somes from rat liver chromatin and found that a further 46% of the DNA in the monomers could be digested. Analysis of the reassociation kinetics of the resistant DNA revealed that most, if not all, the genomic sequences were involved in this basic subunit structure and that virtually all the liver sequences transcribed into nuclear RNA were present in the nucleosomal DNA.

It appears that the histones act in two distinct ways to fold the DNA molecule in chromatin. First, the four histones H2A, H2B, H3, H4 form an octameric protein core around which the DNA is supercoiled. This results in a 7-fold contraction of the DNA but does not block transcription. Second, histone H1, when present, further condenses the nucleohistone and in so doing makes it unavailable for transcription. □

Active Mercurian dynamo unnecessary

from Peter J. Smith

ACCORDING to measurements made recently by Mariner 10, the planet Mercury has a magnetic dipole moment of about 5×10^{22} gauss cm^3 (5×10^{19} A m^2), which is more than three orders of magnitude smaller than that of the Earth and over 10,000 times larger than the upper limit of the lunar dipole. But what is the origin of Mercury's magnetism? The maximum field observed in the vicinity of the planet by Mariner 10 was 400 nT which, being 20 times greater than the interplanetary field, led Ness *et al.* (*Nature*, **255**, 204; 1975) to rule out induction processes as a source. It seems more likely, therefore, that the field is of internal origin.

And of the various theoretically possible internal sources, Ness and his colleagues favoured a currently active dynamo in what would have to be a very large iron–nickel core. They tentatively rejected remanent magnetisation of parts of the planet on the grounds that it is "difficult to construct a plausible sequence of events leading to the model in which the Mercurian magnetic field is explained in [those] terms". Moreover, shortly before this, Runcorn (*Nature*, **253**, 701; 1975) had shown that the external dipole moment of a shell magnetised in the field of an internal dipole which has since disappeared is apparently zero.

But according to Stephenson (*Earth planet. Sci. Lett.*, **28**, 454; 1976), remanent magnetism as the source of Mercury's dipole moment cannot be rejected so easily. His new analysis indicates that an outer magnetised shell will give rise to a residual dipole moment if there is a difference in permeability between the shell and the planetary interior or between the shell and free space. Assuming the Mercurian surface rocks to be similar to those of the Moon, it may then be shown that a magnetic shell could quite easily account for the observed dipole moment without invoking ancient magnetising fields of more than a few gauss, an iron content of more than a few percent, or a shell thickness of more than a few tens of kilometres.

In short, contrary to previous belief, it is not necessary to conclude from the magnetic field observations that Mercury still has an active dynamo. The internal source options remain open.

The illogic of conservation

from Peter D. Moore

IT is difficult to be objective, or even rational, about conservation. This is especially true in situations where the conservationist is concerned with the continued survival of a species whose population has fallen to a critically low level. When the very existence of a species is threatened then the conservationist does have sound reason on his side, for extinction, and the depletion of the world's genetic resources which this represents, cannot be regarded dispassionately, yet in practice the attitudes of those who seek to guard the world's wildlife are often far more parochial and far less guided by logic than is normally supposed.

It is this criticism which John Gooders (*Brit. Birds*, **69**, 16; 1976) has recently levelled at ornithologists. He believes that a disproportionate amount of concern and money is spent upon preserving isolated colonies of bird species in the peripheral areas of their global range simply because they are rare there and because the birdwatcher in the street has a consuming interest and is therefore willing to spend money on propping up rarities, even if they are common elsewhere in the world. Certainly it is not difficult to find examples of this kind of behaviour on the part of British birdwatchers. Gooders quotes such birds as the snowy owl (*Nyctea scandiaca*), osprey (*Pandion haliaetus*) and avocet (*Recurvirostra avosetta*) all of which are widespread globally and are far from being a threatened species and yet which have received an inordinate amount of attention from British ornithologists because they have recently been able to invade, or reinvade, these islands as breeding birds. Would we not do better, Gooders argues, to concentrate on our ornithological resources which are truly of international importance, particularly in the conservation of such habitats as our estuaries which are vital for many species of wildfowl and wader.

One must sympathise with Gooders' view, and it is true that the British are not alone in this parochial attitude, nor is it confined to the ornithologists. In Estonia biologists pride themselves on having the mute swan (*Cygnus olor*) as a breeding species and avidly protect the single Soviet site where the cross-leaved heath (*Erica tetralix*) is found growing (the species is abundant in more oceanic areas of western Europe) The Norwegians take delight in the gorse effort in trying to rid himself of the same species. The British botanist (*Ulex europaeus*) which just maintains itself in the south-western parts of their country, whilst the British hill farmer spends much time and fervently defends the few British plants of the military orchid (*Orchis militaris*) yet the plant is relatively frequent in parts of central Europe.

Indeed, the botanist is probably more regionally orientated than the ornithologist; the old county boundary is often his horizon. The Kentish man is proud of bog asphodel (*Narthecium ossifragum*) because it is rare in the south east of Britain, though common in the west, and in what was Warwickshire the crowberry (*Empetrum nigrum*) is prized, having only one station in the county, yet it is common further north.

But we can really expect more of mortal, irrational man? Can one really expect people to be concerned about species which may be threatened on a global scale and yet, for them, will never be more than a picture in a wildlife magazine? For the panda, or the tiger it may be possible, but for the bald ibis unlikely. The average subscriber to conservation bodies and fund-raising organisations cannot think in international terms because his main concerns are with the local situation. His reasons for desiring conservation are not coldly scientific but are aesthetic and emotive. □