Letter to the editor

April 14, 1986

Sir,

The attractive, new (December, 1985) issue of *Environmental Geochemistry and Health* arrived here in good form. I further noted in the title, "Incorporating Minerals and the Environment"; it reminded me of a squib I wrote in *Interface* of August, 1980, questioning the use of the word "mineral".

Mineral used as an adjective means, "not plant or animal", according to a common dictionary definition. *Mineral* as a noun has been defined in the *Glossary of Geology* (the Book and the Work, published by the American Geologic Institute) as, "a naturally occurring inorganic element or compound having an orderly internal structure and characteristic chemical composition, crystal form, and physical properties". An essentially similar definition is in the dictionary.

However, when we read about adding a "calcium mineral(s)" to the diet, we first are confronted with the fact that Ca (element, metal) does not occur as a mineral in Nature. Ca is not a mineral. The calcium-containing calcite mineral, CaCO_3 , does, of course, occur in vast quantity in limestone.

If we add "calcium mineral" to the diet, does that mean adding pulverized calcite (as in pulverized pearls that one Japanese consumed and from which he claimed he received increased longevity – or from more plebeian sardine bones, chalk, or egg shells)? Or, do we mean we are to eat more Ca-rich dairy products, or vegetables rich in Ca? If we mean the latter two sources, then we are eating "mineral Ca" that comes from either animals or plants – but these sources were ruled out by the adjective definition of mineral: "neither animal nor plant".

How, then, can one obtain adequate Ca and still live right by the lexicon? Must we say *mineral elements*, that do occur in dairy products and vegetables, thereby avoiding the semantic requirement of adding pulverized pearls, limestone, etc., to enrich the diet in the Ca "mineral"?

In the old article I also urged that the chemical nomenclature be upgraded to be more specific. For example, if we consume "manganese", is the Mn in the form of cation or anion; if Hg, is it as calomel, the mercurous chloride (medicine), or mercuric chloride (poisonous corrosive sublimate); is Se a cation or anion, and if the latter is it a selenide or selenate? The strongly interdisciplinary nature of environmental geochemistry in health is one of its strengths, and it likewise implies clear communication between the disciplines.

Yours faithfully,

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Errata in previous issues

R.C. Buckley: "Determining conservation priorities": 1985, 7(3), 116–119 p.118, paragraph 2, line 15, should read:

"... most mammals and birds would be seen as approximately equal in value. Fish, reptiles and amphibia are seen as of equal value by some and lesser by others. Invertebrates ..."

J. Xu and I. Thornton: "Arsenic in garden soils and vegetable crops in Cornwall, England: implications for human health": 1985, 7(4), 131–133 p.132, Table 4 bottom line should read:

Carrot log As (carrot) = 0.4002 log As (acid-fluoride	0.48*
extractable in soil)	(n = 19)
–0.9445	

p.133, line 5 (Equation) should read:

$$\text{As (lettuce, } \mu\text{g/g)} = 0.3841 \times 10^{-2} \text{As (soil total, } \mu\text{g/g)} + 0.3096 \times 10^{-3} \text{P (soil total, } \mu\text{g/g)} - 0.1097 \text{Fe (soil total, \%)} - 0.4773$$

Forthcoming meetings

May 20–22, 1986 VIth International Environment and Safety Conference with ROSPA International Safety Exhibition at National Exhibition Centre, Birmingham. Call 0727-51993/31337.

May 23, 1986 Inorganic Biochemistry Discussion Group (Royal Society Chemistry) and Northern Inflammation Group, Strathclyde University, Glasgow, Scotland. Free Radicals and Disease. Call 041-552-4400 (Dr. W.E. Smith).

December 15–16, 1986 Inorganic Biochemistry Discussion Group (Royal Society of Chemistry) Metal ions in disease. Call 0273-606755, Ext. 276 (Dr. R.N.F. Thorneley).