

Ozone layer: consumers must voice their concerns

By LEWIS POULIN

John Gribbin's book, *The Hole in the Sky* is a welcome source of timely information for the general public on recently observed ozone layer depletions. This small paperback summarizes hundreds of pages of scientific literature and countless hours of discussion and debate into 192 pages of informative and educational material on our changing ozone layer and atmosphere.

Whatever your level of scientific literacy, this book is highly recommended. While specialized terminology cannot be avoided, general readers need not leave it on the shelf. After all, it was written to convince the public that we *must* be concerned about our ozone layer. Gribbin occasionally uses too many numbers in his descriptions, but this only taxes your memory, not your reasoning. Keep going, don't get bogged down. Re-read difficult chapters if necessary. Chapters average 22 pages and the longest is only 36.

The book is a result of Gribbin attending a week-long scientific conference in Dahlem, Germany, in November 1987. Gribbin listened to top atmospheric scientists present data collected from an Antarctic expedition a few weeks earlier, which showed the most severe ozone layer depletions ever observed.

I appreciated the first five chapters of the book for their presentation of the ozone problem. Relevant terminology is introduced, background history is presented, and the facts on our understanding of how chemicals deplete the ozone layer are provided. For a more complete account of the earlier concerns on the ozone layers, the book *The Ozone War* (Doubleday, 1978) by Lydia Dotto and Harold Schiff (Chemistry, York) is recommended.

Most readers will be eager to read chapter six on the Antarctic ozone hole. Ten to twenty million dollars were spent over the last two years on two international Antarctic expedi-

tions to try to understand why ozone concentrations deplete over the southern pole during springtime.

Of the three main theories proposed — solar activity, chemical and dynamic — the latest results point the finger at man-made chlorine and bromine chemicals in the upper atmosphere. These chemicals are called chlorofluorocarbons and halons, also known as CFCs or freons. CFCs are used as coolants in refrigeration units, propellants in some aerosol cans, for example, blowing agents to make rigid foams, and solvents for cleaning electronic circuits. Halons are used mainly in certain types of fire extinguishers.

The scientific community is also interested in investigating possible ozone depletions in the northern polar regions. A joint American-Russian expedition is expected for the 1988-1989 winter to monitor the arctic ozone layer. Curiously enough, Gribbin does not mention Canadian activities, although Environment Canada has been monitoring stratospheric chemistry since 1974.

High altitude research balloons are launched regularly to gather data on the ozone layer over Canada. In fact, in March of 1988, the most northerly balloon flight was

launched from Alert. More activities are planned for this winter.

Gribbin's book is well-rounded, listing most of the presently known ozone layer modifying theories, an extensive list of chemicals harmful to the ozone layer and a whole chapter on the greenhouse effect, where ozone and other atmospheric gases like carbon dioxide, methane, water vapour and CFCs, absorb and reflect some of the earth's heat trying to escape to space.

Our modern lifestyles are increasing the concentration of these greenhouse gases in the atmosphere, which in turn is causing our atmosphere to warm. Climate modifications caused by this induced warming are expected to be even more serious than ozone layer depletions.

So what's being done to save our changing atmosphere? Politicians are already meeting internationally to discuss how to deal with the social impacts of ozone depletions and a changing atmosphere. In September 1987, a UNEP (United Nations Environment Program) conference saw 27 countries sign the Montreal Protocol, to protect the earth's ozone layer by adopting a global strategy to ban the use of CFCs.

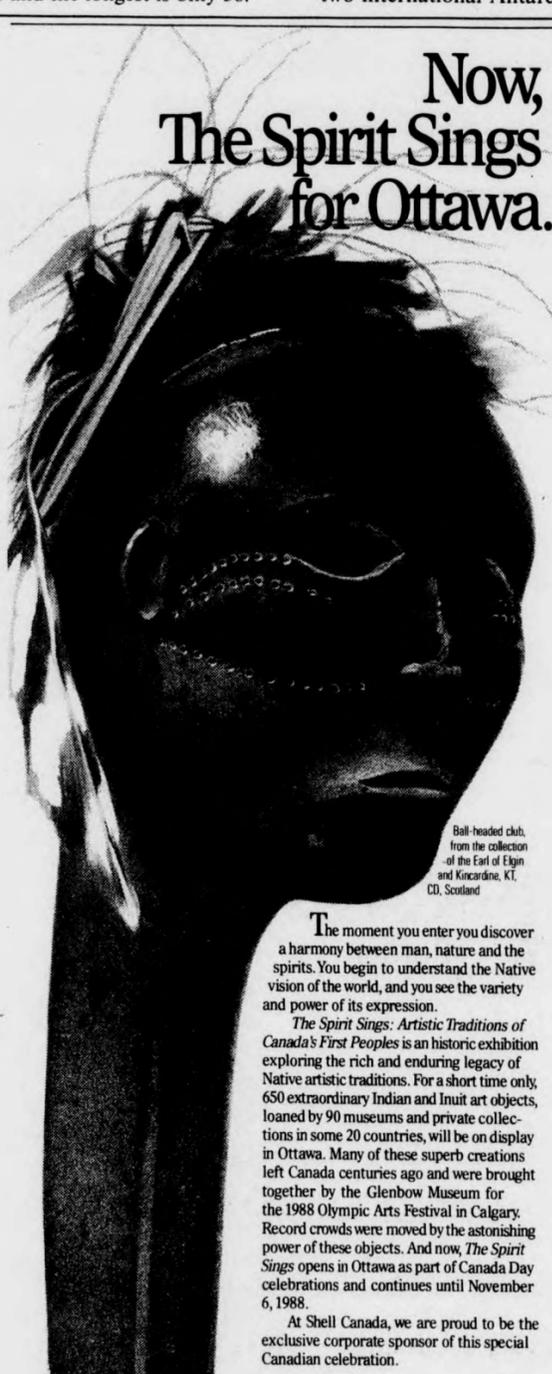
Gribbin and environmentalists are obviously not impressed with the

Montreal protocol. They claim that had the conference been held after the latest Antarctica results, the meeting's objectives to phase out CFCs would have been taken more seriously. We must keep in mind though that many levels of government and industry are involved in these talks and applaud the fact that there is an agreement at all.

The treaty will undergo a review every four years to keep the objectives current with scientific evidence. In fact, the UNEP leader can reconvene all countries at any time if evidence warrants new protocol objectives. Gribbin's book will be a valuable tool to educate the politicians and public prior to the next round of negotiating sessions.

Gribbin encourages consumers to voice their desire to protect the ozone layer by finding out where CFCs are used and by refusing to buy products which contain ozone-destroying chemicals. England's Friends of the Earth have produced a list of products which do not contain ozone-destroying chemicals. I have not found such a list in Canada but Friends of the Earth-Canada offers an ozone information kit for \$7.00 which is also a good source of information for the consumer.

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