

## Review Articles

# Ancient Atmosphere

## – Validity of Ice Records

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### Foreword

by Hartmut Frank

The following article of Z. JAWOROWSKI addresses one of the key issues in global environmental research with potentially far-reaching implications on the future of our industrial development. As the consequences of global climate changes caused by increasing carbon dioxide levels may ultimately lead to legislative measures to curb fossil fuel consumption with almost unpredictable effects on our standard of living, the critical discussion of all facets leading to the postulate of global warming deserves utmost attention. Every single parameter relevant to this suggestion must be carefully scrutinized.

There are many occasions where analytical data have not been validated or checked for their significance. In fact, it is common that environmental data are not subjected to normal statistical tests as to their precision, variation, standard deviation, significance, or probability of difference.

In environmental considerations, the final conclusion and the projection of future developments are often derived from model calculations for which only inaccurately known base data are available. In such cases it would be a good idea to simply apply the Gaussian error propagation rule. Also, environmental researchers should alert decision makers of the political consequences and make them aware that environmental data are to be taken with caution. They may suggest a tendency, not more and not less. There are examples on environmental legislation which simply must be regarded as inappropriate because insufficient data have been overinterpreted; one such example is the DDT-law of the Federal Republic of Germany. Also, such a projected certainty of results leads to the conclusion of politicians that no more research support is needed for the respective topic; a typical example is the current state of governmental support of research on vegetation damage by air pollution.

Therefore, it is justified to illuminate and critically discuss the potential pitfalls of carbon dioxide ice core determina-

tions. Anyone who has performed a wet-chemical carbon dioxide determination, the calibration basis of any other spectroscopic method, is aware of the problems performing such analyses in the presence of more than 300 ppm CO<sub>2</sub> in laboratory air. Therefore, any justified question or criticism should be addressed and answered in an objective, unbiased and patient manner; these environmental problems are just too important to leave any argument pro or con aside.

Also, in scientific discussions sometimes the sentiment of the “generally accepted view of the scientific community” is heard – as if verification or falsification of scientific hypotheses is a matter of majority vote. There are many historic examples when the common belief, the majority of those who knew, hindered true progress. Derogatory statements about a person’s scientific reputation are least helpful. Often the less firm arguments are, the more is the interpretation based upon scientific “authority through majority”.

We hope that the present article will induce a wider interest and discussion about the validity of the postulated CO<sub>2</sub>-increases and the ensuing global climate changes. This needs to be clarified beyond any doubt before legislative measures are taken which have potentially similarly severe economic effects as an eventual global warming.

### Call for Comments

We ask our readers for comments on the following article by Z. JAWOROWSKI.

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