

correspondence

Whither the Natural History Museum?

SIR,—In reply to Dr Halstead's article (26 October, page 683) I would like to say that in my view it is a mistake to suggest that the museum must be either a popular or elitist place. There can be no rigid dichotomy and it is our stated aim to attract an audience representative of the public as a whole. At the same time we wish to present modern science. This means dealing with some difficult concepts, and the communication of these concepts in an accessible but non-trivial way is a serious matter. Dr Halstead will not even identify this as a problem until he is able to distinguish between the communication of information and the simple presentation of facts.

Secondly, it is astonishingly naive for anyone to suppose the existence of such a thing as theory-free observation. Whether we are in a science museum or at a laboratory bench, the theories we already hold play a major part in deciding what observations we make. Without some theories we are lost. It is unreasonable to expect all visitors to a public museum to provide their own conceptual structures.

Lastly, Dr Halstead fails to point out that 15 members of the Museum's scientific departments have been seconded in the last four years, to join 15 scientists already in the Department of Public Services, in the design of new exhibits. A senior member of the Fossil Reptile Section worked virtually full time for nine months on the redisplay of dinosaurs, and was also involved in the writing of a book to accompany this splendid exhibition, which is now taking shape.

Yours faithfully,

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Can India afford to save the Taj Mahal from corrosion

SIR,—It goes without saying that the Taj Mahal is one of the finest examples of the many endeavours the ancient and rich civilisation of India has contributed to the world. The efforts to avoid possible corrosion by the proposed oil refinery (7 September, page 4) must however be analysed in full cognisance of the actual political and economic reality of the country.

Indian bureaucracy is well known for its inefficiency and unchanging social habits in India are well known for maintaining poverty and disease. Any effort to forestall the installation of the refinery at the proposed site has the ominous possibility of entailing a delay of several years before the project gets off the ground again. During this period, a segment of the population would remain unemployed and the earnestly

needed hard currency would have to be spent for oil purchases from abroad retarding not only the goal of self sufficiency in this sector but also all those projects that could be realised with the foreign exchange thus saved.

After spending a considerable sum of money and planning, can a poor nation afford a luxury which even rich nations have to forego, especially since the arguments for the ill effects are meagre indeed? Thus, protests by the Environment Protection Agency were overruled by the US congress during the installation of the Alaska pipeline. And the nature of 'emergency' in a rich US has nowhere near the same dimensions as in India, still dependent upon foreign patronage for development. Among other examples, Egypt did not abstain from the Aswan Dam project just to boast of the original temple sites but keep its people in misery.

The laudable goal of the critics could only be applied if the country were ready for this luxury and could at least provide a minimum for its people. Once the precedent is set, other sites for this and other projects could still have other types of objections and the vicious circle would have no end. It is to be hoped that those who thrive by glorifying the dead would have at least some concern for the living.

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Trypanocides

SIR,—Your correspondent J. P. Cavill's astonishment (12 October, page 476) at what he considers to be the erroneous statement that Berenil "... is at present the only effective trypanocide left for use in cattle ...", a quotation from a review I wrote in 1976 (*Trop. Dis. Bull.* 73, 531), suggests that he may not be fully aware either of the rest of my review or of the current state of trypanosomiasis chemotherapy in African cattle.

A little more familiarity with the topic, fully documented in my review and elsewhere, would show that as a result of widespread development of resistance to Antrycide and Ethidium since their introduction over 20 years ago, their use and effectiveness have declined; in some areas, such as Northern Nigeria, they were withdrawn from field use as long ago as 1965 (Mulligan, H. W. "The African Trypanosomiasis" (1970) Ch. 7). Even the more recently structurally-related variants like Prothidium and Samorin have not been fully effective, because of cross-resistance or of damaging dermonecrosis at the injection site, a form of local toxicity common to all active phenanthridinium trypanocides including Ethidium.

In these terms, the sole remaining acceptable drug is Berenil, which, with its freedom from local or systemic toxicity, its high therapeutic ratio, its activity against many resistant strains, and its apparently low potential for the

induction of drug resistance, can properly be described as "... the only effective shot left in the locker for treatment of cattle trypanosomiasis" (*Trop. Dis. Bull.* (1976) 73, 531).

J. P. Cavill maintains that "... "The facts are that several other products are available". For the benefit of the interested reader, and possibly of J. P. Cavill himself, the six drugs other than Berenil which he lists as being available, are in reality only four in number. Trypanidium and Samorin are different trade names for the same compound (originally isometamidium), and Ethidium and Novidium differ only in the nature of the salt ion.

Availability in any case is no guarantee of ultimate effectiveness in African field conditions, where after 20 years of use, Berenil can still number fewer disadvantages than any other drug for the treatment of cattle trypanosomiasis (cf. Finelle, P. (1973) *World Anim. Rev.* (FAO) 7, 1).

Yours faithfully,

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Browsers and their browse

SIR,—English-speaking ecologists, especially marine ones, seem to be groping for an appropriate general word to designate the kind of food which grows in swards or pastures. For instance, Caswell (*American Naturalist* 112, 127 (1978)) discusses, in theoretical terms, 'grazing' on 'pastures', whereas Lubchenco (*American Naturalist* 112, 23–29 (1978)) refers to browsing by the snail *Littorina* on the alga *Chondrus* as 'predation' on 'prey'. The latter terms, though well suited to a lion-lamb relationship, seem hardly appropriate for a lamb-grass relationship, though admittedly there are ecological parallels in the two systems. Actually, we already have in English several potentially useful words for this purpose, of which 'browse' (*n.* or *vb.*) or 'graze' (*vb.*) may be the most suitable. With such a term one can discuss the relationships of grazing animals such as parrot-fish or snails to their 'browse'—a carpet of algae, sessile animals, or both—without debasing the meaning of the word 'prey', which typically connotes more violence involved in the process of chasing, catching and eating food.

Note that the terms 'carnivore' and 'herbivore' refer to the feeder and specify the nature of its diet, whereas 'prey' and 'browse' refer to the fed-upon, and respectively indicate whether it has the potential to escape or not. In general, carnivores and their prey have to expend more mechanical energy in chasing, or in trying to evade capture, than do browsers and their browse.

Yours faithfully,

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