



Parrots and Macaws

PHOTOGRAPH: KEVIN SCHAFER/NHPA

BIODIVERSITY

THE FADING RAINBOW

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Once our physical needs are satisfied what further use have we of nature?

I GREW UP ON the edge of a small town in the centre of Ireland. I still live there. But as I walk the fields where I grew up, I have the sense that something is missing. I can no longer hear the sound that, when I was young, most evocatively voiced the sense of summer. Because the corncrake has gone.

When I try to talk to people younger than myself about this sense of loss, they look at me as though I were Rip van Winkle newly returned to the real world after a sleep of twenty years on some modern Irish counterpart to the Catskill

Mountains. But the simple truth is that they cannot know what they have lost because they have never experienced it in their lives: the chord in the human spirit that echoes to the voice of the corncrake has never been stirred by the strange voice in the meadow.

But it's not just the corncrakes that have gone. The meadows in which the corncrake sang have themselves all gone, replaced by a monotonous sward of rye-grass and clover. The common wild flowers of meadow and pasture, and the species of insect and other small animal that lived in them, have moved

out to the edges. And the other birds which that bountiful insect life supported have retreated also. None has actually become extinct — though the corn bunting has been extinct as a breeding species in Ireland since 1996, and only about ten pairs of grey partridges remain — but they have retreated to the fringes of everyday human experience.

All this, we may feel, is the price of progress, a small price for all we have gained over the last century. But perhaps there is a lesson for us in the story of Esau in the Book of *Genesis*. Esau sold his birthright for a

mess of pottage because he was starving: "Lo, I die; what will the first birthright avail me?" But once our physical hunger is satisfied, what further need have we of nature? What difference does it really make if there are no swallows or cowslips in my summer, no mayflies in the river, as long as I have a surfeit of the good things of the moment? To many of us, as to Esau, it doesn't seem to be worth all that much. But beyond that level of material satisfaction, what need do we have for living nature? There are, perhaps, two parts to the answer. The first part of the answer is that without access to nature, we are orphaned, we become something else.

Our need for the natural world

Our very physique is attuned to the natural world in which we have our origins, in which and out of which we evolved: a world which is almost literally an extension of our physical being. The flicker of a wild animal against the line of trees at the edge of the forest is an extension of the line of our eyes; the message in the chorus of birds is an extension of our ears, for our eyes and ears have been shaped by a precise evolution to respond to these things, attuning us ever more closely to them. Our feet are made for the touch of grass and earth, our hands for its feel, our nose to smell this world of natural things. And just as surely as we are physically shaped for this world of nature, so too are we psychically made for it, and this symbiosis of nature and the human psyche is genetically coded as surely as our colour vision and the shape of our hands and face. It is not something we can shake off, a skin we have outgrown, but something that is built into our genes over the millions of years during which our humanity evolved.

All through our long history nature has been on our doorstep. The experience of trees and flowers, birds and wind and stars, rocks and the sight and sound of rivers and the sea have always been there to satisfy our deep psychological need. The places where nature still breathes awake in us memories of a deeper childhood. The flowers and trees in every hedgerow awake them, the singing of the birds, every rock shaped by time and the elements,

every stream that follows the form of the land.

Many people live in a prison of deprivation. They don't recognize it as a prison, because they have been born in it. Of course, we can stay alive without nature. A songbird will stay alive for years in a cage. The Earth, indeed, can accommodate ten times as many people, well-fed and shoulder-to-shoulder, but is that Life? The experience of woods carpeted with wood anemones and bluebells should be part of the birthright of every child: the opportunity to catch for a moment an echo of the magic and wonder of the woods of that deeper childhood. We don't know enough about our nature as humans to be able to measure or judge the deeper psychological and spiritual effects of its loss.

We may be a little less than the angels, but we have been swept along by precisely the same exhilarating evolutionary maelstrom as all the other species which people this moment of life's time with us; 4,000 million years of life have been spent travelling with them, and before that we shared the same remote origins in the dust of exploding stars. Without nature, we are less than we are made to be. Without nature, we are less than we are *meant* to be. In the sense that the word has taken in common discourse, we are *deprived*.

The wonder, beauty, bounty and diversity of nature have the capacity to enrich us above and beyond this level. In our time, science — the application of the tiny spark of God's own creativeness in us which blossoms in scientific apprehension of the world — has enabled us to see how truly unimaginable is the wonder and diversity and complexity of the creation.

IT IS PROBABLY EASY enough to appreciate this in the case of larger and what appear to be more dramatic animals and pretty flowers. But birds and mammals account for only a tiny percentage of the species of life on Earth, albeit the most conspicuous percentage. But there are uncounted unseen creatures on our doorstep which make the unicorn look decidedly ordinary. Nearly 80% of all living species which have been described are insects. And there is nothing in the world of birds or mammals that evokes wonder in us that is not equalled or surpassed by

any group of insects or other smaller animals you wish to choose. All they are lacking, if lack is the right word, in being able to attract our attention and wonder, is size. For the smaller creatures which make up the great majority, we need the new eyes which come with closer attention, or the magic of the hand lens or the microscope. We need these new eyes to bring our prodigious modern understanding to bear on the reality of creation, because most of God's creatures are this size or much smaller.

I remember, earlier in the year, having a conversation about biodiversity with a friend of mine — a friend who has a deeply religious outlook on life. We were exchanging instances of life's wonders and he remarked that if you can imagine it, God has already thought of it. But it is far more wonderful than this. The creatures on the drawing board of the imagination do not have to breathe and live in a real world. If we were to apply the criterion of realism to our imagined creatures, few of our candidate animals would translate into real beings. Yet the diversity of actual, real life surpasses anything our imagination could ever have devised. There is hardly a corner of the Earth, however extreme or however small, to which different forms of life have not adapted themselves, sometimes with almost unbelievable inventiveness. Each species is a chord in the symphony of Achieved Being, not simply imagined being.

This is the first time in all of history that it has become possible for ordinary people to contemplate, and be enriched in mind and spirit by, the rainbow of life's diversity, to have free access to the keys of Linnaeus's countless chambers.

The decline of global biodiversity

But this new democratization of the possibility of access to nature at a deeper level is opening for us at the very moment in history that colour is beginning to bleed from the rainbow of natural diversity. The colours of life's rainbow have, of course, slowly changed through geological time, and each colour has altered constantly its hue as evolution has played its symphonies with its possibilities. But what is happening today is different. The rate at which

species are becoming extinct because of us is between 1,000 and 10,000 times what it would be without us.

About $1\frac{3}{4}$ million species of living organisms have been described, nearly 80% of them insects, and most of the remainder green plants. The *true* number is most likely between 10 and 30 million, though it could be 100 million. There have been books written in recent years trying to decide whether the number is 10 million or 100 million. We are as lost with figures like these as we are with the numbers of stars in a galaxy, the number of galaxies in this astonishing universe. Whatever the figure, the diversity of nature is bewildering and bountiful beyond our computation. The greater part of this natural richness, more than half of all species described, is concentrated in the tropics, especially in rainforests and warm seas.

In our day, when we can fully appreciate it for the first time, we are allowing this diversity to slip through our largely uncaring fingers. As we enter this third Christian millennium, we are allowing the disappearance of entire sectors of this awesome spectrum of natural diversity, this kaleidoscope of richness upon which — to be entirely selfish about it for a moment — our own very survival depends. This is a crisis the like of which the world has never seen, not merely in terms of human history, but in the Earth's long history. It is the greatest and most rapid spasm of extinction in the history of life. And it is wrong — a wrong for which we must all share responsibility, as mankind, as womankind: it is our responsibility as a species. God's mind and heart and word to us are in all the species which weave life's diversity. We have all heard of Francis of Assisi, who spoke of brother wolf, and we smile approvingly at the metaphor. It is not a metaphor. The more deeply we grow in our scientific understanding of creation through the best exercise of the divine spark of intelligence that is in us, the more deeply we understand the extraordinary closeness of our kinship with all creatures. To think we are less is to diminish God; to imagine we are more is to diminish ourselves.



Dragonfly covered in dew
PHOTOGRAPH: ROD PLANCK/NHPA

Edward Wilson estimated some years ago that at the present time we are exterminating 27,000 species a year — or seventy-four each day, three every hour. The great majority we don't even know the names of, even if we accept the conservative estimate that of the tens of millions of species of plants, animals, fungi, protists and microbes alive on Earth today, only about 10% (or $1\frac{1}{2}$ million) even have names. Wilson estimated that at present rates a further 20% of existing species would become extinct within thirty years.

There is considerable disagreement among professional biologists about the precise extent of the reduction in biodiversity, but to become preoccupied with this is to fiddle while Rome burns. And while some of the figures quoted are almost anecdotal, and may be unrepresentative, the cumulative evidence is very clear.

The loss of natural diversity on a global scale is due primarily to habitat loss. Much of it results from the destruction of tropical rainforests. In 1989, the total area of remaining

rainforest occupied an area about the size of the contiguous forty-eight states of the United States. They were — are — being reduced at a rate equivalent to the size of Florida or West Virginia or Costa Rica every year. A straight-line extrapolation of this rate means it will all be gone by 2135 AD. It is much higher in some areas. Madagascar has lost 93% of its forest cover. The Atlantic forest coast of Brazil is 99% gone. The forests of most of the islands of Polynesia and the Caribbean are gone altogether. Fifty per cent of the world's tropical forests have gone. Asia has already lost 88% of its natural forest. Throughout the 1990s, the rate of rainforest disappearance was 1% a year.

Biodiversity in Ireland

In microcosm, we see the same diminution in diversity here in Ireland. It is slower, less in actual loss of species than in their abundance, more in the loss of habitat, of places for the wild. In an earlier period of our own history, we witnessed a level of destruction of natural diversity comparable with what we see today in the tropics, and fuelled by the same cause: a soaring population.

The likelihood is that few species have actually disappeared from Ireland, but such has been the extent to which the area of land occupied by natural habitats has been constricted that many species which were once common have become scarce, though there are many exceptions. One consequence of this is that not only are they hard for the expert to find, but they are no longer a part of the common experience, with all that such restriction of experience implies.

Here in Ireland, we are at a turning point in the relationship between people and nature, because from now on we must consciously support the maintenance of diversity. We have reached the point where we have so little left that not only must we retain all that we have, but, whenever opportunity allows, we must recover as much as we can of what has been lost. We must allow nature the space to grow back. ●

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