

correspondence

Australian conservation

SIR,—Kenneth Mellanby's impressions of nature conservation in Australia (4 May, page 7) are based on the short visit he made there early this year. For readers unfamiliar with Australia, his account could be misleading.

Mellanby, together with the Association for Regional Parks and Countryside Commissions of Australia, ARPCCA, the organisation which promoted his visit, question the wisdom of establishing large national parks in much of Australia, preferring instead the smaller, man-modified nature reserve and countryside park of the British type. National parks and countryside parks are represented more as competing alternatives than as different but complementary aspects of nature conservation. Application of the British approach in Australia would make it difficult if not impossible to reserve extensive tracts of land that either still exist in, or can be restored to near the condition which existed at the time of European-occupation; this possibility exists in Australia but in few other places. The importance of such reservations for scientific study and reference, maintenance of large gene pools, education and recreation is widely recognised.

All states and territories of Australia have made rapid progress in recent years through their national parks and wildlife services or equivalent conservation agencies. In 1968 approximately 1.1% of Australia was in national parks and similar reserves, 2.1% in 1972, and 3.1% in June 1977. The progressive achievement of the goal of an ecologically representative system of reserves is also protecting most species of the Australian flora and fauna, without the need for the "sophisticated management" Mellanby considers necessary "in Britain and the developed parts of Europe".

We recognise, as does Mellanby, that there may be management problems such as the persistence of blackberry thickets associated with the regeneration of modified ecosystems to near-natural conditions. But it should be pointed out that these problems exist only in limited parts of a few national parks, and that they are not sufficient reason for omitting or excising potentially important areas from the reserve system. The national parks and wildlife agencies are now committing larger resources to problems such as weeds and feral animals. We also acknowledge problems of fire and 'fire hazard' in some national parks.

Much of the increasing ecological research in national parks relates to fire, whilst at the management level an array of measures, ranging from frequent control burning to complete protection, may be applied to different ecosystems within the same park. A long term objective for many extensive areas of the parks is that they should become self-managing. For this to occur the parks must be large enough to accommodate the effects of major disturbances such as wildfire and drought and to provide the

total habitat requirements of most of the native species of flora and fauna. Many of the ecological successions occurring within national parks and reserves in Australia have time spans of several decades, others of centuries.

We have no argument with Mellanby on the importance of and need for countryside parks and similar reserves, in which traditional agricultural practices are a major component of the ecosystem and are an important tool in maintaining it and changing it to secure specific objectives in nature conservation as well as economic production. More countryside parks are needed in Australia; but they should be developed within the extensive lands already given over to various types of economic production, not in the remaining areas of near-natural land including the national parks.

Mellanby does not explain that most national parks and wildlife agencies now make provision for the equivalent of countryside parks as wildlife refuges, game reserves, or similar reserves in which economic types of primary production are integrated with wildlife management, according to a prescribed management plan drawn up jointly by the wildlife agency and the landholder. There are also provisions under town and country planning legislation for land zoning so that important natural features can be retained within the framework of economic land uses. The main difficulties at present are not so much associated with government policy as with the reluctance among private landholders to commit themselves to forms of land use which impose restraints and obligations on how they might use parts of their land. In Australia, there is need both for more countryside parks within existing farmlands, and for more national parks in some of the major natural ecosystems not at present protected.

It seems a pity if some who see the need for a balanced land use including nature conservation should, because of differences they attach to various components in that balance, make the task more difficult for others of us in Australia who are working to satisfy this need.

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Real advances in neurotoxicity have been made

SIR.—In Alastair Hay's article 'Neurotoxins may go unrecognised' (20 July, page 206) the emphasis on the recent findings of Schaumberg and Spencer is very pertinent because they have shown for the first time the multi-focal nature of the primary changes in nerves subjected to the neurotoxins acrylamide and hexane. However, I am very surprised and disappointed that in the generalisation from the studies on acrylamide and hexane and the discussion on the development of new

tests no mention is made of advances in knowledge of the delayed neuropathy produced by organophosphorus compounds.

Due to work by many scientists, but especially by my colleague Dr M. K. Johnson, the primary chemical lesion is now known. The US Environmental Protection Agency is well aware of these advances and organised a meeting in Washington in 1976 to discuss the relevance of these findings. It is now possible to measure the activity of a particular esterase as a much more quantitative measure of this type of neurotoxic potential. I understand that the EPA may now request such additional information for their pesticide clearance system.

While we would all agree that more research work is required in the area of neurotoxicity (indeed this unit is currently studying the different mechanisms of toxicity of six classes of chemicals at both the pathological and biochemical level) it is doing a disservice to the science of toxicology not to point out when real advances have been made. Definitive reviews are available in *Archives in Toxicology*, and *Critical Reviews in Toxicology*.

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Masai and heart disease

SIR.—In his letter on the lipid hypothesis (8 June, page 422), Turner states that "as regards the Masai, the relevant fact is that they have very low serum cholesterol levels which would account for their freedom from CHD". No-one would dispute the importance of low serum cholesterol levels in determining the incidence of heart disease, but surely the question of most relevance to the hypothesis under consideration is why the Masai should exhibit such low values, given the cholesterol-rich nature of their staple diet of milk and ox blood. Lutz (3 November, page 8) has suggested that a low carbohydrate content in the diet may be responsible.

In a study comparing samples of tribal Masai with Masai who had been living in large cities such as Nairobi for ten years or more (Day *et al.* *Atherosclerosis*, 23, 357-361, 1976) we found a significant increase in serum cholesterol levels in the urbanised sample—despite the fact that the cholesterol content of their food had diminished. One possible explanation is the substitution of carbohydrate for animal fats in their diet. Other possible causes are an increase in stress associated with urban life, or a decrease in level of activity.

We do not claim that modification of diet has no value in lowering serum cholesterol levels, but we would suggest that the facts are by no means as clear-cut or 'formidable' as Turner would have us believe.

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