacts of such disasters will have unequal and differentially distributed results (South, 2010: 238). Global warming and climate change are predicted to impact the (im)mobility of those who have contributed the *least* to anthropogenic climate change. It is a particularly perverse form of climate *adaptation* that then emerges to enable the elite to enclose themselves in ways that remove them further from the relocating and dislocated masses (Brisman et al, 2017). ‘Privatized green enclaves’—still in the planning stage—are attracting investment and publicity, and reflect various interests and visions—not all of which are the same. Some prototypes exist; some major developments seem to be underway and may eventually be realised; others have already proved to be political and financial fantasies.

Clean Air Domes and Airmageddon in Beijing

An article in *The Guardian* on the use of inflatable domes in Beijing begins by suggesting that the inhabitants of the city are “engaged in a city-wide rehearsal for life on an inhospitable planet” and reports on the elite schools and colleges that are going to the “drastic lengths of building an artificial bubble in which to simulate a normal environment” and provide playground spaces free from the external pollution-saturated air (Wainwright, 2014). At these highly expensive schools, competition means that, as one school representative put it, “if all the other schools have a dome, then we’ve got to have a dome.” Wainwright (2014), the author of the article, explains:

The British School has recently undergone a complete filtration overhaul, as if preparing for atmospheric armageddon, with new air curtains installed above the doors and almost 200 ceiling-mounted air purifiers put in ... Windows must remain closed, and pupils must adhere to the strict air safety code.

Residential developments in China are likely to ‘lead to two classes of citizens in polluted areas’, with the wealthy able to gain access to structures supplied with clean air and others enduring a smog polluted atmosphere.

The ‘Eko Atlantic’ in Nigeria

Nigeria’s Eko Atlantic is a ten square kilometres multi-billion USD development along the Lagos shoreline, funded by transnational corporations and banks that seeks to establish a self-governing enclosed metropolis of unprecedented living splendour on land rescued from the threat of rising seas. Indeed, the project is premised on a capitalist response to ‘arresting the ocean’s encroachment’. The developers describe the project as:

an entire new coastal city being built on Victoria Island adjacent to Lagos, Nigeria, to solve the chronic shortage of real estate in the world’s fastest-growing megacity. It is a focal point for investors capitalising on rich development growth based on massive demand – and a gateway to emerging markets of the continent. (Eko Atlantic, 2017)

It is estimated that this mega ecofriendly city that has been advertised to match the magnificence of Paris’ Champs-Elysees and New York’s Fifth Avenue, will house 250,000 of Africa’s wealthiest people in a location where two-thirds of the population live in poverty (Winsor, 2015). It is important to note that Eko Atlantic was originally conceived in 2003 as a retaining wall to prevent shoreline erosion caused by climate change and rising seas. What was, therefore, designed to be an architectural feature to save coastal Nigeria *for everyone* has evolved into ‘the African Dubai’—a walled sanctuary of grandeur where the countries’ richest 1 one percent have their futures secured, whilst the impoverished locals are evicted from their surrounding homes to make way for the world’s most expensive development (Soles, 2014). Those providing the financial backing for the development are banks, corporations and former political officers with dubious records of human rights abuse, as Lukacs (2014: 2) describes:

Those behind the project—a pair of politically connected Lebanese brothers who run a financial empire called the Chagoury Group, and a slew of African and international banks—give a picture of who will be catered to. Gilbert Chaougry was a close advisor to the notorious Nigerian dictatorship of the mid 1990s, helping the ultra-corrupt general Sani Abacha as he looted billions from public coffers. Abacha

killed hundreds of demonstrators and executed environmentalist Ken Saro-Wiwa who rose to fame protesting the despoiling of the country by Shell and other multinational oil corporations.

Seasteading, Tech Islands, Fantasy Islands and Eco-Cities

In a 2009 essay for the Cato Institute, the venture capitalist, Peter Thiel, wrote of his libertarian vision and of three technological frontiers that might create spaces for freedom. First, Thiel pointed to *cyberspace*, claiming that ideas like PayPal and Bitcoin could serve as the basis for a 'new world currency—the end of monetary sovereignty'. (Thiel acknowledged, however, that 'new worlds' of the Internet are 'virtual' and any 'escape may be more imaginary than real'.) Second, Thiel suggested that *outer space* offered a further 'frontier' with 'limitless possibility for escape from world politics' but not something that could happen 'before the second half of the 21st century'. Finally, Thiel advanced the idea of *Seasteading*, which he defined in the following visionary terms:

Between cyberspace and outer space lies the possibility of settling the oceans. To my mind, the questions about whether people will live there (answer: enough will) are secondary to the questions about whether seasteading technology is imminent. From my vantage point, the technology involved is more tentative than the Internet, but much more realistic than space travel.

The proposition, however, has not proved entirely realistic so far, and as Debuccio (2015) reports, the Seasteading Institute has:

come to appreciate that the middle of the ocean is less inviting than early renderings suggest. It now hopes to find shelter in calmer, government-regulated waters. According to its most recent vision statement, 'The high cost of open ocean engineering serves as a large barrier to entry and hinders entrepreneurship in international waters. This has led us to look for cost-reducing solutions within the territorial waters of a host nation.

The Seasteading Institute's 'tech island' may be another 'fantasy island', much like the widely applauded then much postponed and, finally, never built, Chinese eco-city of Dongtan. First promoted as what would be the world's first 'eco-city', with great publicity about plans for opening in time for the Shanghai World Expo in 2010, Dongtan was a project involving the British engineering firm Arup, various planners, architects, engineers, and the Chinese government. It was hugely ambitious and represented a range of wish-fulfilment narratives,

most notably that technology would solve the problems and pollution caused by other technology (Brisman and South, 2017 c). Along the way, little happened to show signs of the necessary financial or political commitment, the local Communist Party project coordinator was jailed for corruption, and Arup withdrew from association with the project. According to Sze's (2014) assessment of this fantasy project, the only expressions of ecological futurism to be found at Dongtan today are ten wind turbines. If we remember what is happening to the closure and privatization of green spaces elsewhere in China and various cities around the world, however, there is a further disappointment here. This is the realisation that in order to build exclusive, high-investment, secure housing and technical compounds, the members of the communities already living in these places have to move out (or be removed). This has happened at the planned Eko Atlantic location in Nigeria, and happened with the clearing of the Dongtan site, where some locals were paid small economic incentives and others were simply forced out in order to make way for new 'communities'—access to which would only be available to those with financial means.

Conclusion

Featherstone (1990: 19) argues that 'consumer culture uses images, signs and symbolic goods which summon up dreams, desires and fantasies'. Associations with prestige and exclusivity are important here—and residential addresses, spaces and places provide the means to delineate who is allowed into the club and onto the ark and who is not. As many have remarked (see, e.g., Brisman and South, 2014), one of the most impressive features of consumer capitalism is the way in which it adapts to its own failings and creates demand for new products that promise to solve old problems. In the future, in order to avoid the impact of environmental harms or effects of climate change, some may turn to the creation of life-worlds or bubbles designed for those who can afford such a strategy. This article has noted trends that may be leading us toward a future society of quarantine, separation and 'climate apartheid' in which technologies and architectures of physical structures and social controls (further) divide cities and the world. While there may be question marks about the specific proposals for tech islands and eco-cities, the larger issue appears to be not *whether* such elite retreats will be built but *when*.

If such constructions do not materialize, this would not be the first time that fraud, fear and fantasy have left investors with worthless share certificates and little else. If they are, indeed, rising around us, is this happening slowly, or at an accelerating speed? Is it largely as an expression of the vanity and libertarian yearnings of an elite or as an eco-salvation project to save us all?

Finally, it is worth recalling Debinsky and Cross's (2009: 558) point that 'abiotic changes drive biotic responses in ecosystems'. Thus, abiotic responses change the physical environment that organisms inhabit and this, in turn, can affect the distribution of species across landscapes. Debinsky and Cross are ecologists—and, as such are concerned with biological systems as wholes, rather than just human populations—but their assertion that '[a]s one portion of [a] community changes in response to climate change, there is the potential for a cascade of events to occur' (2009: 560) is as appropriate a summary as any to conclude with here. Moreover, their reminder that '[n]either the forces of climate change nor the organisms of concern will pay heed to political, state, or national boundaries' (2009: 564) is not only true of greenhouse gases (see Leech 2012: 89) and 'climate refugees', but of disciplines and subfields. Recognizing the shared 'terrain', so to speak, of southern criminology and green criminology, and the benefits of cross-fertilization, might greatly assist both projects, as well as the social justice issues we have attempted to highlight in this article.

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