

Sustainable Mining

Stuart Kirsch

Published online: 7 August 2009
© Springer Science+Business Media B.V. 2009

Abstract The mining industry moves more earth than any other human endeavor. Yet mining companies regularly claim to practice sustainable mining. Progressive redefinition of the term sustainability has emptied out the concept of its original reference to the environment. Mining companies now use the term to refer to corporate profits and economic development that will outlast the life of a mining project. The deployment of corporate oxymorons like *sustainable mining* is one of the key strategies corporations use to conceal harm and neutralize critique.

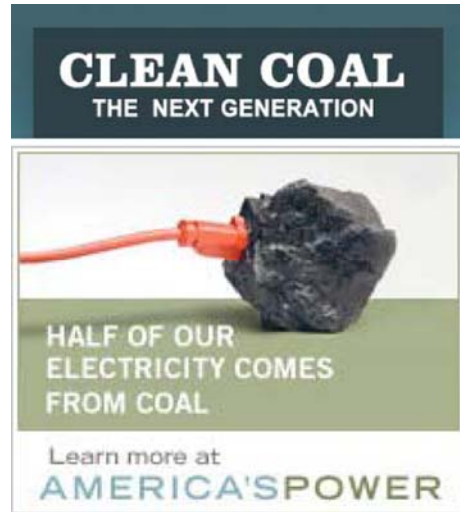
Keywords Conservation · Corporate oxymorons · Mining · Science · Strategically deployable shifters · Sustainability

One of the defining features of contemporary capitalism is the way corporations respond to their critics. Capital has become increasingly adept at managing critique in such a way that recognition and discontent about corporate harms are converted into structures of feeling that promote cynicism and political resignation (Benson and Kirsch 2010). A key strategy of corporations in responding to critique is to co-opt the discourse of their critics. Examples of this abound, with corporations readily appropriating the language of social responsibility, transparency, and accountability. Corporations also seek to inoculate themselves against critique by converting these discourses into the premises of audit culture, in which reform is simulated rather than enacted (Power 1994).

A related strategy for neutralizing critical discourse is the corporate oxymoron. Such figures of speech seek to disable the critical faculties of the consumer or shareholder with claims that require one to simultaneously subscribe to two

S. Kirsch (✉)
University of Michigan, Ann Arbor, MI, USA
e-mail: skirsch@umich.edu

Fig. 1 Clean coal. (<http://www.cleancoalusa.org/>)



contradictory beliefs, as suggested by the Orwellian notion *doublethink*. A prominent example of a corporate oxymoron endorsed by both Republicans and Democrats in the recent US presidential campaign is *clean coal*, which is promoted as the solution to the energy crisis even though it does not exist. While there are technologies to scrub sulfuric acid from the emissions of power plants that burn coal, no one has solved the problem of how to burn coal without releasing carbon dioxide, the greenhouse gas most responsible for global warming, into the atmosphere. Yet the reassuring sound of the corporate oxymoron *clean coal* implies that such technology is already available, or at least is within reach. The objective is to limit criticism of the coal industry by promoting an illusion: that we know how to produce energy from coal without exacerbating global warming. The example of *clean coal* shows how corporate oxymorons are intended to conceal harmful practices (Fig. 1).¹

This paper focuses on another corporate oxymoron associated with mining. The mining industry moves more earth than any other human endeavor. The US Environmental Protection Agency identified mining as the nation's leading source of toxic pollution for the last 9 years. Pollution from a single mining project can affect hundreds of square miles and acid mine drainage can render environments inhospitable to organic life for centuries. Yet despite the indisputable evidence of the environmental damage caused by mining, for the last decade the industry has aggressively promoted the corporate oxymoron of *sustainable mining*.

The concept of sustainability is an example of what has been called Mode 2 knowledge production, which is based on novel relations between science and society (Nowotny et al. 2001). Mode 2 science is dispersed across a variety of institutions and includes nontraditional participants. It is more heterogeneous,

¹ The Clean Coal campaign has also been subject to critical "subvertisements" (see Sawyer, this volume), including a popular video by the Coen brothers (<http://greeninc.blogs.nytimes.com/2009/02/26/the-coen-brothers-do-clean-coal/>), suggesting that corporate oxymorons are not always successful in subduing critical thought.

reflexive, and socially accountable than the traditional practices of science associated with Mode 1 knowledge production (Nowotny et al. 2001). Mode 1 knowledge production is based on the assumption that science and society are separate domains. This division allows for productive kinds of transactions, such as the transformation of scientific data into policy through political processes. The shift from Mode 1 to Mode 2 knowledge production facilitated the emergence of concepts like biodiversity, which infuses biology with a conservation ethic (Wilson 1992), and sustainability, which combines economic interests with environmental concerns (Brundtland 1987). Sustainability is an especially striking example of a Mode 2 concept because its long definitional career has been publically shaped through a series of multilateral conferences. Pressure from different constituencies has progressively redefined the term so that a key component of its original formulation is now almost completely obscured. This permits the concept of sustainability to circulate widely by increasing the number of contexts in which it can be applied, although the resulting changes should not be seen as politically innocent.

Contemporary use of the term sustainability has its roots in the 1972 United Nations Conference on the Human Environment in Stockholm, which focused on what was needed “to maintain the earth as a place suitable for human life not only now but for future generations” (Ward and Dubos 1972, cited in Danielson 2002: 19). The emphasis was on human activities that result in environmental degradation, especially pollution caused by industrialization (Adam 2001: 55). When the International Union for the Conservation of Nature (IUCN) published the *World Conservation Strategy* in 1980, it linked concerns about sustainability to the concept of development: “For development to be sustainable, it must take account of social and ecological factors, as well as economic ones; of the living and nonliving resource base; and of the long term as well as short term advantages and disadvantages of alternative actions” (IUCN 1980: 1). This “conservation-centered” approach to development sought to balance economic and environmental concerns (Reed 2002: 206).

The 1987 World Commission on Environment and Development, now known as the Brundtland Commission, adopted a more “human-centered” approach to these questions (Reed 2002: 206). Responding to concerns that imposing environmental restrictions on Southern countries would impede their ability to catch up to the North, it placed greater emphasis on meeting the needs of people living in developing countries, including the needs of future generations. The resulting definition of sustainability has been described as “equity-centered” (Reed 2002: 206). The Brundtland Commission formulated the definition of sustainable development that remains in popular parlance: “Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland 1987).

In the 1990s, however, the discourse of sustainable development underwent further modification. The 1992 U.N. Conference on Environment and Development in Rio de Janeiro, commonly known as the Earth Summit, promoted a “growth-centered” approach to development while setting aside prior concerns about equity (Reed 2002: 206). It favored the preservation of biodiversity through the protection of small, relatively pristine sites as conservation areas. This trade-off opened up the

rest of the world to virtually unrestricted development. For example, mining companies increasingly fund conservation projects that are seen to offset the environmental impacts of new mining projects. In the process, the mining companies establish collaborative relationships with conservation organizations that might previously have been their critics or otherwise impeded the new project.² At the international level, efforts to control pollution and reduce environmental degradation are increasingly subordinated to economic development through voluntary initiatives like the Kyoto Protocol and corporate self-regulation. This neoliberal calculus leaves the communities affected by mining projects dependent on the competence and moral commitment of mining companies (Reed 2002: 206, 218).

Mining industry use of the discourse of sustainability follows the growth-centered approach advanced by the Rio Earth Summit. The concept of sustainability has undergone progressive redefinition, “emptying out the meaning” (Negri 1999: 9) of the term, notably its original reference to ecology, so that mining industry use of the phrase sustainable development now refers primarily to economic variables. The contribution made by particular mining projects to sustainable development are presented in terms of royalties and taxes that can be used to support development and business opportunities projected to continue after mine closure (see Crook 2004). One of the first mining companies to integrate sustainability into corporate audit culture was the Canadian firm Placer Dome, which in 1997 began to issue annual sustainability reports for all of its major projects.³ These reports identify the primary objective of sustainability as the capacity “to maintain profitability for the shareholders,” although they also seek to “develop closer integration as a partner and contributor to community development,” and “to leave an environment that offers no loss of opportunities to future generations after mine closure” (Placer Dome Asia Pacific 2000). Their use of the term “environment” strategically refers to a location or place rather than the ecological sense of the term.

The original definition of sustainability focused on the relationship between economy and ecology, although the balance between the two has shifted over time, culminating in the complete elision of references to ecology or biology in the way that sustainability is now deployed by the mining industry. This process was facilitated by the shift from strong to weak sustainability (Daly 1996: 76–77; see Danielson 2002: 22). The two competing notions of sustainability differ with respect to the relationship between natural capital and human or manufactured capital. Weak sustainability refers to the argument that natural capital and manufactured capital are interchangeable, and that sustainability is achieved when the total value of capital remains constant or increases. According to this formula, a mine that pollutes a river and causes extensive deforestation may be considered sustainable if the profits from the project are successfully converted into manufactured capital

² The new consensus resulted in strategic alliances between the mining industry and some of the largest conservation organizations, including WWF, Conservation International, and IUCN. Conservationist Chapin (2004: 18) criticizes these NGOs for “partnering with multinational corporations directly involved in pillaging and destroying forest areas belonging to indigenous peoples”.

³ Barrick Gold purchased Placer Dome in 2006.

with an economic value that equals or exceeds the value of what has been consumed or destroyed in the process. From this perspective, a mine is considered sustainable as long as the “total stock” of capital remains the same or increases.⁴

In contrast, the definition of strong sustainability acknowledges the interdependence of human economies and the environment without treating them as interchangeable. From this perspective, the position of weak sustainability to which the mining industry subscribes is a category error (Daly 1996: 78). The economist Herman Daly (1996: 77) illustrates his critique of weak sustainability by pointing out that the complete replacement of fishing stock (natural capital) with fishing boats (manufactured capital) is a recipe for the tragedy of the commons.

The concept of sustainability plays an increasingly important role in environmental debates. Sustainability is an example of what linguistic anthropologists call a *strategically deployable shifter* (Urciuoli 2003, 2008). Shifters are words or phrases that lack a standard lexical meaning or definition because their referential value depends on the context. Their key function is to indicate social alignment. In the case of strategically deployable shifters, however, terms may have standard meanings or dictionary definitions, but these meanings can change according to the context. Even technical terms that are strategically deployable shifters may have alternative or contrasting definitions. Although the concept of sustainability may previously have been used to critique the environmental impacts of the mining industry, it has now become a means to promote mining. For example, BHP Billiton, the Australian mining company responsible for the environmental disaster downstream from the Ok Tedi mine in Papua New Guinea (Kirsch 2006, 2007), was recently appointed to the external advisory board at the University of Michigan’s new institute for environmental sustainability (Blumenstyk 2007). This suggests that the term sustainability has become a strategically deployable shifter, the meaning of which depends on how it is deployed and by whom. Strategic deployment of the term sustainability provides symbolic capital for a mining company whose practices are anything but environmentally sustainable (see Kirsch 2008).

The rise of indigenous and NGO protests against mining projects since the 1990s prompted a “crisis of confidence” among mining company executives who responded by rebranding the industry as a practitioner of sustainable development (Danielson 2002: 7). For the Australian mining company BHP Billiton, “sustainable development is about ensuring our business remains viable and contributes lasting benefits to society” (BHP Billiton 2009). Similarly, the British mining company Rio Tinto asserts that “our contribution to sustainable development is not just the right thing to do. We also understand that it gives us business reputational benefits that result in greater access to land, human, and financial resources” (Rio Tinto 2009). The multinational mining company Anglo American claims that “Sustainable development recognizes two key things about how we live. Firstly, that everyone... is connected, and secondly, that these interconnections exist within the natural

⁴ The socially and politically important question of who benefits and who loses as a result of the project is also deemed irrelevant in this formulation.

world. What happens in one has an impact—positive or negative—on the others. We acknowledge this and act accordingly” (Anglo American 2009).⁵

From the recognition that the mining industry is inherently unsustainable, leaving behind scarred and ruined environments, the industry now promotes itself as practicing sustainable mining. This claim is contingent on the emptying out of the ecological aspects of the definition of sustainability. It capitalizes on historical transformations of the concept and the promotion of a notion of weak sustainability that licenses widespread environmental degradation in return for industry support of conservation set-asides and development programs. The discursive shift also covers up the fact that there have been no significant reforms in how mining is practiced, or overall reduction of its harmful impacts, which the term sustainable might seem to imply. The promotion of mining as a form of sustainable development also makes it more difficult for critics of the mining industry to increase recognition of its true social and environmental costs. The deployment of corporate oxymorons like sustainable mining is one of the key strategies corporations use to conceal harm and neutralize critique.

References

- Adam, W.M. 2001. *Green development: Environment and sustainability in the Third World*. New York: Routledge.
- Anglo American. 2009. Our approach. Electronic document. <http://www.angloamerican.co.uk/aa/development/approach/>. Accessed 15 May.
- Anonymous. 2004. Sustainable mining? Who are we trying to fool? Column written under the pseudonym “Dryblower”. Miningnews.net, January 20. Electronic document. <http://www.miningnews.net/StoryView.asp?StoryID=21678>. Accessed 20 Jan.
- Benson, Peter, and Stuart Kirsch. 2010. Capitalism and the politics of resignation. *Current Anthropology* (Forthcoming).
- BHP Billiton. 2009. Our approach to sustainability. Electronic document. <http://www.bhpbilliton.com/bb/sustainableDevelopment/ourApproachToSustainability.jsp>. Accessed 15 May.
- Blumenstyk, Goldie. 2007. Mining company involved in environmental disaster now advises sustainability institute at University of Michigan. *Chronicle of Higher Education* 54 (15): A22.
- Brundtland, G.H. (ed.). 1987. *Our common future: The world commission on environment and development*. Oxford: Oxford University Press.
- Chapin, Mac. 2004. A challenge to conservationists. *Worldwatch Magazine* 17 (6): 17–31.
- Crook, Tony. 2004. Transactions in perpetual motion. In *Transactions and creations: Property debates and the stimulus of Melanesia*, ed. Eric Hirsch and Marilyn Strathern, 110–131. Oxford: Berghahn.
- Daly, Herman E. 1996. *Beyond growth: The economics of sustainable development*. Boston: Beacon Press.
- Danielson, Luke (ed.). 2002. Breaking new ground: Mining, minerals and sustainable development. International Institute for Environment and Development. London: Earthscan. Electronic document. <http://www.iied.org/mmsd/finalreport/index.html>. Accessed 15 March 2008.
- International Union for Conservation of Nature (IUCN). 1980. *World conservation strategy: Living resource conservation for sustainable development*. Gland: IUCN, UNEP and WWF.
- Kirsch, Stuart. 2006. *Reverse anthropology: Indigenous analysis of social and environmental relations in New Guinea*. Stanford: University of Stanford Press.

⁵ But note the objections of an anonymous industry correspondent: “Being discovered as an industry trying to fool people is the great risk being run by mining as it pretends to be something more than a business which digs, delivers and moves on—each step being perfectly acceptable, essential in fact, to meeting the demands of industry and consumers—but definitely not sustainable” (Anonymous 2004).

- Kirsch, Stuart. 2007. Indigenous movements and the risks of counterglobalization: Tracking the campaign against Papua New Guinea's Ok Tedi mine. *American Ethnologist* 34 (2): 303–321.
- Kirsch, Stuart. 2008. Social relations and the green critique of capitalism in Melanesia. *American Anthropologist* 110 (3): 288–298.
- Negri, Antonio. 1999. The specter's smile. In *Ghostly demarcations: A symposium on Jacques Derrida's specters of Marx*, ed. Michael Sprinkler, 5–16. New York: Verso.
- Nowotny, Helga, Peter Scott, and Michael Gibbons. 2001. *Re-thinking science: Knowledge and the public in an age of uncertainty*. Cambridge: Polity.
- Placer Dome Asia Pacific. 2000. Porgera mine sustainability report 2000: Towards a sustainable future. Electronic document. <http://www.placerdome.com>. Accessed Oct 2003.
- Power, Michael. 1994. *The audit explosion*. London: Demos.
- Reed, Darryl. 2002. Resource extraction industries in developing countries. *Journal of Business Ethics* 39: 199–226.
- Rio Tinto. 2009. Corporate website. <http://www.riotinto.com>. Accessed 15 May.
- Urciuoli, Bonnie. 2003. Excellence, leadership, skills, diversity: Marketing liberal arts education. *Language & Communication* 23: 385–408.
- Urciuoli, Bonnie. 2008. Skills and selves in the new workplace. *American Ethnologist* 35 (2): 211–228.
- Ward, Barbara, and Rene Dubos. 1972. *Only one Earth: The care and maintenance of a small planet*. W.W. Norton & Co, Inc: New York.
- Wilson, Edward O. 1992. *The diversity of life*. Cambridge: Harvard University Press.