boxes. In the workings of science, barriers and pores, walls and bridges, are probably isomorphic to the synergy of spheres and tubes. (pp.65-66)

Volk's plenitude of examples of the borders metapattern, drawn equally from culture and science, offers the reader a different *sense* of the structure of nature. How might we apply this sense to the paradox of harmony? If we follow Will Wright in viewing our largest problems as basic pathologies of organization, it seems to me that one could perform a 'metapatterns' analysis of the relations between specific scientific enterprises and the world they influence. For example, perhaps creatively 'slapping conceptual borders' around areas of society and/or ecosystems at different scales, as in control volume analysis, could forewarn us of 'cross-border' problems.

Borders function as bulwarks against the forces of disruption. They cloak creatures and their internal parts against the ravages of the exterior world – the ionizing, lysing, dissolving, jolting, combusting, dispersing, bursting, rotting, eating, and crushing world. Borders hold at bay all that would destroy the difference between being and environment; they prevent universal homogenization.

Life's borders accomplish much of their bulwark functions with a simple and generic design. This design can be seen in cell membranes made of lipid molecules; in tree bark, with its tiny cellulose cages of dead cells; in mammal skins of keratinized, flattened, dead cells; also in animal hairs, scales, and feathers; in virus shells of identical protein subunits; in bird nests and beaver dams of twigs and sticks and mud. This generic design is even used for bounding the precious information contained in chromosomes, whose ends are buffered by very short sequences of DNA repeated thousands of times. (p.52)

Consider some examples of dissonance between science and social life mentioned in Wright's book: IUDs, mastectomies, silicone breast implants. Each seemed a triumph of technical reason, a harmonious bit of theory and engineering within its narrow conceptual borders, but loosed on women these technologies were often disasters. Did scientists lose sight of the different, more complex borders within living bodies? Was this to misunderstand the metapattern of borders? What about Botkin's case of the starving elephants in Tsavo? If the park's borders had been more porous, allowing the animals to come and go in search of food, the herd might have flourished. Instead scientific rigor was wasted crafting 'natural' policies within bounds too small for them to work. 'The pattern that connects,' as Bateson said, is the key to understanding links between human and environmental events. There might be as many applications of Volk's metapatterns to the paradox of harmony as there are individual scientists thinking about the role of their specific case studies, ethnographies, experiments, and theoretical voyages in the 'big picture' of biospheric health.

If Wright is correct to raise the ideal of 'wild knowledge,' measured analogically by the medicine/health divide, and if Botkin presents a masterful case of doing just that, Volk's work sets out a broad and creative perspective within which the wisdom of any particular scientific event might be assayed. Each of these books offers fresh ideas, not rigid prescriptions, and implies practical ways in which scientists might become more sensitive to the larger disharmonies that surround us all.

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Reviews

Gordon Laird and Sue Zielinski (eds) Beyond the Car: Essays on the Auto Culture. Toronto: Steel Rail Publishing / Transportation Options, 1995

By John Sandlos

You're in the driver's seat. Put in the keys, start the engine and head out to the highway. Ease into the fast lane, pull down the top and let the wind flow through your hair. You're free. Or so the story goes. Soon you hit a traffic jam. The air becomes unbreathable. You shut out the wind, the sun and watch the world through your windshield as if it were on a television screen. You are stuck between two points on a map, out of place, out of time and out of luck. Ah, to be free in America.

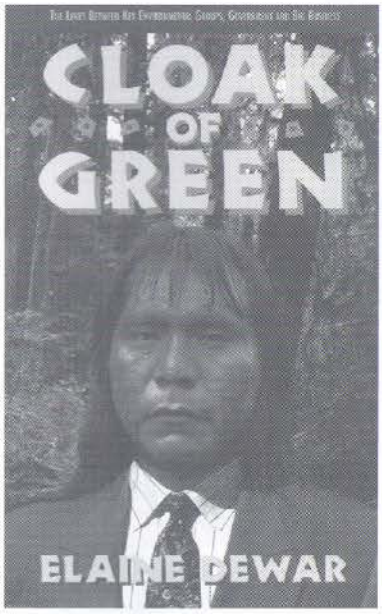
Born out of the 1993 Second International Conference on Auto-Free Cites, Sue Zielinski and Gordon Laird's *Beyond the Car* examines the "freedom" of the auto culture in North America, and its continuing emergence as a global phenomenon. The various contributions trace the rise of the of the auto industry in North America, the subsequent industry inspired demise of public transportation in major urban areas, and more recent campaigns of resistance such as the spontaneous construction of traffic calming "woonerf," or living islands, in the streets of the Dutch community of Delft. In doing so, the book broadens the discussion of the automobile from a simple pollution reduction exercise to a more imaginative re-creation of life without the automobile. Appropriately, a diverse group of authors have contributed to this project (transportation activists, urban planners, green economists and local politicians), all of whom attempt to provide a loose blueprint for a less car dependant society. The broad visions that becomes clearer as on reads through the book is one that includes communities with green space rather than parking space, a bicycle revolution, clean and efficient public transportation, safe places to walk, ample space for children to play, and the return of street level interaction between neighbours. It is, as the editors suggest in the introduction, an "arrangement of options, possibilities and ideas, so that people can make their own decisions about the automobile."

As such, *Beyond the Car* succeeds on many different levels. Most importantly, the diverse essays in the volume remain focussed and complementary. Film criticism concerning car movies rests easily alongside urban planning literature, or thoughts on the global economy. While printing diverse essays in their casual conference form can be the weakness of many volumes, the warmth, humour and the depth of the contributions in *Beyond the Car* suggest that this is not the rule of thumb. Sean Hayes' hilarious "Auto-Biography: An Alternative History of the Car," and Eric Mann's personal account of his anti-pollution activism in Los Angeles are particularly interesting examples that affirm the value of this approach.

Most importantly, *Beyond the Car* succeeds by revealing the extent to which a technological tool can dominate the lives of its users. By choosing one form of technological freedom in the form

of the automobile, we may have simply created a new box within which to live. In the closing essay, Zielinski describes an auto dominated future in which "smart" cars are guided in "packs" at predetermined times onto highways that would otherwise be permanently congested. As the complexity of the technology grows, so does its power to control our movements and our daily routines. We will have *become* the car rather than just simply users of the technology.

Beyond the Car artfully offers both simple and complex alternatives to the freeway Orwellianism that Zielinski describes. It is an essential user guide to life after the car and, as such, it is worth our thoughtful reflection and attention.



Elaine Dewar, Cloak of Green, Toronto: James Lorimer and Co., 1995

By John Sandlos

The latter days of the 1980s were heady ones for the environmental movement. Unprecedented levels of concern for the ecology of the earth was expressed through opinion polls, community projects, and financial support for environmental causes and organizations. Even national governments were adopting rhetoric that had been dismissed as radical "Green" sentiment only a few years previously. It seemed the "age of ecology" was reaching its zenith moment in the annals of world history.

Only a few years since that time, a worldwide economic recession, chronic high unemployment, and the ascendancy of deregulative neo-conservative ideology has forced green politics to return to its familiar marginal status.

In many ways, Elaine Dewar's *Cloak of Green* is a chronicle of the fall of the environmental movement from its prominent position on the public agenda. Starting the story at a "grassroots" 1988 meeting in a Toronto church featuring speeches by Kayapo leader Paulinho Paiakan, Dewar investigates the entire apparatus of NGOs, corporate donors and Native leaders surrounding the Amazon rainforest protection movement. Her exhaustive and meticulous research leads her into the "underworld" of environmental politics, a place where Governments covertly further their political aims as the sole funders of supposed Non-Governmental Organizations, environmentally challenged corporations (Brascan, DuPont) create "company unions" by providing large sums of money to environmental groups, and where "green" businesses (the Body Shoppe, Ben and Jerry's) channel money through research oriented NGOs to help set up extractive reserves that further their business interests in the Amazon.

Dewar's journalistic trail eventually leads to the 1992 Rio Summit, where environmental NGO's (she calls them Private Government Organizations) sit as delegates with business and government representatives. Unelected, unaccountable and aloof, these umbrella organizations are in what Dewar describes as "the loop," a loose coalition of interests bent on managing the environment and the economy on a global scale. At the centre of this "loop" is Maurice Strong, and what Dewar describes as his vision of "global governance." (Strong's Business Council on Sustainable Development was a key power broker in Rio, but was listed by Greenpeace as an anti-environmental organization). Dewar appropriately contextualizes the "loop" within the rising tide of free trade and, in a retrospectively funny passage, the emergence of a computer network called "the Internet." As Dewar's portrait of Rio shows, the environmental consciousness raising of the late 1980s has been dimmed by an effort sail on the perfect edge of sustainability (usually meaning sustainability somewhere else), using technology to manage the earth in a way that serves the voracious appetites of global capitalism.

Dewar's work provides a valuable insider's look at what Wolfgang Sachs has described as the new "ecocracy" of global environmental managers and bureaucrats. Her insightful interviews, her journalistic insights into key events, and her tenacious ability to penetrate the back rooms, parties and closed door meetings of various groups and conference delegates are the glue that binds her work together. Moving from meeting to meeting, and from personality to personality, Dewar never reveals too much at once, and her book holds the reader like a good mystery novel from beginning to end.

Nonetheless, despite the high quality journalism in the book, there are some theoretical weaknesses in its central arguments. First, Dewar suggests her prime concern for the Amazon relates to her children's health, and that this should be the prime consideration for environmental organizations. The argument implicitly lends credence to the global management ethos she wants to critique. The destruction of the Amazon is, presumably, permissable so long as it managed in a way that doesn't affect our children.

Second, Dewar questions the global implications of deforestation, playing the endless cat and mouse game that demands further scientific "proof" for planetary warming trends. Thus, rather than provide an alternative vision for global environmental management, she questions the need for it in the first place. Dewar clings hopefully to the nationalist status quo, suggesting that legal action by one country against another is by itself a sufficient deterrent to transboundary pollution. She ignores the failure of strong national governments to effectively manage the natural world, as well as the persistent efforts of governments to undermine local economic relations and subsistence livelihood in the name of the national economy. As such, economic nationalism can be seen merely as globalization in a microcosm, and not a viable alternative to it.

Lastly, by ignoring the grassroots and local activist voices of the environmental movement, Dewar paints a picture of the movement as monolithic and homogeneous, with everyone from David Suzuki to Elizabeth May inside a sinister conspiratorial "loop" of influence and power. A more balanced discussion of the dialogue between grassroots and mainstream environmental activists would have been of great benefit to the volume.

Nonetheless, kept in perspective, *Cloak of Green* is fascinating look at the consolidation and co-optation of various environmental "players" in the years leading up to the Rio summit. Though deserving of thoughtful consideration, it is Dewar's "cloak and dagger" storytelling abilities that make this book difficult to put down.

John Sandlos is currently pursuing a Master's Degree in Environmental Studies at York University, where he focuses on wilderness issues.