

After graduating cand. mag, from Oslo University in 1948, Orvig moved to a teaching and research post at McGill University, Montreal. In 1950, as meteorologist, he joined the 20-strong expedition to the Barnes Ice Cap area of Baffin Island, organized by the Arctic Institute of North America (AINA) under the leadership of P.D. Baird. The expedition's staging point was Clyde Inlet, whither food and fuel had been transported by sealift the previous summer. Orvig arrived there in late May in the expedition's ski-wheel Norseman aircraft under charter, and joined the rest of the party, who arrived by RCAF Dakota aircraft. He spent the summer at a camp established near the southeast end of Barnes Ice Cap at an elevation of 865 m, where he organized two-hourly meteorological observations from 1 June to 26 August, in support of glaciological observations and for comparison with the records made at the Clyde Inlet post. The expedition was evacuated by the eastern Arctic patrol ship *C.D. Howe* in early September.

In 1953 Orvig took part in a further AINA expedition to Baffin Island, again under Baird's leadership, with similar logistics and a 13-strong party, but this time to the Cumberland Peninsula area, staging through Pangnirtung. He was responsible for organizing the meteorological observations at two camps — at the southeast end of Penny Ice Cap at more than 2000 m, and at Summit Lake at nearly 400 m. The expedition was evacuated from Pangnirtung in early September.

By now Orvig had moved to the Montreal office of the AINA, as assistant director and, later, director. He gained his PhD from McGill in 1954 on his Arctic meteorological work. In 1957 he moved back to McGill as associate

professor of meteorology, and in 1965 he was appointed full professor, and, on his retirement in 1986, emeritus professor.

During his long service at McGill, Orvig guided all his students with wisdom and care, and was much liked and respected by them in return. Under a contract with the Defence Research Board in Ottawa, his selected students took part each year from 1957 to 1970 in fieldwork from the Board's Hazen and Tanquary camps in northern Ellesmere Island. These included the four men who manned the Canadian IGY station at Lake Hazen for eight months and throughout the 1957–1958 winter. They and many other of Orvig's students later went on to hold Canadian government or university posts. Orvig also played key roles in university administration, as dean of science, 1976–1985; as a governor of McGill, 1968–1970; and, in a wider field, as secretary of the International Commission on Polar Meteorology, 1963–1975.

Orvig was author or co-author of more than 60 publications in meteorology, and editor of the book *Climates of the polar regions* (1976). His work was recognized by the awards of the President's Prize of the Royal Meteorological Society in 1964, the Andrew Thomson Prize of the Royal Canadian Meteorological Society in 1977, and the Patterson Medal of the Canadian Atmospheric Environment Service in 1982. He was elected to the Royal Society of Canada in 1980 and served on its council from 1982 to 1984.

He is survived by his wife Anne and by two sons of their marriage.

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A disagreement about global warming C.J. van der Veen

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Increasingly, issues concerning possible anthropogenic influences on global climate are being discussed outside the mainstream scientific literature. This development is to be encouraged, as the effects of climate change may have important and perhaps adverse implications for civilization, and the public should be involved in formulating policies. Involving wider segments of the population, who cannot be expected carefully to read all the pertinent scientific literature, places a burden on scientists and journalists to convey accurately scientific results and prevailing opinions to a wider audience. An important role for scientists in this process is critically to examine and

evaluate material that appears in the popular press, including books targeted at large audiences. Moreover, criticism must be applied with equal rigor, irrespective of whether the reviewer agrees with, or disapproves of, the central thesis that a particular author is trying to promote. Norman Davis, in his review (*Polar Record* 34 (191): 355–356 (October 1998)) of Paul Brown's book *Global warming: can civilization survive?* failed to do so.

Brown's book is divided into four parts, the second of which deals with the science of global warming. According to Davis, this part provides 'the best general account of the science that this reviewer has yet come across.' Not being familiar with the literature Davis has consulted recently, I cannot comment on this value judgement. However, it must be pointed out that Brown's summary of the scientific issues clearly demonstrates a lack of understanding, leaving one to wonder about the accuracy of the other parts of the book, as well as to question the basis for recommendations of strong action to avert alleged damag-

ing effects of global warming. To further my skepticism, Brown's book is devoid of notes or specific references that could guide readers to the source of statements, making it virtually impossible to check whether the original scientific literature is accurately summarized.

There are scientific fallacies, such as the 'explanation' of the Coriolis effect on page 78 ('caused by two bodies, such as the earth and a mass of air or water, moving at different speeds'), the assertion on page 88 that glaciers 'when warmed sufficiently can start moving much faster, or surge,' or the statement on page 90 that 'sea ice has no effect on sea level since it forms and melts each year.' Based on these and other remarks, I must conclude that Paul Brown understands little about the physical processes contributing to potential consequences of the greenhouse effect. In view of this, it is preposterous for the author to criticize scientists 'for not being alarmist enough' (page 76).

My main objection against Brown's book, however, is perhaps best illustrated by the statement on page 79 in the discussion of global warming and increased frequency and intensity of storms: 'Although most scientists disclaim that there can yet be any link between current experiences and global warming, or at least say it is too early to tell, environmental groups are not so sure.' Brown's political

agenda becomes obvious here and apparently environmentalists are at liberty to stretch interpretation of data beyond the confidence limits indicated by knowledgeable scientists in their quest to convince the public and politicians that Draconian measures are warranted to avert pending doom. To me, as a scientist, this view is not only unacceptable but insulting as well, as it devalues the scientific process, based on careful scrutinization of data to ensure that any conclusion is fully supported by these data. Global warming is a serious problem that warrants the attention of the world's leaders. However, whatever political actions are to be taken, it is essential that the scientific basis is solid and undisputed by respectable scientists, rather than being based primarily on unsupported arguments from extremists.

In my opinion, Brown's book does a great disservice to everyone involved or interested in the debate about man's influence on global climate. The inaccuracies and erroneous statements in his book provide ammunition for the cannons of the 'contrarians' who can use these as arguments against imposition of governmental controls, as these statements undermine the credibility of the author. It is disappointing that Norman Davis concluded in his review that Brown's 'book is an excellent introduction to the global-warming debate.' It is not.

In Brief

NEW ROYAL WARRANT ISSUED FOR THE POLAR MEDAL. On 5 August 1998, the Queen approved the new Royal Warrant for the Polar Medal. The text of the Warrant (as it appeared in *The London Gazette* of 14 September 1998) reads as follows.

ELIZABETH THE SECOND, by Grace of God, of the United Kingdom of Great Britain and Northern Ireland and of Her other Realms and Territories, Queen, Head of the Commonwealth, Defender of the Faith, to all to whom these Presents shall come,

Greeting!

WHEREAS a Medal for Arctic Discoveries was instituted by Our Royal predecessor, her Majesty Queen Victoria, in 1857 and granted for service in specified expeditions in the period 1818 to 1855; and whereas Her Majesty subsequently instituted in 1876 a further Medal for Arctic exploration in the years 1875 and 1876; and whereas Polar Medals in silver and bronze were instituted by Our Royal Great-Grandfather, His Majesty King Edward VII, in 1904,

AND WHEREAS conditions for the award of the Polar Medal, in silver only, were established by a Warrent under Our Sign Manual dated the twenty second day of January, one thousand nine hundred and fifty four as amended by Our Warrant dated the fifth day of February, one thousand

nine hundred and seventy,

AND WHEREAS We deem it expedient that Our said Warrant shall be further amended;

NOW THEREFORE We do hereby declare that the rules and ordinances contained in Our said Warrant dated the fifth day of February, one thousand nine hundred and seventy shall be abrogated, cancelled and annulled and We are pleased to make, ordain and establish the following rules and ordinances in substitution therefor which shall henceforth be inviolably observed and kept:

Firstly: (Style) The Medal shall be styled and designated 'The Polar Medal'.

Secondly: (Description) The Medal shall be in silver and octagonal in shape, bearing on the obverse the Effigy of The Sovereign with the inscription 'ELIZABETH II DEI GRATIA REGINA F:D:' and on the reverse a representation of the ship *Discovery* in winter quarters with, in the foreground, a sledging party on skis.

Thirdly: (Ribbon and Order of Wear) The Medal shall be worn on the left breast suspended from a white ribbon, to denote snow and ice, one inch and a quarter in width.

In the official list showing the order in which Orders, Decorations and Medals shall be worn the Polar Medal shall be placed immediately after War Medals.

Fourthly: (Clasps) Every Polar Medal awarded shall