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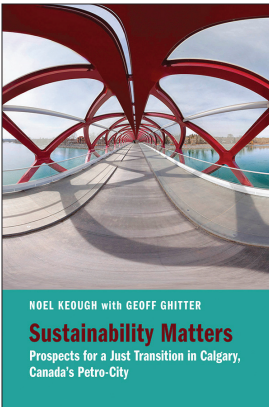
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SUSTAINABILITY MATTERS: PROSPECTS FOR A JUST TRANSITION IN CALGARY, CANADA'S PETRO-CITY

by Noel Keough with Geoff Ghitler

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The Origins and Evolution of Sustainable Development

Over the past thirty years, sustainable development, more than any other concept (save neoliberalism), has shaped deliberations over the future of our planet, nation-states, and communities. The 1987 Brundtland Report attempted a grand synthesis—sustainable development as a compromise, a bricolage patched together to obtain enough political capital to move forward on the important agenda of alleviating poverty and environmental destruction while staying within the context of a capitalist world system.¹ Clearly, the Brundtland compromise is not working.

The concept of sustainable development emerged into public consciousness in 1992, but that moment in Rio de Janeiro was the result of a long and winding historical process. To understand the sustainability debates in Calgary, it is important to have at least a rudimentary understanding of that history. Our review of the origins and evolution of sustainable development follows four lines of inquiry. First, we summarize the Brundtland Report's prescription for sustainable development. Second, we explore the problematic nature of the term's association with sustained-yield natural resource management and with the international development paradigm. Third, we sketch the main tenets of the dominant sustainable development theory (ecological modernization) and critique what Aidan Davison calls its techno-systemic orientation.² We close with a sketch of the multilateral attempts to operationalize the Brundtland Report's call for sustainable development over the past thirty years, from Agenda 21 to the Millennium Development Goals and the current

campaign for the UN Sustainable Development Goals, and argue that these fall short of the notion of strong sustainability.

North/South: The Great Divide

During preparations for and staging of the Earth Summit in Rio de Janeiro in 1992, the divide between the North and the South became all too apparent. On the one hand, the majority of influential governments from the North, along with the multinational economic power brokers (under the banner of the World Business Council for Sustainable Development), argued for market-oriented solutions to achieve a sustainable future. The problem of environmental degradation in the South, they argued, was a result of the South's overpopulation and lack of technology: the solution was to curb population growth, undertake a massive transfer of technology from the North to the South, and further integrate developing countries into the global capitalist market economy.

In contrast, the goal of many Southern governments and of much of the international NGO community was to put the role of consumption in the North front and centre on the Rio agenda. Their position was that poverty alleviation was a priority and was the number one reason to protect the environment, and that this was only possible by curtailing the material consumption of developed countries. Integral to the prescription for change was the alleviation of Third World debt and a more equitable distribution of power and resources in the world. They called for a re-definition of "development," serious attention to the scourge of militarization, the recognition that capitalism and communism do not exhaust the possible choices of political system, and the devolution of power to the community level.³

Something for Everyone in Brundtland's Sustainable Development

The Brundtland Report's definition of sustainable development and its general prescription for change remain the touchstone of sustainable development discourse: "meeting the needs of the present without compromising the ability of future generations to meet their own needs."⁴ Four key principles are outlined in the report: (1) the overriding priority to address the needs of the poor, (2) limits to growth, (3) equity within and

between generations, and (4) people's participation in decisions affecting their own lives.

The report states explicitly that it is “futile to attempt to deal with environmental problems without a broader perspective that encompasses the factors underlying world poverty and international inequality” and that in fact “inequality is the planet's main ‘environmental’ problem” as well as “its main ‘development’ problem.”⁵ Tensions arise, however, as one delves deeper into the report's proposed solutions.

The report explicitly recognizes the inequities in the international system: for example, in 1980–82, the 26 percent of the world's population living in the North were using 80 percent of the world's energy.⁶ However, it then goes on to suggest that this problem can be alleviated by continued growth in the North and the redistribution of a mere 25 percent of the incremental growth of the North to the South.⁷ Despite its initial recognition of limits to growth, the report states that, thanks to the wonders of human ingenuity embodied in technological advancement, “growth has no set limits in terms of population or resource use beyond which lies ecological disaster.”⁸

Sustaining the Unsustainable

Sustainable development has been shackled, from its inception, by its indebtedness to sustained-yield resource management and the international development paradigm. The concept of “maximum sustained yield” (MSY) evolved out of a four hundred-year tradition of European forestry, with natural forests long a thing of the past.⁹ MSY is a resource management approach crafted to squeeze the maximum possible production from forest (and later, ocean) ecosystems based on a deeply inadequate understanding of those ecosystems. Lester Brown, of the World Watch Institute, borrowing from the concept of MSY, first coined the term *sustainable development* in the late 1970s. The term was elaborated in *The World Conservation Strategy*, published in 1980, and placed firmly on the global agenda with the Brundtland Report.¹⁰

New and Improved Development?

Key to understanding the tensions around the concept of sustainable development is the critique of the second word in the term. Wolfgang Sachs

argues that development practitioners have, since the beginning of the post-World War II period, mistakenly set out to promote the American way of life in large part as an antidote to the feared postwar influence of the Soviet Union in what was referred to as the Third World.¹¹ In his inaugural address in 1949, US president Harry Truman heralded the development era. “Greater production is the key to prosperity and peace,” he said. “The United States is pre-eminent among nations in the development of industrial and scientific techniques” and thus duty-bound to “relieve the suffering” of the people of the “underdeveloped areas.”¹²

Since Truman’s address, “international development” has been the rallying cry behind massive economic, social, and political changes that have taken place in the so-called Third World. It has been a pervasive force in these communities for more than seventy-five years. A vast body of knowledge and hundreds of institutions, including dozens of United Nations agencies, have been created to oversee international development—its definition, evolution, and operationalization. Proponents of international development argue that the Bretton Woods institutions (the World Bank, the International Monetary Fund, and the World Trade Organization) were developed to mediate capitalism’s impacts and ease the development transition of the South.¹³ Others disagree. Anti-colonialists, post-colonialists, and post-development theorists pushed back against this benign characterization of the development enterprise.¹⁴ Claude Alvarez captures the essence of this pushback in *Science, Development and Violence*, arguing that “the idea of ‘development’ has been closely identified with those of progress, modernity and emancipation,” but that in fact it “is a label for plunder and violence.”¹⁵ In *Staying Alive: Women, Ecology and Development*, Vandana Shiva, an Indian environmental and human rights activist, espouses a critique of development strongly influenced by the Right Livelihood Award-winning Chipko movement of tribal women in India. She defines the links among the mistreatment of women by men, the colonized by the colonizers, and nature by humanity. Drawing parallels with the eighteenth-century enclosures in Britain, Shiva concludes that elite consensus on sustainable development is a rationale to accelerate the enclosure of the global commons.¹⁶

Co-opting the Environment Movement

According to Wolfgang Sachs, since the early 1970s, the environmental problem has been increasingly framed within the development discourse as an economically, socially, and culturally undifferentiated human impact on the biosphere. This discourse has marginalized the grassroots environmental movement's early critique of the role of corporate power and neocolonialist states, emphasizing instead the technical fix of global environmental management designed to maintain the current economic system.¹⁷

In Aidan Davison's characterization, "the first wave of environmental concern was deeply skeptical of the modernist model of progress and called for far-reaching spiritual, moral, and economic change in technological societies." This first wave, catalyzed by the publication in 1962 of Rachel Carson's *Silent Spring*, held an "antigrowth position with respect to the orthodoxy of unlimited economic growth and technological globalization."¹⁸ The second wave of environmental concern, roughly from the first Earth Day in 1970 to the present, is referred to by John Dryzek as the "Promethean response."¹⁹ By stealing fire from Zeus, the Greek god Prometheus increased the human capacity to manipulate nonhuman nature. The second wave's Promethean response, then, is based on unlimited confidence in the human ability to solve any problem through technology. It is characterized by regulatory initiatives to stabilize the global environment, wrest the agenda from activist first-wave environmentalists, and assure the citizenry that all is in good hands.²⁰ Its strategy is to ameliorate the direct effects of environmental degradation in the First World, thereby assuring First World citizens that the issue is being dealt with. Accordingly, as Davison notes, "since the 1980s, ecological crisis has been increasingly interpreted as a threat to human survival that can only be countered by redesigning nature."²¹

The publication of the December 1989 issue of *Scientific American* was a marquee event in this shift described by Sachs, Davison, and Dryzek. The issue, entitled "Managing Planet Earth," tackled everything from food scarcity to revolutions in materials science, side by side with full-page ads by corporations such as Ford, Shell Oil, and Union Carbide proclaiming their allegiance to sustainable development.²²

The State of the Art of Sustainable Development

In *Technology and the Contested Meanings of Sustainability*, Davison argues that efforts to rehabilitate or recapture the concept of sustainable development are “ultimately futile” because, in his estimation, sustainable development is “conceptually incoherent and politically compromised.”²³ This analysis accords with that of other writers, including Michael Redclift, who argues that the term *sustainable development* is an oxymoron, since the growth-oriented nature of development cannot be sustained on a finite planet.²⁴

William Rees, a leading thinker on sustainable development, points to the something-for-everyone, schizophrenic nature of the Brundtland Report, but he argues for redefinition rather than abandonment of the concept.²⁵ He laments the fact that to date, the sustainable development-inspired prescription for change is more of what he calls the “expansionist paradigm”: expanded free trade, deregulation, privatization, technology transfer, and an increased role for transnational corporations. This prescription is silent on the need to look at the underlying social and political problems (whose symptoms are environmental problems), such as inequity, unfair distribution, and overconsumption. Rees predicts that the biophysical reality will sooner or later force “ecological limits” onto the planning landscape. He reminds us that all production is consumption in a world governed by the second law of thermodynamics. He makes a useful distinction between strong and weak sustainability, with the latter, synonymous with the expansionist paradigm, assuming infinite substitutability of pieces of nature with human technology and the former acknowledging some capacity for technological substitution but rejecting the idea of technology’s infinite capability. Brundtland’s compromise has resulted in a weak and expansionist theory of sustainability still wedded to the development paradigm.

Ecological Modernization: An Emperor in Old Clothes

It is widely agreed that ecological modernization (EM), sometimes referred to as “green capitalism,” has become the dominant theoretical framework of sustainable development. Arthur Mol and Eric Sonnenfeld, champions of EM, describe it as a theory of how industrial societies deal

with environmental crisis.²⁶ Proponents of EM claim that it is a pragmatic answer to the sustainable development problematic. Together with Gert Spaargaren, Mol and Sonnenfeld identify three distinct phases of EM's development. It emerged in Germany, with a heavy emphasis on industrial technological innovation and modernization, an antagonism to bureaucracy, a steadfast belief in markets, and a systems theory orientation with a limited notion of human agency. In the 1990s, EM evolved to a more balanced view of the roles of the market and state intervention and gave more attention to institutional and cultural dynamics. The third, contemporary stage has been labelled "reflexive ecological modernization" (REM).²⁷ Mol and his fellow travellers argue that REM has successfully responded to the critiques of EM by incorporating social learning, cultural politics, and governance into its theoretical frame.²⁸

Aidan Davison offers a radical critique of EM, which he sees as a manifestation of "technological society." He argues that "*technological society* names a peculiar political and moral condition in which the greatest common good is understood as the greatest possible productivity of technosystems."²⁹ In Davison's view, EM "is founded on the pursuit of ecoefficiency," which is "encouraged by a technological optimism."³⁰ He writes that "the triumph of ecomodernism" has been to marginalize informed democratic debate and deliberation about the future we want and the role we want technology to play. Instead of critical examination of the good and the bad of modern society, it offers an "ahistorical agenda for engineering the future."³¹ Davison laments the Brundtland Commission's role in all of this, which has been to "cement into the foundations of sustainable development policy the conviction that technology is the neutral instrument of social institutions."³²

Fast forward almost twenty years, and Davison's earth-as-device analysis has advanced with a vengeance. We now entertain serious discussion of the eclipse of the human species by machines—a scenario popularized by Yuval Noah Harari in *Homo Deus*.³³ In *Radical Technologies: The Design of Everyday Life*, Adam Greenfield critically assesses the promise and the peril of fast-emerging technological change, from social media to blockchain, artificial intelligence, virtual reality, and robotization of the workplace, warning of the existential danger it poses for humanity.³⁴

Twenty-five years after its emergence, ecological modernization remains the dominant sustainable development policy discourse. In 2002 world leaders met for Earth Summit II in Johannesburg to assess progress, and again in 2012 for Rio+20. In 2000 the UN Millennium Development Goals were launched to focus international efforts on the needs of the world's poorest, followed by the UN Sustainable Development Goals (SDGs), with the UN calling on all nations to focus on these seventeen goals.³⁵

In July 2019 the first report on the SDGs restated trends that had already been acknowledged at Earth Summit II and Rio+20. "The world remains on a trajectory of increasing inequality," reported the UN Department of Economic and Social Affairs, "and it is facing armed conflicts, humanitarian and environmental crises, as well as economic, financial, and climate challenges. We, therefore, urgently need a surge in financing, investments and technological innovation."³⁶

The report itself urged immediate action: "It is abundantly clear that a much deeper, faster and more ambitious response is needed to unleash the social and economic transformation needed to achieve our 2030 goals."³⁷ CO₂ levels continue to rise, biodiversity is declining, inequality is growing, prospects for achieving the SDGs are fading, and liberal democracy is faltering amidst the rise of dangerous nationalist politics. Yet in *The Age of Sustainable Development*, Jeffrey Sachs, perhaps the most prominent proponent of sustainable development and the SDGs, reaffirms the ecological modernist orientation of mainstream sustainable development practice communicated in the Brundtland Report, Agenda 21, Earth Summit II, Rio+20, and the SDGs. The sustainable development path, he writes, "aims for economic growth but also for social inclusion and environmental sustainability."³⁸

Cities, which is where most of us live, and the processes of urbanization are humanity's most visible manifestation of the ecological modernization narrative. It is not hard to make the argument that urban policy is the poster child of ecological modernization. City governments remain preoccupied by competition, growth, and investment within the confines of the capitalist economic system. Technology is firmly entrenched at the vanguard of the ascendant Smart Cities agenda. Politicians who question the unfettered infiltration of technology into our lives and the logic of

economic growth or who propose alternatives to capitalism face poor prospects indeed. We have our work cut out for us.³⁹

NOTES

- 1 World Commission on Environment and Development (WCED), *Our Common Future* (Oxford: Oxford University Press, 1987), <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>.
- 2 Aidan Davison, *Technology and the Contested Meanings of Sustainability* (Albany, NY: SUNY Press, 2001), 97.
- 3 My own experience in the preparations for the Rio Earth Summit as part of the Canadian Council for International Cooperation and Canadian Environment Network's Sustainable Development Working Group is consistent with this view of the process. Two members of that Working Group were Aaron Schneider and Sangit Roy, authors of *Policy from the People: A North-South NGO Policy Dialogue* (Ottawa: Canadian Council for International Cooperation, 1992).
- 4 WCED, *Our Common Future*, 8.
- 5 WCED, *Our Common Future*, 3, 6.
- 6 WCED, *Our Common Future*, 33, Table 1.2.
- 7 WCED, *Our Common Future*, 50.
- 8 WCED, *Our Common Future*, 45.
- 9 Jeremy Caradonna, *Sustainability: A History* (Oxford: Oxford University Press, 2014); Ulrich Grober, *Sustainability: A Cultural History*, trans. Ray Cunningham (Cambridge, UK: UIT Cambridge, 2013).
- 10 International Union for the Conservation of Nature and Natural Resources, World Wildlife Fund, and United Nations Environment Program, *The World Conservation Strategy: Living Resource Conservation for Sustainable Development* (Gland, Switzerland: IUCN, 1980).
- 11 Wolfgang Sachs, *The Development Dictionary: A Guide to Knowledge as Power* (London: Zed Books, 2010).
- 12 Harry S. Truman, "Inaugural Address of Harry S. Truman," 20 January 1949, *The Avalon Project: Documents in Law, History and Diplomacy*, Yale Law School, Lillian Goldman Law Library, 2008, https://avalon.law.yale.edu/20th_century/truman.asp.
- 13 John Cavanagh, Daphne Wysham, and Marcos Arruda, eds., *Beyond Bretton Woods: Alternatives to the Global Economic Order* (Boulder, CO: Pluto Press, 1994).
- 14 Anti-colonialists: Frantz Fanon, *The Wretched of the Earth*, trans. Richard Philcox (New York: Grove Press, 1963); Kwame Nkrumah, *Neo-Colonialism: The Last Stage of Imperialism* (London: Thomas Nelson, 1965); Ernesto Che Guevara, *The Motorcycle Diaries: A Journey around South America* (London: Verso, 1995). Post-

- colonialists: Edward Said, *Orientalism* (London: Penguin Books, 1985); Robert Young, *Postcolonialism: A Very Short Introduction* (Oxford: Oxford University Press, 2003).
- Post-development theorists: Vandana Shiva, *Staying Alive: Women, Ecology and Development* (New York: South End Press, 2010); Claude Alvarez, *Science, Development and Violence: The Revolt against Modernity* (Oxford: University of Oxford Press, 1992); Wolfgang Sachs, *Planet Dialectics: Explorations in Environment and Development* (Toronto: Zed Books, 2000); Arturo Escobar, *Encountering Development: The Making and Unmaking of the Third World* (Princeton, NJ: Princeton University Press, 1995); David C. Korten, *The Post-Corporate World: Life after Capitalism* (West Hartford, CT: Kumerian Press and Berrett-Koehler, 1997).
- 15 Alvarez, *Science, Development and Violence*, vii, 1.
 - 16 Shiva, *Staying Alive*. For more on this issue of commons enclosure, see Maria Mies, *The Subsistence Perspective: Beyond the Global Economy* (New York: Zed Books, 2000), and Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge: Cambridge University Press, 2015).
 - 17 Sachs, *Development Dictionary*.
 - 18 Davison, *Technology and the Contested Meanings of Sustainability*, 13–14.
 - 19 John Dryzek, “Growth Unlimited: The Promethean Response,” in *The Politics of the Earth: Environmental Discourses* (Oxford: Oxford University Press, 2013), 52–72.
 - 20 This latter sentiment was certainly my experience in meetings in Ottawa in the fall of 1992, organized by Environment Canada to brief non-governmental organizations on the outcomes and aftermath of the Earth Summit in Rio de Janeiro.
 - 21 Davison, *Technology and the Contested Meanings of Sustainability*, 206.
 - 22 “Managing Planet Earth,” *Scientific American*, September 1989.
 - 23 Davison, *Technology and the Contested Meanings of Sustainability*, 41.
 - 24 Michael Redclift, *Sustainable Development: Exploring the Contradictions* (London: Routledge, 1987).
 - 25 For some of William Rees’s most insightful writing, see “The Ecology of Sustainable Development,” *Ecologist* 20, no. 1 (1990): 18–23; “Is ‘Sustainable City’ an Oxymoron?” *Local Environment* 2, no. 3 (1997): 303–10; and “What’s Blocking Sustainability: Human Nature, Cognition and Denial,” *Sustainability: Science, Practice and Policy* 6, no. 2 (2010): 13–25.
 - 26 Arthur P. J. Mol and David A. Sonnenfeld, “Ecological Modernization and the Global Economy,” *Global Environmental Politics* 2, no. 2 (2002): 92–115.
 - 27 Arthur P. J. Mol, David A. Sonnenfeld, and Gert Spaargaren, *The Ecological Modernization Reader: Environmental Reform in Theory and Practice* (London: Routledge, 2009).
 - 28 For one critique of EM, see Ulrich Beck, Anthony Giddens, and Steve Lash, *Reflexive Modernization: Politics, Tradition and Aesthetics in the Modern Social Order* (Chicago: University of Chicago Press, 1995).
 - 29 Davison, *Technology and the Contested Meanings of Sustainability*, 93.

- 30 Davison, *Technology and the Contested Meanings of Sustainability*, 5.
- 31 Davison, *Technology and the Contested Meanings of Sustainability*, 62.
- 32 Davison, *Technology and the Contested Meanings of Sustainability*, 24.
- 33 Yuval Noah Harari, *Homo Deus: A Brief History of Tomorrow* (Oxford: Signal Books, 2017).
- 34 Adam Greenfield, *Radical Technologies: The Design of Everyday Life* (New York: Verso, 2017).
- 35 “We Can End Poverty: Millennium Development Goals and Beyond 2015,” *United Nations*, accessed 2 September 2020, <https://www.un.org/millenniumgoals/>; “Sustainable Development Goals,” *United Nations*, accessed 2 September 2020, <https://sustainabledevelopment.un.org/?menu=1300>.
- 36 “Staying on Track to Realize the Sustainable Development Goals,” *United Nations: Department of Economic and Social Affairs*, 3 January 2019, <https://www.un.org/development/desa/en/news/sustainable/sustainable-development-goals.html>.
- 37 United Nations, *The Sustainable Development Goals Report 2019* (New York: United Nations, 2019), 2, <https://unstats.un.org/sdgs/report/2019/The-Sustainable-Development-Goals-Report-2019.pdf>.
- 38 Jeffrey D. Sachs, *The Age of Sustainable Development* (New York: Columbia University Press, 2017), 43.
- 39 For further critique of the traces of ecological modernization in cities, see Julian Agyeman, *Introducing Just Sustainabilities: Policy, Planning and Practice* (London: Zed Books, 2013), and Samuel Mössner, Tim Freytag, and Byron Miller, “Editorial: Cities and the Politics of Urban Sustainability,” *Die Erde: Journal of the Geographical Society of Berlin* 48, no. 4 (2017): 195–96.

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