

Dear Sirs,

It seems possible that the increase in Carbon Dioxide in the atmosphere as well as possibly causing Global Warming, may also be encouraging increased Viral Infections such as Avian 'Flu. See notes below,

regards

Andrew Stobart

NOTES ON A POSSIBLE CONNECTION BETWEEN GLOBAL WARMING AND VIRAL INFECTIONS SUCH AS AVIAN 'FLU

In the late 1980's I was in touch with the Carbon Dioxide Division of the US Dept of Energy, concerning the Bethesda Conference in June 1980 on The Effect of Carbon Dioxide on Mammalian Organisms. A subsequent letter down played the physiological effects discussed at the conference. BUT:

In a telephone conversation with the Chairman of the Bethesda Conference, a Professor at New York State University, it became clear that no attention at all had been paid to any possible effects of rising CO₂ levels on Virus Activity. Thus putting a different complexion on the possible importance of rising CO₂ levels than that suggested by the US Dept. of Energy's letter. Which also did not refer to possible viral activity problems.

This may be very important, as CO₂ is an acid gas and virus' prefer more acid conditions. This has been confirmed recently about the Foot and Mouth Virus, is well documented for the Influenza Virus, and may well also apply to the AIDS. EBOLA and SARS Virus'. This form of "life" passes through many "generations" in a short time scale, and is therefore much more likely to "mutate" under the stimulus of more "benign" (acid) conditions. Than Mankind, or any other air breathing species, with much longer "breeding cycles".

Increasing CO₂ in the atmosphere might cause changes in breathing rates [it is used in resuscitation apparatus as a breathing stimulant], and blood stream pH by lowering this, making it "more acid" ? The latter would in theory encourage viral activity. Especially in warmer conditions. However as far as can be determined the foregoing was not a subject at the 1998 International Conference on Emerging Infectious Diseases at Atlanta, USA. HIV and Climate Change were subjects for discussion. A number of individuals and organisations listed in the programme and abstracts would be worth consulting. And concerns have been expressed at the Exeter conference recently on the increased acidification of the Oceans, with harmful effects to Marine Life.

It is suggested therefore that the biological plague of Mankind has both a physical and a physiological problem with rising CO₂ levels. Given that Nature made mammalian life possible by using leguminous life to reduce the CO₂ content of the atmosphere. Followed by "burying" it. The reverse could now be starting with that "locked up" Carbon being released by the life form its reduction made possible. Following an old saying that plagues contain the seeds of their own destruction.

The reported plague affecting seals in the North Sea could be an example of the above in the non human world ?

And given the intense use of coal in China, a "CO₂ induced plague" is more likely to start there ? The current problems with Avian 'flu there are being treated with Amantadine [see reference 11 below], which is causing concern in case the "avian" strain if/when it transfers to humans may

become resistant to this drug. This is probably unlikely, as the drug's effect is a purely physical one of pH increase [acid reduction]. However if human and other blood streams are increasingly "acidified", then the pH balance could be altered.

REFERENCES

- 1/. Billins, Peter, British Biogen, in a workshop at the NEMEX Exhibition at the NEC, 18 November 1999. (Data on CO₂ increases in the atmosphere)[Subsequent data from Mona Loa has confirmed this]
- 2/. Effects of CO₂ on Mammalian Organisms Report of a Workshop, 5-6 June 1980, Bethesda, Maryland USA, published Dec 1982 by the US Dept of Energy, ref CONF-800249 (with disclaimer) 24 US and one European scientist attended. (Undersea Medical Society Inc, 9650 Rockville Pike, Bethesda, Maryland, 20014, USA). Page 10-3 possible effects on enzyme systems which are pH dependant ? Pages 10-6 to 10-13 Malignancies reference to lymphoma and mammary gland lymphoma effects. (12 references). Page 12-2 possible changes in blood pH.
- 3/. Bland M K, Bailey H C, and Lipsett M J The Direct Biological Effects of Increased Atmospheric Carbon Dioxide Levels, Stanford Research Institute International, US Environmental Protection Agency, Washington DC, 1982.
- 4/. NIOSH recommendations for Occupational Safety and Health Standards. Morbidity and Mortality Weekly Report Supplement, 34:No.1S, 1985.
- 5/. Characteristics of Information Requirements for Studies of CO₂ effects Water Resources, Agriculture, Fisheries, Forests and Human Health. Ed. White M R, DOE/ER-0236, US Dept of Energy, 1985.
- 6/. Organic Claustrophobia, an association between panic and Carbon Dioxide. Freinhar et al. Int. J Psychosom, 34(2) 18-9, 1987.
- 7/. Experimental Induction of Anxiety, the case of Carbon Dioxide, Greiez E, Encephale Nov-Dec 1987, 13(6) 335-9 (36 references)
- 8/. Bacterium was what started BSE Report by David Brown, Daily Telegraph Agriculture Editor, Nov 1999, on the work of Professor Alan Ebringer, Kings College, London.
- 9/. International Conference on Emerging Diseases, March 8-11 1998, Atlanta, USA. (A lot of unanswered questions)
- 10/. Beneveniste, Dr Jaques, Effect of dilute solutions in Human Blood Streams, published in Nature, July 1988, and reported in the Daily Telegraph Magazine, 29 October 1988.
- 11/. Beyer W E P, Ruigrok R W H, van Driel H & Masuel N, Influenza Virus Strains with a Fusion Threshold of pH 5.5 or lower are inhibited by Amantadine. Archives of Virology, vol 90, pp 717-181, pub Springer-Verlag. (Example of pH sensitivity in Virus'). See Note below.
- 12/. Super Bugs Dr Pete Moore, Trinity College, Bristol, published by Carlton Books Limited, London, 2001, ISBN 1 84222 179 5 (Possible effects of increased carbon Dioxide not covered)

NOTE:- The recent UK outbreak of Foot and Mouth Disease is described as "more virulent". The atmosphere has about 12% more Carbon Dioxide in it than in 1967. Is there any link here ? NFU President, Ben Gill, confirms that the virus is "pH sensitive". (Private Communication)

Andrew Stobart, BSc (Chem Eng) Bower Orchard, Church Lane, Orleton, Nr. Ludlow, SY8 4HU, tel 01 568 780837, email mand01t@ferrand.care4free.net

October 1999, revised April 2001, August 2002, April 2003, August 2004 & June 2005 e & oe.

Dear Sirs,

see www.grunweb.org.uk for Professor Lesley's paper on Energy, and <http://myweb.tiscali.co.uk/aferrand> for an extract of my 2002 report to the National Assembly for Wales and other possibly relevant information on Renewable Energy.

It is suggested that combatting Climate Change aside, Renewable Energy Technology development as a major industrial and commercial activity could have a very beneficial effect on UK Trade, and Commerce. And is in principle "anti-inflationary", Scottish Hydro produces some of the cheapest electricity, Switzerland has benefitted from Renewable Energy for many years, as has Canada.

The above points have been made to HRH The Duke of York's office in connection with possible developments in Export Trade. Worth possibly over £1500 bn.

Another development worthy of note is the proposed Global Centre for Biomass Technology in Kent, see www.leescourtestate.co.uk , more information from sandy.bruce-lockhart@kent.gov.uk
See also www.greenfinch.co.uk for information on the Ludlow Food Waste Digester [CHP unit] an initiative to reduce landfill, and one of possible considerable value to all local councils in UK ?

regards

Andrew Stobart, Secretary, Grünhaus Project,
Bower Orchard, Church Lane, Orleton, Ludlow, SY8 4HU tel 01 568 780837