

attacked our floating raft, but was driven off with an oar.

In summary, the Omo River canyon is presently a viable ecosystem with a rich natural assemblage of large mammals protected from decimation primarily by its topography. According to a local native of the highlands, even leopard are still common. Although the primeval aspects of many parts of the Omo canyon survive because of its isolation and inaccessibility, expanding populations on the periphery and the ever-increasing value of wild animal products, such as black and white colobus, leopard and crocodile skins, hippo ivory and meat, will probably cause

an increasing and unrelenting hunting pressure that can only have adverse effects on the populations. Currently there is nothing other than the canyon itself to discourage rifle-armed hunters and snare poachers; only tsetse flies limit human encroachment and habitat destruction. But how long these natural deterrents will preserve the pristine ecosystem of the Omo canyon is difficult to predict. At present it seems to be holding its own without the benefit of legislation or police.

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The Ox-Pasture

Jennifer Rees

Old 'unimproved' meadowland is increasingly scarce in Britain's intensively farmed land. Dr Jennifer Rees, an Open University tutor married to a farmer who breeds pedigree cattle on 100 acres in the Wye Valley, recently won the *Sunday Times* Kenneth Allsop Memorial Essay Competition with an essay that pinpoints the value of a 'great natural re-usable resource that can be replenished year after year at minimal cost'.

The Wye flows gently beside a meadow we call the 'Ox-Pasture'. This land saw no plough in my father's day, nor will it do so in my lifetime. On warm summer evenings I often walk by the river bank and watch the cattle feasting on the luscious grass, the mellow sunlight burnishing their chestnut-brown hides. They loop their tongues around the fragrant shoots and tear juicy mouthfuls from the turf; then, fat and sated, lie cud-chewing beneath the willow trees.

Just bury your face in a sweet succulent handful of this grass and you'll savour all summer's goodness. The vigorous perennial rye-grass *Lolium perenne* gives an abundant leafy crop year after year. Then there's the broad-headed cocksfoot *Dactylis glomerata*, a hard-stemmed grass with deep growing roots which can tap moisture running in the cracked soil six feet down. Walk on to the damp boggy parts of the field and you'll come upon Timothy grass *Phleum pratense* whose luxuriant

soft-leaved heads thrive in all but the driest summers; and there's the delicate multi-headed meadow fescue *Festuca pratensis*.

Further searching will reveal a few wild strains of needle-leaved fescue, soft Yorkshire fog, and feathery-headed tufted hair-grass. The small-leaved white and red clovers yield up their energy and protein to the grazing animals; and there's even a place for some dandelions and comfrey which draw minerals from the deep soil and provide a rich supplement to the nutrition in the grass.

It's so peaceful in the lee of the dense hawthorn hedge that orange-tip butterflies and small tortoiseshells move freely in the sheltered air. Ladybirds, lacewing larvae and green-brindled crescent moth caterpillars hide among the leaves; wrens and hedge-sparrows are busy in the tangled branches. A lapwing rises from the marshy ground, glides in a wide circle and then accelerates upwards.

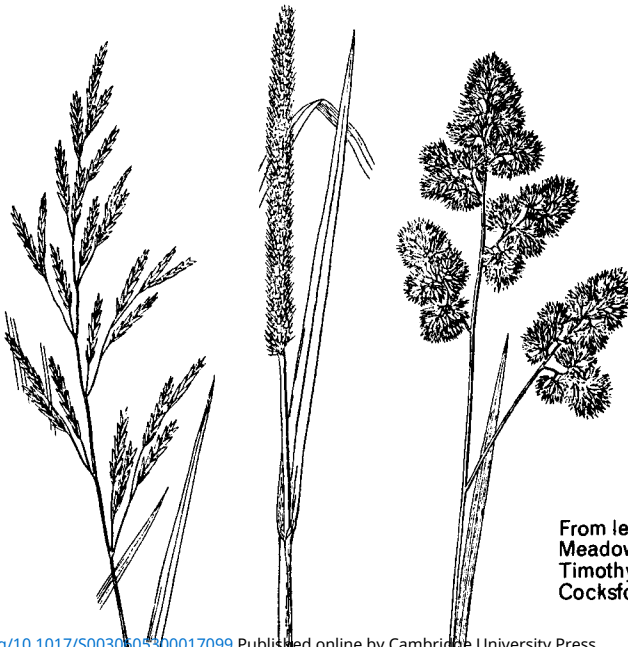
I wish that all the farm could be left as natural as the Ox-Pasture, but we must have enough income from the land to support our growing family. Every year we plant a new grass ley undersown to the spring barley, and following on after the root crops. The cattle are run on the new grass but they never seem settled or contented when grazing it. I think they just get bored, every mouthful of standardised Italian rye-grass must taste the same, no herbs to flavour it – what my old father used to call “green water.” Let the cattle loose in the Ox-Pasture, though, and that’s a different matter; it’s heads down and no messing about. Within days the cows are putting on flesh, their coats gleaming, eyes sparkling; you can almost hear the milk flowing into their udders. Who said beasts have no sense of taste?

We keep the Ox-Pasture as a permanent pasture for sound economic reasons as well as environmental ones, and it makes a positive contribution to the overall management of the farm. It never becomes mud-bound in a wet summer, for the fibrous root growth forms a thick protective layer and stops hooves penetrating the fragile soil infrastructure. A new grass ley has no depth of roots and after heavy rain the cattle compact the ground, excluding air from the soil. Even worse

than that, last summer we had a young heifer die from bloating on a new ley. She guzzled the soft wet grass and clover, gas was trapped in her stomach, and she was dead within the hour. That wouldn’t happen on the old pasture – the thick coarse stems of cocksfoot and timothy, and bits of dead grass and weeds, ensure that gases don’t build up in the cows’ stomachs.

I can never understand why most agricultural advisers are so totally committed to the idea that it is always advantageous to replace old pastures. Admittedly, results from test plots on agricultural testing stations show that you can get very high yields from some of these new Italian rye-grasses. We always take a good cut of silage from the new ley and pack it down ready for winter feeding. However, there’s no need to be forever ploughing and resowing meadows just for the sake of some illusory gain. There are many hidden costs to be considered: diesel for the tractor, the ploughman’s wages, grass seeds, oil-dependent nitrogen fertilisers, the replacement cost when a heifer dies of bloat.

Of course permanent pastureland must be tended to maintain the balance of plants, but this costs so little. In March



From left
Meadow fescue *Festuca pratensis*
Timothy grass *Phleum pratensis*
Cocksfoot *Dactylis glomerata*

the turf is harrowed to pull out dead grass and leaves. Then it has in alternate years, either a light dressing of organic fish-meal or a load of muck and chopped straw from the barns. The earthworms up-end the straw and pull it below ground, making funnels which lead air and water deep down into the soil, aerating and refreshing it. Every five years it has a dusting of lime to stop excess acidity. And that's all there is to it; it's cheap in terms of money, time and energy requirements. Even in late autumn the Ox-Pasture will still look fresh; no matter what the summer has brought – drought, flood or storm – it will outgraze all other meadows on the farm.

Our natural pasturelands are worth so much to us and to our descendants, so why do we not value and cherish what is beneath our feet? This is a great natural reusable resource which can be replenished year after year at minimal cost. Not only is prime agricultural land disappearing beneath the urban sprawl at the rate of 60,000 acres a year, but even

the beautiful pastures which remain are being sacrificed in the mistaken belief that old grassland is always less productive and profitable than new leys. A permanent pasture has often taken generations to settle into a pattern of growth which makes the most efficient use of the prevailing conditions in its own particular location. Some of the rarer plants and herbs within it may not show obvious advantage when measured by a crude yardstick such as gross yield of dry matter produced, but they often have some less obvious benefits such as disease resistance, or the ability to withstand adverse weather conditions. The plants have achieved a balance among themselves and with their dependent animal population, and will maintain this with only the minimum of husbandry.

So many pastures have already been lost that certain birds are beginning to suffer, but at least I know that the lapwings will nest safely for many years to come in the old turf of the Ox-Pasture by the gently flowing Wye.

China's Green Wall

Measures to interest people in China's endangered *Alligator sinensis* include the construction in 1980 of two facilities for captive breeding, one in Anhui Province, the other a joint project with Thailand. A postage stamp depicting the alligator will be issued in 1982, and a Nature Conservation exhibition is to be held at the end of 1981. Three of China's rare species were bred in captivity in 1980: the giant salamander *Megalobatrachus davidianus*, the Chinese crocodile lizard *Shinisaurus crocodilurus* and the alligator.

China is planting a 'Green Wall' of trees, 4400 miles long roughly parallel to the original Great Wall. Last year 370,000 acres of it were planted. It is part of a national effort to fight pollution. According to a report by Earthscan, *China's Green Frenzy*, by Jacques Poncin (10 Percy Street, London W1P 0DR), pollution-resistant species may absorb airborne contaminants, so carefully planned forests 'may offer real prospects of a new "soft" method of fighting pollution'. Vast numbers of trees have been planted

since 1949 – between 12,000 and 14,000 million is one estimate. Wooded land has increased from 8.6 per cent of the country to 12.7; the target is 20 per cent by the year 2000. Unauthorised felling is a criminal offence, and three trees must be planted for every one felled.

Morelet's Crocodile

Rare and endangered throughout its Central American range, Morelet's crocodile could only be found in Belize far from human habitation; this was the experience of four researchers led by Clarence L. Abercrombie reported in *Biological Conservation*. Moreover, only about five per cent of those seen were adults of breeding size, and only one hatchling was seen, although the study time was 'near the hatching period'. The crocodile skins fetch high prices – the flesh is hardly eaten at all – and the number of hunters who will shoot 'everything that glows red', even hatchlings, and so destroy whole populations, is growing. What the species needs (but is unlikely to get) is a 5-10-year moratorium on all hunting.