

1997 MORRIS KATZ MEMORIAL LECTURE IN ENVIRONMENTAL RESEARCH

Professor David V.J. Bell

*York Centre for Applied Sustainability
and Department of Political Science*

Sustainability and the Role of Science: The Case of Transportation, Air Quality and Human Health

25 June 1997

3:30 p.m.

York University, Senate Chamber
N940 Ross Building
4700 Keele Street, North York

Centre for Atmospheric Chemistry



Abstract

The challenge of sustainability requires that we find ways of adapting our institutions and practices so as to permit the continued survival of humankind beyond the next century. In relation to this challenge, knowledge from the natural sciences will prove to be critically important. As in the past, the role of the natural sciences includes identifying "problems" in the natural environment, assessing the impacts of human activity, and predicting the consequences of continued patterns of stress.

Successfully responding to the challenge of sustainability involves additional considerations such as concern for both economy and social equity. Understanding these aspects requires collaboration between natural and social sciences (or sciences humaines) including attention to both "pure" and "applied" dimensions. Questions of values, ethics and judgment are ineluctably implicated (thus challenging the notion of "value-free science" and requiring a strong philosophical/humanistic emphasis.) Sustainability also entails new ways of thinking about the future: the "precautionary principle", for example, runs counter to the usual reluctance of natural scientists to act (or recommend) in the face of uncertainty.

Sustainability has challenged dominant ideas in the social sciences, including the basic paradigm of neoclassical economics, and has given rise to a new "ecological economics" on which the natural sciences (physics in particular) have had a seminal impact (e.g., through consideration of the laws of conservation of matter and energy). Ecology has also been a formative science for sustainability studies, forcing attention on the "big picture" and reminding us that "everything is connected to everything else" (in short encouraging a "systems approach").

But how does one move from knowledge to action? How can our understanding of sustainability problems lead to appropriate changes in public policy and private behavior?

In his lecture, Dr. David Bell will explore these issues and relate them to the development of the Conference on Transportation, Air Quality and Human Health which was co-sponsored by the York Centre for Applied Sustainability and Pollution Probe in April 1996. The lecture will conclude with a discussion of the implication of sustainability for the

education of scientists, and for science education in the elementary and secondary school system.

Biographical Sketch

Dr. David Bell is interested in the Politics of Sustainability — the transformation in political practices, policies, institutions and culture that will be necessary to support sustainability in the twenty-first century.

A political scientist by training, David received his PhD from Harvard University in 1969. David Bell served as Dean of the Faculty of Environmental Studies from 1992-1996 at York University. He is currently Director of the York Centre for Applied Sustainability which took over the resources and equipment of the Ontario Round Table on Environment and Economy when its mandate was terminated in the Fall of 1995. (David was an ORTEE member).

David Bell teaches courses on Political Linguistics, Canadian Political Culture, and Environmental Politics. His recent publications include: (with F. Fletcher et al.) *Reaching the Voter: Constituency Campaigning in Canada* (1993); *The Roots of Disunity: A Study of Canadian Political Culture* (1992); (with R. Logan); *Communication and community: promoting world citizenship through electronic communications*, (forthcoming); *Negotiation in workplaces: the view from a political linguist*, (1995); *Political education and democratic administration*, (1993); and *Global communications and culture: implications for international security*, (1993). He is co-editor (with R. Keil, L. Fawcett and P. Penz) of the forthcoming *Political Ecology: Global and Local*, London, Routledge, and has co-edited (with R. Keil and G.R. Wekerle) *Local Places in the Age of the Global City*, Montreal, Black Rose Books, 1996.

The Lectureship Fund

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Canadian Institute for Research in Atmospheric Chemistry
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If you share in Morris Katz' enthusiasm and commitment to having a cleaner environment, please make a contribution to support this ongoing educational activity. Send your contribution in care of: The Morris Katz Memorial Lectureship, Centre for Atmospheric Chemistry, York University, 4700 Keele Street, North York, Ontario, M3J 1P3 Canada.

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