lished research papers. Perhaps the best comment that I can make is to note that in my own laboratory the two copies of this book are in continuous use, particu-D. J. BRADLEY larly among research students.

Correspondence

Neologonumismatology

SIR,---I have just seen your leader on "Neologonumis-matology" (Nature, 223, 659; 1969). Your protest is fully justified, but you should not be too hard on Latin and Greek when a new word is truly needed. You quote "conservation", "pollution", "desecration", "extinction", but all these are of Latin origin. Do you really wish us to talk of the ungetthroughfulness of stuff? There is, I fear, no pure well of English undefiled. But certainly to hell with sosiecology. Yours faithfully,

1 Lowther Gardens, Exhibition Road, London SW7.

Immunization against Cancer ?

SIR,-Although the rationale for the elegant and important study of Watkins and Chen, "Immunization of Mice against Ehrlich Ascites Tumour using a Hamster/Ehrlich Ascites Tumour Hybrid Cell Line" (Nature, 223, 1018; 1969), has been left to the imagination of the reader and, apparently, the Editor as well ("something of a leap in the dark"—Nature, 223, 1190; 1969), their findings were specifically anticipated in an earlier publication of ours, "Adjuvant Activity of Erythrocyte Isoantigens" (Science, 156, 658; 1967). In this study we demonstrated an enhancement of the immune response to "weak" bloodgroup system isoantigens by simultaneous immunization with "strong" blood-group system isoantigens present on the same cell. There is little reason to believe that the type of antigenic interaction demonstrated with hybrid tumour cells is fundamentally different from the phenomenon which we described.

It thus appears that an affirmative answer to our question of "whether advantage can be taken of the isoantigen adjuvant phenomenon in inducing effective immunity to weak viral or tumor specific antigens" may not be an unreasonable expectation.

Yours faithfully,

W. D. STURCH

RAYMOND A. MCBRIDE LOUIS W. SCHIERMAN

Department of Pathology, New York Medical College New York, New York 10029.

SIR,—An important concept of cancer was wrongly presented in the editorial article "Immunization against Cancer" (*Nature*, 223, 1190; 1969). Of course, "the fancy of a cancer cure is as unreal as the Philosopher's Stone' and equally so would be an antibiotic or immunization procedure against all infectious diseases-viruses, bacteria, protozoa, and multicellular organisms ! A single cause of all infectious diseases is an equally remote possibility.

But the hope of finding the cause or causes and the cure of specific members of the heterologous group of malignant diseases is not a visionary "holy grail". We know the specific causes of some individual kinds of cancer and we have developed both palliative and curative

treatments in recent decades. Examples include curative applications of chemotherapy and surgery or X-ray therapy or both, and the eradication of skin cancer by both chemotherapy and immunological methods¹. New techniques of adoptive immunity may successfully substitute living cells (lymphocytotherapy) for chemical agents for some kinds of cancer and more effective chemotherapeutic agents will be found.

In summary, a member of the "hard core" of cancer researchers feels that the annotation does not reflect the flow of new, vital, basic, and applied information con-cerned with many different kinds of cancer but not necessarily "cancer".

Yours faithfully,

G. E. MOORE

Public Health Research Group, Roswell Park Memorial Institute, New York State Department of Health, Buffalo, New York 14203.

¹Klein, E., Geriatrics, 23, 154 (1968).

"Anomalous" Water

SIR,—A report on the properties of "anomalous" water appeared recently in *Nature* (222, 159; 1969). The probable structure of this phase was reported by Lippincott et al.¹ who refer to the phase as polywater, a term descriptive of the structure.

The properties of polywater are negligible vapour pressure, density ~ 1.4 g/cm³, partial miscibility with normal water (depending on the length of the polymer chains) and stability to temperatures $\sim 500^{\circ}$ C. The polymer chains are some 250-420 kJ/mole (60-100 kcalories/mole) of monomer more tightly bound than normal water.

I need not spell out in detail the consequences if the polymer phase can grow at the expense of normal water under any conditions found in the environment. Polywater may or may not be the secret of Venus's missing water. The polymerization of Earth's water would turn her into a reasonable facsimile of Venus.

There are examples of phases in other systems which are difficult to nucleate. Once the nuclei are present, the phases grow readily, often by mechanisms other than those required to form the nuclei. It is almost a truism that, under conditions where both a stable phase and a metastable phase may form, the metastable phase forms first. In this case the metastable phase would be normal water.

After being convinced of the existence of polywater, I am not easily persuaded that it is not dangerous. The consequences of being wrong about this matter are so serious that only positive evidence that there is no danger would be acceptable. Only the existence of natural (ambient) mechanisms which depolymerize the material would prove its safety. Until such mechanisms are known to exist, I regard the polymer as the most dangerous material on earth.

Every effort must be made to establish the absolute safety of the material before it is commercially produced. Once the polymer nuclei become dispersed in the soil it will be too late to do anything. Even as I write there are undoubtedly scores of groups preparing polywater.

Scientists everywhere must be alerted to the need for extreme caution in the disposal of polywater. Treat it as the most deadly virus until its safety is established.

Yours faithfully,

F. J. DONAHOE

Wilkes College, Wilkes-Barre, Pennsylvania 18703, USA.

¹ Lippincott, E. R., Stromberg, R. R., Grant, W. H., and Cessac, G. L., Science, 164, 1482 (1969).