

work of established and conventional thought, as way-out ideas.

Yours faithfully,

ZUCKERMAN

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## Cancer Research

SIR,—Your correspondent who wrote "Lord Zuckerman Defends his Position" (*Nature*, 240, 247; 1972) fails to distinguish between a "polite" and a "deafening" silence. Sir David Smithers was, of course, wrong in claiming that supracellular biologists have made a greater contribution to the progress of cancer therapy than molecular biologists. The most important new advances in therapy in the past decade have stemmed from the development of chemotherapeutic agents. All the anti-metabolites, such as mercaptopurine and fluorodeoxyuridine, antibiotics such as actinomycin D and specific inhibitors of nucleic acid metabolism, such as methotrexate, have emerged from biochemical research. Most eukaryotic molecular biologists also consider tissue culture one of their tools and this has revealed other cytotoxic substances such as vincalcalcin and asparaginase. The truth is, of course, that Sir David was being pious in making the reasonable point that we should not adopt an unbalanced attitude towards cancer research: Lord Zuckerman was making precisely the same point. He has, by the way, been misquoted in your report. He has not recommended a parsimonious attitude to cancer research. What he has stated is that, with certain exceptions, he sees no case for "a sudden increase in funds" but recommends "a steady and substantial increase over the years" (Zuckerman report, page 12).

It would be a pity if we in Britain buried our heads in the sand in relation to cancer research. The facts are reasonably well established. By the application of all the best radiotherapy, chemotherapy and early diagnostic methods at our disposal, we could improve the cancer statistics by only a few (5–10) per cent. By appropriate preventive measures (which would require the banning of smoking in this country), we would do very much better and might achieve a 35 per cent improvement. In ideal circumstances, however, at least 60 per cent of those at present destined to die of cancer would still do so, half of them before the age of 60. There can be no doubt that advances beyond that will depend

entirely on innovative research. I would not find it profitable to argue whether subcellular or supracellular approaches are likely to prove more rewarding in the long run. This distinction in cancer research is entirely artificial and divisive and I doubt if we will get far unless we support both. This is what I understood to be the message from both Sir David and Lord Zuckerman.

Yours faithfully,

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## Errata

IN the article "The First Fossil Record of Caecilian Amphibians" by Richard Estes and Marvalee H. Wake (*Nature*, 239, 228; 1972), the caption to Fig. 1 should read as follows: Vertebrae of fossil and recent caecilians: *a-e*, *Dermophis mexicanus*, MVZ (University of California Museum of Vertebrate Zoology) 98255, posterior trunk vertebra; *f-j*, *Apodops pricei*, n. gen., n. sp., DGM 551, the same; *k-o*, *Geotrypetes seraphinii*, MVZ 98253, the same. From top to bottom, views are anterior, posterior, left lateral, ventral and dorsal. Anterior is to the left in *c-e*, *h-j* and *m-o*. Parapophyses and part of posterior border of neural arch are restored in *h-j*. Magnification line at left refers to *a-j*; at right to *k-o*.

IN the article "Methadone Induced Mortality as a Function of the Circadian Cycle" by Robert H. Lenox and Thomas

W. Frazier (*Nature*, 239, 397; 1972), the sentence beginning on line 10 of paragraph 7 should read: "The most sensitive portion of the circadian cycle appears to occur at the period of transition from rest to activity, when a number of life systems are beginning to accelerate their activities from their minimal resting levels". The address of Robert H. Lenox is Division of Neuropsychiatry, Walter Reed Army Institute of Research, Washington DC 20012.

IN the article "Bode's Law and the Missing Planet" by M. W. Ovenden (*Nature*, 239, 508; 1972), the second sentence of the penultimate paragraph should read: "From the point of view of the dynamical arguments presented here, it is probably true that A might always have been in the form of a ring".

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