

Green Criminology and Crimes of the Economy: Theory, Research and Praxis

Vincenzo Ruggiero · Nigel South

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Abstract This paper describes several key developments and dimensions in the field of ‘green criminology’ and discusses some of the relevant debates and controversies arising. It then outlines overlaps and connections with other areas of work within critical criminology. The central focus of the paper is on crimes of the economy as they affect the environment and a substantive, illustrative case study is provided on environmental crimes and harms associated with the oil industry. The paper concludes with some critical observations on where directions in theory, policy and practice may need to turn in a post-growth world.

The Evolution of a ‘Green Criminology’

Between around 1990 and the end of that decade a number of scholars around the world began to write and communicate about a range of issues and concerns that reflected engagement with the environment, broadly defined, and what could be identified as an emerging ‘green’ criminology (Lynch 1990; Beirne 1995; Halsey and White 1998; South 1998a; South et al. 2013). A green perspective can be appropriately and accurately described as ‘emergent’ in criminology at this time in several ways suggested by any dictionary definition of the term. Although it has been acknowledged from its earliest statements that a green criminology does not represent ‘an entirely new perspective or orientation within criminology’, for ‘a number of criminologists have examined various environmental hazards and crimes’ (Lynch 1990: 3), its impact lies in building upon such past work on criminal and neglectful actions affecting the environment (South and Beirne 2006; White 2009) while, at the same time, achieving a new and original profile as it has ‘come into view, existence, or notice’.

V. Ruggiero
Department of Law, Middlesex University, London, UK

N. South (✉)
Department of Sociology, University of Essex, Colchester, UK
e-mail: southn@essex.ac.uk

Green criminological research, as it has developed, covers environmental harms (noting ‘harm’ is used as a broader descriptor than ‘crime’, as defined in strictly legal definitions), environmental laws (criminal and civil, applied via the criminal justice system, enforcement measures and court proceedings, prosecution and sentencing) and environmental regulation (systems and processes in place to protect and preserve specified environments and species, and to monitor and control sources of pollution and other damaging environmental impacts) (White 2008, 2011). In the following sections we outline various developments and dimensions in ‘green criminology’, consider some relevant debates and controversies, outline connections with other areas of analysis within critical criminology and provide an illustrative case study focused on crimes and harms to the environment associated with the oil industry. We conclude with some critical observations on where directions in theory, policy and practice may need to turn.

Terminology

Green Criminology can be defined as a framework of intellectual, empirical and political orientations toward primary and secondary harms, offences and crimes that impact in a damaging way on the natural environment, diverse species (human and non-human) and the planet. Introducing such a green or environmentally sensitive framework into criminology does not set out any one particular theory but rather introduces a *perspective* (South 1998a) which can inform theoretical and empirical work.

The term has acquired a function as an umbrella category but it is not subscribed to by all engaged in similar work nor is it necessarily the best title or label for this field of study. For example, as White (2008) has argued, the term ‘environmental criminology’ could be reclaimed from what might more properly be considered ‘place-based criminology’, to cover the study of environmental harms and threats, environmental legislation and related research activity. White (2010: 6) has also offered the term, ‘eco-global criminology’, to ‘refer to a criminological approach that is informed by ecological considerations and by a critical analysis that is worldwide in its scale and perspective ...’. In a related vein, Walters has suggested that the term ‘eco-crime’ is helpful and capable of encapsulating ‘existing legal definitions of environmental crime, as well as sociological analyses of those environmental harms not necessarily specified by law’ (Walters 2010: 180). He continues:

When eco-crime is contextualised within notions of harm we can observe a broadening of the gaze beyond legal terrains to include discourses on risk, rights and regulation. As a result, eco-crime extends existing definitions of environmental crime to include licensed or lawful acts of ecological degradation committed by states and corporations.

Other formulations include ‘conservation criminology’, concerned with developing interdisciplinary, evidence-based practice to address environmental crimes and risks, and seeking to integrate criminology, criminal justice, conservation, natural resource management and risk and decision science (Gibbs et al. 2010). This may be positioned close to a spatial or situational crime prevention approach to law enforcement and conservation challenges such as wildlife trafficking and poaching of endangered species (Wellsmith 2010; Lemieux and Clarke 2009).

A working definition of green criminology, embracing the spirit and focus of all of the above, might be to view it as a perspective which, while transcending the conventional

ambit of criminology, addresses the large array of legitimate or illegitimate conducts harming the environment and the species inhabiting it.

Conceptualisation

One common principle is that a green criminology should be an inter- and multi-disciplinary rendezvous point (involving, for example, political science, economics, psychology, organization theory as well as conservation and environmental sciences): a coming together of related work—the expression of the zeitgeist anxious about global warming and environmental degradation. Importantly, this is an ‘open’ framework. For many it originates from within the tradition(s) of critical criminology but it is also fitting that it is pragmatic and politically realistic, embracing any or all ‘criminologies’ sharing similar aims and values.

Despite (or more likely strengthened) by openness to other disciplines, a ‘green’ criminology shares the classic characteristics by which Sutherland (1924: 3) defined the criminological task, addressing several simple but clear questions—why and how are laws made? why and how are they broken? what should be done in response? A related issue highlighted by Sutherland is that, if we are to understand harmful behavior, we have to be prepared to transcend statutory designations of crime. These questions can be framed in the following way in order to set out some ‘foundations’ for a green criminology (see also South 1998b).

Foundation (1): legal frameworks and criminalization

Concerned with the legal issues raised by environmentally damaging acts and how these should be classified (violations? crimes?) and responded to (by regulation? criminalization? Inspectorates? police?). Such cases may be difficult to prosecute because of: lack of evidence and proof; blurring of the lines between the ‘wilful criminal violator’ and the ‘legal risk-taking entrepreneur’; and/or corruption in the system. With emerging evidence of the value of specialist environmental courts (Walters and Solomon-Westerhuis 2013; White 2013a) some of these difficulties may be addressed.

Foundation (2): breaches of law and regulations, and corporate and state violations.

Concerned with (a) positive and negative features (including consequences) of different regulatory models; (b) pollution, disasters and liabilities as case-studies; and (c) corporate and state misconduct/crimes with environmental consequences, focussing on perpetrators, culpability and serial offending (Kramer et al. 2002; Katz 2010).

Foundation (3) what should be done in response?

Concerned with the question of how to respond to offences in an effective legal manner; arguments for and against criminalization. If a prosecution is brought and is successful, penalties may be only modest relative to damage done; if corporations are fined how will they absorb this – by cutting costs elsewhere and/or by passing costs onto consumers? Attempts to identify and sanction key, responsible individuals have only rare success. Alternatives such as Braithwaite’s (1989) notion of ‘shaming’ and Restorative Justice approaches seem promising based on the vulnerability to public criticism of heavily promoted corporate images and the principle that ‘making good’ may be more beneficial than imposing immaterial fines or trying to identify a

‘culprit’ to receive a prison sentence. As Higgins (2010: 143) puts it, ‘Restorative justice is built on an understanding of our relationship with nature and the duty to remedy the harm caused’, addressing ‘the needs of the beleaguered party to restore that which has been harmed rather than simply fixating on the punishment of the perpetrator.’ However the approach is based on an assumption that offenders care about public opinion or the harms caused.

Adopting Sutherland’s framework of questions also seems appropriate in light of Zahn’s (1999) Presidential address to the American Society of Criminology, which noted the far-reaching impacts of pollution and bio-diversity loss and suggested that the future of criminology would see more attention turning to environmental crime. In turn this would bring ‘a new definition of victims to include species other than humans and a definition of offenders to include those who pollute for convenience ... [and] for profit.’ Importantly, Zahn observed that ‘Just as Sutherland’s white-collar crime expanded our crime paradigm, ... environmental crime will change it in the future’ (Zahn 1999).

There are, of course, various other ways of differentiating and highlighting topics and themes for green criminological inquiry (Carrabine et al. 2009: 387–395; Wolfe 2011). White (2008: 98–99) has developed a threefold typology of ‘brown’, ‘green’ and ‘white’ issues: ‘brown’ defined in terms of urban life and pollution; ‘green’ meaning conservation and ‘wilderness’ concerns; and ‘white’ referring to the impact of new technologies and various laboratory practices. Taking a different approach, Lynch and Stretesky (2007: 251) argue a green criminology should be concerned with: the critical examination of environmental policies, offering meaningful alternatives where appropriate; environmental justice and the ‘unequal distribution of environmental hazards across diverse races and classes’ (p. 256); the ‘health impacts of exposure to environmental toxins’; and links between toxic exposure and criminal behavior (p. 261).

Central Themes and Topics

Major themes and topics include pollution and regulation; corporate criminality and environmental impacts; health and safety breaches with environmentally damaging consequences; syndicated crime and official corruption in legal and illegal waste disposal; impacts of law enforcement and military operations on landscapes, water supply, air quality and living organisms; and forms of law enforcement and rule regulation relevant to all these (South and Brisman 2013; Eman et al. 2009).

One notable prism through which the escalation of environmental harms has been viewed is the idea of the Risk Society (Beck 1992). This prompts us to consider environmental problems and challenges as risks and consequences wrought by modernity, globalization and trans-national production and reproduction (ibid: 12–13). The message here is that it is highly relevant to criminology to maintain awareness of new technologies, for example in bio-sciences and nano-technology, as well as paying attention to the legacy of past mistakes, such as the dangerous disposal of radioactive waste and more recently of e-waste.

The well-established body of environmental law offers great scope for legal and socio-legal scholarship concerning the study of environmental crime. Indeed thinking ahead to questions of policy and practice would be difficult without being able to appeal to already available or possibly conceivable law. Certain areas of scientific development (genetics, biotech, nanotech) are moving so rapidly that currently formulated law may not be

applicable (UK Environmental Law Association: www.ukela.org). Existing criminal and civil law is an important area for study in green criminology and, of course, civil measures can be more powerfully useful than criminal law. Indeed it is to the arena of civil action, community empowerment and more informal mobilizations of justice that green movements have often looked.

From the local to the transnational and global, studies have also covered organized crime (Walters 2014; Ruggiero and South 2010), transnational crime (Wright 2011), bio-piracy (South 2007), wildlife trafficking (Wyatt 2012) and the impacts on the environment and on human rights of mining, logging and trading in conflict minerals and timber (South and Brisman 2012; Boekhout van Solinge 2008).

One central theme in the development of a green perspective for criminology has been a call for greater awareness of harms and criminal acts committed against non-human-species. The idea of speciesism has been employed to describe the devaluing and prejudicial treatment of other species as less worthy of concern, compassion or justice than humans. Best and Nocella (2004: 13) define the concept as critical of assumptions 'that non-human species exist to serve the needs of the human species, that animals are in various senses inferior to human beings, and therefore that one can favor human over non-human interests according to species status alone'. Reflecting society generally, criminology tends to be anthropocentric, positioning and privileging human beings as the central and most significant species. A critique of speciesism questions this and the denial of the extension of rights to other non-human species (Beirne 2009, 1995; Sollund 2013). The huge international trade in wildlife as live bodies or as harvested 'parts and products' was largely overlooked until recently but is now widely recognized, with trafficking and related animal abuse now better understood and the subject of a growing number of studies (Schneider 2012; Beirne 2009; Wyatt 2012).

Controversies in the Application of the Perspective

For some there is an unease about the label 'green' which, in some situations and some countries, particularly where Green political parties are well established, can be seen as politically loaded. This view does not dispute that academic studies should engage with environmental matters but argues for the need to avoid political and politicized associations and banners. In some cases, where emotion and controversy may coincide, some may feel that their scientific neutrality and credibility will be questioned if they are associated with an explicitly 'green' position, group or body of work. Of course, there are other writers and researchers who positively embrace a political statement about their research because they believe this can add critical weight and transparency. Modest debate may continue regarding the most appropriate label or name for a criminology concerned with the environment, and some criminologists will argue that most relevant work can be carried out under the headings of 'corporate crime' and 'organized crime'. In response here—that's fine—the term 'green criminology' need not be employed by those who do not find it useful.

Spencer and Fitzgerald (2013) have criticized green criminology for neglecting the field of victimology and victims, and for being insufficiently reflexive about its attributed modernist assumptions. The latter criticism has an interesting echo of Smart's (1990) postmodern feminist critique of realist criminology and there is obviously a significant debate that could follow here. However, there is considerable variety in the analytical and theoretical positions taken by those who might be called green criminologists so the

criticism may not apply to all or be accepted as valid or useful even if ‘accurate’ in some cases. The proposition also echoes Halsey’s (2004) essay ‘Against “Green” Criminology’, about which he has more recently commented ‘In 2004, I wrote, somewhat controversially, that ‘the term “green” should be jettisoned from criminological discourse, primarily because it does not adequately capture the inter-subjective, inter-generational, or inter-ecosystemic processes which combine to produce scenarios of harm’.... Some years later, I am less wedded to that statement, but still think there is cause for concern around the term “green”.’ (Halsey 2013: 107–119). Halsey’s concern now is more with the appropriation and misuse of ‘green credentials’ by corporate interests.

It is also suggested by Spencer and Fitzgerald that green criminology pays less attention to victims than to offenders or offences. Yet a considerable amount of work in green criminology and environmental justice is concerned with victimization. Walters (2010: 181) notes that many

acts of eco crime create devastating conditions for the lives of local people. The contamination of drinking water, the degradation of soil and the pollution of air and land all expose people (usually those in poor and developing countries) to substantial health risks As Hauck (2007) has observed, acts of eco crime are linked to the poverty and social dislocation, as well as the mental and physical debilitation, of people who are victims of corporations and states that deliberately violate environmental agreements.

However if the criticism does have merit then it certainly is important that we attribute to those affected the legitimate status of victim and the legal standing which accords them rights as victims (Cardwell et al. 2011: 8–9). In the case of environmental crimes ‘victims include not only individuals and their physical or emotional health, but the social, cultural and economic life of entire communities.’ (see also Hall 2012; Lynch 2013).

Connecting to Other Forms of Critical Criminological Analysis: Examples

Political Economy

According to White (2013b: 243) green criminology has been surprisingly neglectful of political economy, after all ‘Environmental harm takes place within the overarching context of a distinct global political economy’. Much work has exposed ‘specific types of criminal or harmful environmental actions or omissions. ... What is less common, however, are examples of study that locate these harms, crimes, injustices and corrupt practices within the context of an explicit theoretical understanding of the state or economic relations.’ Long et al. (2012) have applied the ‘treadmill of production’ theoretical model to examine how environmental harms are the direct result of processes of production, growth and capital accumulation, supported by alignment of corporate and state interests. Such interests favour forms of ‘business as usual’ that embed resistance to calls for action on urgent matters such as the causes of climate change (Lynch et al. 2010; Fussey and South 2012; Kramer and Michalowski 2012).

To take a political economy analysis further, the following section considers one of the key theoretical models driving the treadmill of production and resulting cycles of consumption and disposal.

The World's Most Powerful Number

A political economy approach to environmental harms should pose questions about the long-term outcomes of development processes and how these impact on the planet's limited resources, while Gross Domestic Product (GDP), the most powerful number in the world, should be carefully deconstructed. For decades the GDP mantra has dominated public debate and the media, with countries being ranked and hierarchies arranged according to it. Policies are designed with an eye to their potential effect on this number, and even the necessity to curb greenhouse gas emissions is subordinated to the power of this artificial measurement (Fioramonti 2013). During WW2, monitoring the GDP was meant to provide the US with regular statistical data about its economic performance in relation to its rival countries or enemies: 'More importantly, it allowed the conversion of the civilian economy into a war machine without hampering internal consumption, which turned out to be a major advantage in generating revenues for the war' (ibid: 10). After the war, the GDP was not just a number but also a propaganda tool, supposedly signaling American superiority over the Soviet Union, which also resorted to that powerful number to boast its economic performance.

Currently, with the European Union seeking stability and growth, the value of GDP determines austerity cuts to public provision in areas such as health and education, 'resulting in a straightforward albeit macabre equation: less GDP, less social investment' (ibid: 10). Principles of equity, social justice and collective wellbeing are overshadowed by calculations of output and development. In the US, the defeat of the economic crisis as well as of terrorism is linked with economic growth, as citizens are encouraged to shop and buy anything, whether needed or not, in order to assist the economy via consumerist patriotism.

The conceptualization and measurement of national income was undertaken by Simon Kuznets, who in 1932 started to generate a series of aggregate indicators incorporating the total productive output of individuals, private firms and public agencies. By the early 1950s, GDP (earlier termed GNP) was accepted as the magic figure describing performance across the Western world. Imposed on developing countries, this measurement implied the necessity of selling resources to multinational companies and reducing already insufficient social expenditure. Kuznets himself is said to have reacted to the misuse of his 'invention' as he would have to the unintended creation of an economic Frankenstein. GDP does not, in fact, take into account how developing countries are largely dependent on informal economic initiatives, while growth of their GDP may just reflect an increase in expenditure by affluent consumers and a decline in the purchasing power of the underprivileged. Ultimately, it may also indicate the increase in the purchase of luxury goods and a simultaneous destruction or privatization of common resources.

Importantly GDP does not adequately capture costs to the environment nor does it assess the sustainability of the growth that is occurring. In fact, GDP counts costs to the environment in a positive manner as officially these reflect enterprise, productivity and wealth. The alternative view is that it could be argued that depletion of resources should equate to diminishing wealth and a declining GDP, yet 'industries like coal and oil ... don't want the scarcity of natural resources or the damage to our environment to be priced, and they don't want our GDP metrics to be adjusted to reflect sustainability' (Stiglitz 2012: 99). Including costs to the environment as a negative item within the GDP would imply that industries should be charged for the damage caused. As they are not charged they are indirectly receiving hidden subsidies which add to other gifts such as favourable tax treatment and access to resources at below fair market prices. Oil companies intending to intensify or multiply offshore drilling are aware that they need to ensure that, as far as

possible, laws are shaped and implemented in ways that do not make them accountable for the possible damage caused:

Because of the oil and coal companies that use their money to influence environmental regulation, we live in a world with more air and water pollution, in an environment that is less attractive and less healthy than would otherwise be the case. (ibid: 99)

Environmental regulations are not the only target of polluting industries, as funds are also generously distributed among groups that ‘scientifically’ cast doubt on climate change (Goldenberg 2013). Ultimately, those opposing economic regulation argue that this is costly and inhibits growth. An alternative critical view might argue that economic development that causes environmental degradation makes a negative contribution to the creation of wealth.

This type of rampant and damaging economic development should enter the domain of criminological interest as, in the past, have other acts that deplete resources and actors who evade public policies that aim to protect the public good.

Organized Crime, Business Crime and Political Crime: Points of Intersection

The implementation of public policy is sometimes of particular interest to criminology not because of what is intended but because of outcomes that are unintended. In this sense policy implementation may be criminogenic as in the following two case studies where corrupt parties in local government, business and organised crime converge. Although both are from Italy there is no reason to suppose similar occurrences do not happen elsewhere. Caneppele et al. (2013: 336) have studied schemes put in place to encourage the establishment of wind farms in Italy and observe that ‘policymakers have to take into account that regulation, even when dealing with environmental policies, can provide opportunities for crime.’ The Italian economic incentives supporting wind power were ‘disproportionately high compared to other EU countries’ and their high profitability attracted legitimate and illegitimate investors. Without clear regulation, local public officials enjoyed significant discretion which ‘combined with other factors ... generated the perfect environment for OC [organized crime] infiltration and for joint-ventures between legal and illegal players.’

In earlier work (Ruggiero and South 2010), we examined partnerships between legal economic actors, political representatives and members of criminal organizations in the perpetration of environmental offences. For example, industrial waste can be ‘cheaply and quickly’ processed by sidestepping regulations and illegal enterprises can offer competitive services based on false invoices, transport facilities, mendacious chemical reports and forged permits. Some legally registered companies in Europe also operate illegally, establishing ties with organized crime or running their own in-house, parallel, illicit business (Ruggiero 2010; Ruggiero and South 2010). Mandel (1999: 66) describes the business of such violators as ‘unsanctioned hazardous materials transfers’, moving unwanted, frequently toxic, waste from regulated spaces to sites where weak or no opposition will be encountered and from developed to developing nations, all part of a global industry of various ‘deadly transfers’ occurring across a ‘disorderly world’.

In many cases, such an alliance between licit and illicit entrepreneurs is the key characteristic of this type of environmental crime, with the latter offering a well-remunerated service to the former (Ruggiero 1996, 2000, 2012). Conventional organized crime, however, may at times be a redundant actor in this business, or else may be invited to

participate due to the ineffectiveness of both the state and legal entrepreneurs. It is worthwhile, in this respect, briefly re-examining some aspects of the notorious case of Naples and its 'rubbish crisis'.

The waste disposal crisis affecting Naples in recent years has involved, first of all, industrial managers and political representatives. The former defrauded the public administration while the latter proved incapable of controlling the work of those they commissioned and failed to denounce the fraud. Judges did bring charges against a large company entrusted with construction of a multi-layered disposal and recycling system but which failed to deliver. This failure led to the well known emergency situation, with a waste of money quantifiable at about eight billion Euros and sixty tons of rubbish scattered on the streets of Naples province. Managers were accused of presenting an inadequate, fraudulent tender while being aware that the price quoted was unrealistic and that their company lacked the technical capacity to perform the job required. The Mayor of Naples, on the other hand, was charged with gross negligence and complicity in the fraud, having granted an invalid contract and failed to intervene when the improper conduct of the beneficiary became clear (Piccoli 2008). The judicial investigation was a clear response to widespread stereotypes, particularly the idea that responsibility for the rubbish crisis was to be directly attributed to organized crime. Organized crime, in fact, only became engaged when the chaotic situation caused by 'legitimate' entrepreneurs became manifest and it would be wrong to impute all the illegality displayed in this case to structured, traditional organized criminal groups. Enterprising and improvising businesses started to buy land from small farmers to turn into illegal dumps, while enterprising lorry owners concentrated their business on the transportation of garbage. The complicity of local politicians was detectable in the hasty, routine authorizations given to such unlikely entrepreneurs. Assumptions that one single, violent organization was responsible for myriad illegal acts miss the mark (De Crescenzo 2008; Ruggiero and South 2010; Ruggiero 2000, 2013). Furthermore, if we expand our concerns beyond the disposal of hazardous waste into its very production, we see state agents establish alliances and partnerships which mimic those commonly characterizing the activities of organized criminals. We are now entering the arena of environmental harm caused by 'legitimate' behavior.

Consumption, Waste and Cultural Criminology

'Green' and 'cultural' criminologies share an interest at the point where environmental harms follow from the production and disposal of consumer products. Their focus may, for example, be on waste and obsolescence as corollary products of the consumption-driven nature of late-modern economies, shaped and fuelled by cultural forces such as marketing and media images (Brisman and South 2013). Ferrell (2013: 352) neatly ties together this and earlier points, arguing that: 'late capitalism promotes ... a pervasive *culture of consumption*—an increasingly globalized consumerist way of life defined by advertised meaning, constructed need, cycled fashion, and conspicuously acquired status.... [which] can usefully be investigated for the social harms it produces ... *but ...also ...for its environmental harms...*'.

As Henry and Milovanovic (1991–1992: 294) observe, '[i]n constructing distinctions between different theoretical positions, criminologists must be cautious not to overlook the connections that exist between them' and a green-cultural criminology can also encapsulate the ideas of constitutive or constructivist criminology, viewing classifications and labels as socially and politically constructed.

Case Study: Oil Crimes

A green criminology provides a 'way in' to the world(s) of 'business as usual' where consequences are overlooked or ignored or quickly removed from the media agenda. A prime example of such ongoing myopia and amnesia is the oil industry—one of the sources of energy driving the global economy and also the source of an enormous diversification of consumer products. This case study unpicks some recent developments in the history of the exploitation of the planet by 'big oil'.

BP: Beyond Petroleum?

On 20 April 2010, the BP Deepwater Horizon operation blew out in the Gulf of Mexico, spilling almost five million barrels of oil and killing 11 workers. Neither the short-term environmental damage nor long-term impacts of this event have yet been fully assessed (Bergin 2011; Achenbach 2011; Schwartz 2011). BP blamed Transocean, the company that owned and operated the drilling rig, and Halliburton, which carried out the cementing job. It was difficult to establish whether BP itself was responsible or whether this was an inevitable outcome of the risks of offshore business. The story of BP grants validity to both hypotheses. John Browne was the company's chief executive between 1995 and 2007 and was credited with 'turning a sleepy, tradition-encrusted firm into an aggressive top-rank juggernaut' (Maass 2011: 38). Browne earned a business degree from Stanford University and applied the management principles learned there to the reorganization of the company (Schwartz 2011). BP was divided into strategic business units, workers were fired, and managers were given short-term contracts linked to high production and low costs.

Browne managed to re-brand BP as a 'green' oil company and promised to invest millions in solar plants as well as research into sustainable energy (Steffy 2011). BP, henceforth, was said to stand for 'Beyond Petroleum'. However, this 'oilman with a conscience' slashed maintenance and cut the number of engineers, in order to increase profit margins. In 2005, an explosion killing fifteen workers and injuring more than 170 occurred at BP Texas City refinery. A year later, a corroded pipeline burst in Alaska, spilling 270,000 gallons of crude. When Browne was replaced by Tony Hayward, not because of incompetence but due to a public scandal, Hayward followed suit with new cuts, pushing engineers beyond what they considered advisable, and introducing performance measurements calculated in days per 10,000 feet of drilling (Bergin 2011). Following the spill, more than 12,000 jobs were at risk in Louisiana while 30 % of the Gulf of Mexico was closed to fishing. Restaurants rejected Gulf-coast seafood shipments and residents were or will 'be forced to move elsewhere to find employment' (Spencer and Fitzgerald 2013: 218).

After the blowout BP behaved like a well-trained mafioso. At first it denied everything and attempted to pass primary responsibility for the disaster onto Transocean. Then it grudgingly admitted what could not be denied. Finally, when the Federal Reserve had begun to consider the possibility that the company be declared bankrupt, BP tried to bribe the jury, offering billions of dollars to the US public in the hope that it would turn back the tide of mass opinion and be permitted to continue operating in the Gulf of Mexico. (Schwartz 2011: 25).

The Interior Department's Mineral Management Service (MMS) was responsible for overseeing the drilling operations but its staff accounted for only fifty-five inspectors for three thousand facilities in the Gulf. Moreover, staff were said to be 'industry puppets' and

surprise inspections, as the law required, were never conducted (Konrad and Shroder 2011). In a federal investigation it emerged that inspectors knew so little about what they were expected to inspect that they asked company representatives for clarification (US Government Printing Office 2011). Later developments saw local and southern state governments, including Louisiana and Mississippi, claiming \$34b compensation for damage and economic losses (Macalister 2013).

Soon after the disaster, the discredited chief executive of BP was contacted by former Alaska governor Sarah Palin who sought to win his support for a 1,700-mile gas pipeline across North America (Doward et al. 2011). Ultimately, it should be added that by exclusively blaming BP, as many did (including oil producing competitors), an image of the company as an 'exception' was created, obscuring the dangers posed by deepwater drilling in general and the likelihood of similar accidents occurring in the future. Such peril was highlighted by Lloyd's of London, the world's biggest insurance market, which—perhaps fearing the costs to be incurred as a result of future accidents—raised its voice about potentially huge environmental damage from oil drilling in the Arctic. The City of London institution estimated that \$100bn of new investment will be heading to the Arctic over the next decade and that cleaning up any oil spill there would present multiple obstacles and constitute a unique, unmanageable risk (Kollewe and Macalister 2012).

Climate change in Alaska has already become a practical problem and no national or international agency seems able to assist those who are moving out of the region (Zellen 2013). 'Tall new brush and saplings spring up on the tundra where they hadn't grown before', while pollutants emitted in the mid-regions of the planet swirl north, collect in organisms, and continue up the food chain: 'The Inuit living in northern Greenland, near the North Pole, contain the highest concentration of chemical contaminants found in humans anywhere on earth' (Frazier 2013: 37). Inevitably, there is a battle between the pro- and anti-development forces 'and the leading villains, unsurprisingly, are the oil companies, British Petroleum chief among them'. 'Always eager for more drilling, pro-development officials like Gale Norton, secretary of the interior under George W. Bush, called the coastal plain of the Arctic National Wildlife Refuge' a "flat white nothingness", a "barren wasteland" (ibid). Here, as Max Weber might have observed, we are faced with conducts which are hardly susceptible to the control and discipline of legal norms or moral responsibility. Taking the implication of this further, we have to conclude that development itself, and the growing complexity of markets, make legal coercion and moral values increasingly difficult to apply to the economic sphere. As a logical consequence, we may advocate a halt to economic development itself as the only way of reducing and preventing environmental crime. This is an argument against insatiability put forward by a number of critical economists who say 'enough is enough', thus challenging the current obsession with growth and the assumption that there can be infinite development (Skidelsky and Skidelsky 2012). The critique of wealth, growth and development may constitute a good analytical start for the designing of preventative measures.

Future Directions

Neoliberal thinkers such as Hayek (1973) tell us that economic initiative forges a 'spontaneous order', a utopian state of affairs to which market actors will attempt to adhere but only rarely will they approximate. Deviant elites harming the environment translate this utopia into concrete practice, albeit such translation requires violation of rules and illegality. In their case, total freedom 'spontaneously' leads to crime, a form of 'creative

destruction' more real than metaphorical. Such destruction targets not only institutional frameworks and traditional forms of state sovereignty but also 'social relations, welfare provisions, ways of life and thought, reproductive activities, attachment to the land and habits of the heart' (Harvey 2011: 3). Neoliberalism, in advocating the maximization of the reach and frequency of market transactions, seeks to bring all human action into the domain of the market. The consequences of this economic theology are that markets are required to replace governments and economics should be entrusted with the task of abolishing politics, seen as a cumbersome obstacle to freedom of choice (Agamben 2009). Economics as a 'science' posited by neoliberalism cannot accept being hindered by human and political choice (Terni 2011).

Challenging growth implies a critique of consumption, rendered by Keynes (1978) into a critique of wants. This involves a comparison between what one wants and what others have, and a realisation that an achieved level of material wealth is likely to be less satisfying while others possess more (Skidelsky and Skidelsky 2012). 'Wants' come in the form of 'status spending', namely consumption that makes us feel superior to others, or as advertisements of our own success in accumulating money. The dual critique of economic neo-liberalism and of consumption-driven social life could be a powerful future direction for green criminology. Some of this is captured in proposals for an international law of ecocide and the accompanying promotion of a green sensibility and green economy (Higgins et al. 2013).

Conclusion

A critique of 'wants' is accompanied by the argument made in this paper that growth is criminogenic because it depicts greed and acquisitiveness in a positive light, making them core values of individual and collective behavior. Simultaneously, growth as we have experienced it over the decades exacerbates the polarization of wealth, therefore increasing relative deprivation, one of the central variables in the analysis of crime. Ultimately, as a manifestation of insatiability, growth is a form of pathology. A radical critique of economic growth, therefore, could be a step towards the prevention of environmental crime. A full understanding of environmental crime requires an analysis of the illegal behavior of conventional criminal organizations but also of the illicit practices pursued by legitimate economic actors and political representatives. Finally, we need to pay attention to the very logic of economic development, the 'creative destruction' encouraged by unfettered growth (Ruggiero 2013). No other harmful activity requires similar multidisciplinary efforts.

Like all critical perspectives within the discipline, green criminology addresses social and political dynamics which cause collective harm and aims to investigate how such dynamics shape lawmaking and determine the very definition of what is officially identified as crime. It is within this analytical tradition that green criminology seems set to continue its empirical and theoretical work.

A green criminology has come a long way in a relatively short time. It will face criticism for what it has not achieved and, no doubt, aim to address these failings. As suggested here, it is also likely to become ever more relevant in the future. Whatever the nomenclature, some form of criminology with a commitment to green or environmental issues is needed.

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