

## Editorial

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[Aller au sommaire du numéro](#)

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## EDITORIAL

Ocean drilling and the incredible knowledge and insights from it are among the most outstanding accomplishments of the international earth science community over the past 33 years. This issue features six papers on ocean drilling results and prospects as outlined by some of the major Canadian scientific contributors, covering topics from evolution of the oceanic crust to the origin of the Antarctic continental margin. I hope you enjoy reading these papers as much as I do.

This is my last issue as editor, and it's great to finish with this fine group of papers. I've enjoyed being editor, but I'm pleased to pass the editorship to Godfrey Nowlan of GSC Calgary: changing editors is one means of journal renewal. In part because of his strong background in public aspects of science – Godfrey is one of the founders of the Calgary Science Network – he'll be an excellent editor.

I began thinking about the topic of this editorial before the horrors of September 11 in the United States. I wondered why the public remains so uninformed on natural science in general and earth science in particular, despite much educational effort by many dedicated people. The events of 9/11 reinforced my thoughts on one likely reason: the fact that so many of us live in cities where we are at once isolated from the natural environment, and vulnerable to terrorism.

Cities are among our greatest accomplishments. There is no question that they enormously enrich the lives of many of us. In Canada, about 78% of us live in cities of more than 100,000 persons. Global population is now more than 6 billion; about 43% live in cities, and there are 20 cities with populations greater than 10 million.<sup>1</sup> What might this mean? Consider this from Thomas Homer-Dixon: "...We design our cities to block out the intrusions and fluctuations of the natural world so that they will work as smoothly and efficiently and with as little discomfort to their residents as possible...the disturbing result is that many residents no longer care about, understand, or recognize the importance of this natural world."<sup>2</sup>

Cities have helped us "shatter the

constraints and rough stability of the old economic, demographic and energy regimes," as eloquently discussed by historian J.R. McNeill in his monumental environmental history of the 20th century world.<sup>1</sup> Population growth and urbanization, among the greatest distinctions of the 20th century, continue almost unabated in the 21st century, too often with negative effects on air, land, water, even life itself. Cities also influence us to see ourselves as *apart* from nature, Lords of all, almost *immune* from nature. But as Jared Diamond, author of the renowned *Guns, Germs, and Steel* reminds us, we are animals, "third chimpanzees," merely one species among many despite all we have accomplished.<sup>3</sup> Tracing the long history of humankind, Diamond notes that our most successful life-style was as hunter-gatherers, living largely in harmony with nature.<sup>3</sup> We can't go back to those times — nor would we want to — but humankind *must* move away from power and control over nature toward harmony and balance *with* nature. This is not a new message: we know this, but we have great difficulty accepting and acting on it.

What does the apparent isolation of much of the populace from the natural world mean to earth scientists? To me it means that we have to redouble our efforts to make all people, *especially* urbanites, aware of the world in which they live and the demands they make on it. How? Through ever greater public outreach, as often advocated by others in these pages. Let's have more *Geoscapes* on Canadian urban environments, posters on climate change, publicly oriented guidebooks and geological histories, involvement in earth science education, and much effort in Geoliteracy Canada. Post-September 11 is a good time for reappraisal of how we live, how we relate to nature, and how we can work toward reducing the enormous gap between rich and poor.

We also need to publicize the fact that our science is undergoing welcome change in response to the challenges of the third millennium. NSERC's Re-Allocation Exercise describes earth science as an emerging new holistic science focussing on complex systems, entire ecosystems rather

than individual species within them. A major goal of modern earth science is to better understand the Earth system as a whole to accurately predict its future evolution. Economic approaches to 21st century problems based on a holistic framework yield nearly *unlimited* opportunities for environmentally better ways to do almost everything: at the centre of the 'natural capitalism' espoused by Hawken *et al.*<sup>4</sup> is the realization that solutions to many of our problems lie in understanding the *interconnectedness* of problems, not in confronting them in isolation.

So the future doesn't have to resemble the past. Jared Diamond sees our propensities to murder each other *en masse* and to foul our environment as huge problems, yet we humans "are the only ones creating our problems, so it's completely within our power to solve them."<sup>3</sup> As earth scientists we can't do much about threats of terrorism to our populace and our cities, but we certainly can help to increase public awareness of the natural environment and our collective role in it, particularly from the perspective of change over long time periods. Perhaps no issue is of greater importance to our common future.

That's it for me! Thanks to all who have helped make this journal a success over the past 6 years, and best of luck to new editor Godfrey Nowlan.

Roger Macqueen

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- <sup>3</sup>Diamond, Jared, 1993, The Third Chimpanzee: Harper-Collins, New York, 407 p. (first published 1992).
- <sup>4</sup>Hawken, P., Lovins, A. and Lovins, L.H., 2000, Natural Capitalism – Creating the Next Industrial Revolution: Bay Back Books; Little, Brown and Co., Boston, 396 p. (first published 1999).