

THE EXPERIENCE OF PASSION IN CREATION

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Waste Within Nature

Two hundred years or so ago, someone noticed an unfamiliar plant growing on the old stone walls of this city of Oxford. It was a species of ragwort, *Senecio squalidus*, a native of Sicily that had escaped from cultivation in the Botanic Garden here.¹ It quickly spread, around the town, along the roads and railways that developed in the following decades, all across the southern counties of Britain and then elsewhere. Now, this Oxford Ragwort, as it is called in English, is a commonplace even in the squalid parts of Lancaster where I live. Understanding this kind of behaviour in plants – how they spread and find a congenial home in the varied landscapes of Europe – is my trade as an ecologist. And part of the secret of success of a species like Oxford Ragwort is its prolific rate of reproduction: each plant produces about 10,000 seeds in a summer and these are widely dispersed on the wind with the aid of a little parachute of hairs. You don't have to be much of a mathematician to see that few of these seeds eventually succeed in producing a new plant – else we would quickly be overrun by Oxford Ragwort. Indeed, we would be quickly overrun by many such plants and animals were it not for the huge losses which they suffer, for there is great wastage in each generation and a ferocious competition for survival. This is an integral part of what the natural world is like.

I guess that this kind of struggle and waste troubles you little. Much less, say, than the sight of those young soldiers at the start of Steven Spielberg's latest film *Saving Private Ryan* when the ramps of the landing craft crash open into the waters of the Normandy coast and many make scarcely any progress, or none at all, before they die. This is another order of indifference and hostility, shocking in its violence against those who are so obviously our brothers, our indebtedness to whom, on Omaha Beach, the Ypres Salient, Stalingrad and elsewhere, we carry forward in our consciousness and, of course, commemorate annually at this time of year in the Armistice ceremonies.

But what I want to ask you this afternoon is whether the ragwort and the poppies of our battlefields are simply a kind of decorative relief to the squalor and heroism of human doings, whether nature is just a backdrop to how we comprehend God as dealing with us in our religious experience. What is the relationship between the waste of the natural world and those losses felt by ourselves? Do they count? Or do they find you – and God – dispassionate?

Explanation and Wonder in Ecology

As an ecologist of this particular age, I can myself conceive of this wider cost – the overproduction of offspring, the diverse blind play of genetic reassortment and the survival of those best fitted to the environment – in terms most cogently framed by Charles Darwin. His kind of hypothesis seems to me to have persuasive explanatory power to help us comprehend the fact that we are here, to understand the biological mechanisms that made us what we are and indeed to celebrate the extraordinary intricate diversity of the natural world. For those who do not know it, I urge you to read Richard Dawkins' account of figs and fig-wasps² and to take seriously his challenge that real poetry may lurk in the actuality of this curious story of interdependence, that wonder need not evaporate under the beam of Darwinian logic and grammar. Certainly, for the sake of my students, I hope that this is so, that I can encourage in them the same sense of amazement, along with methodological integrity and that relentless curiosity which are the hallmarks of a true scientist. Many of us indeed begin our encounters with the natural world in the experience of *wonder* and we have to respect the fact that for others this may have no religious dimension at all. Also, I think, wonder is a good deal more ambiguous an experience than we like to think, even for those who make religious claims about it.

However, it was certainly one of *my* starting points and I well remember, as a student myself, being bewitched by the watercolours of squirming Antarctic crustacea painted by the young Alister Hardy when he was a marine zoologist on the expedition ship *Discovery*³ – and, fired by this, suggesting that we invite him to address our Leeds University Biological Society, of which I was then the Secretary. Sampling the invertebrates of the rain forest canopy while slung beneath a military helicopter, persuading the Royal Navy to catch insects by sweeping the mid-Atlantic air with large nets attached to their masts, testing from a balloon-and-basket at Weston-on-the-Green⁴ the hypothesis that moths get into the upper atmosphere through being attracted to the moon – these were the kinds of adventurous ideas which Alister Hardy had that could inspire a young scientist to further wondrous encounters of his own.

Dawkins, too, I guess, for he was one of Sir Alister's students here at that time. A nice touch, incidentally, that it should be a favourite creature of Sir Alister's that beats even Dawkins' explanatory powers: the deep-sea crustacean *Gigantocypris* has peculiar curved-mirror eyes (the animal is there in one of those paintings that so impressed me) but now, like then, we don't know how they work – "it is, at the moment, not clear how *Gigantocypris* sees"⁵ says Dawkins.

Of course, all wise scientists know there is much more left yet to discover. Indeed the wiser still know that, like all forms of knowledge, science is culturally embedded and that, though we trust we are always dealing with hard fact, yet our explanations, theories, paradigms and models may well be swept away (again) by more perceptive and powerful ways of comprehending a little more that the future might bring. Wise religious people don't vest *their* hope in realms which they might be tempted to go on calling mysterious because wonder has not yet yielded there to understanding.

Purpose and Freedom in Nature

For me, in fact, religious experience is not primarily about the inexplicable, nor is wonder any reason for suspending scientific curiosity. Unlike science, I don't believe that religious experience is about explanation at all. It is not God's purpose to provide a *better* explanation, an *alternative* explanation or some *refuge* from explanation. To prefigure my

conclusions somewhat ... “God’s object with us,” said the Presbyterian divine P. T. Forsyth, “is not to give just so many things and withhold so many: it is to place us in the tissue of his Kingdom.”⁶

The theory of Darwinian evolution, I believe, tells us some important, interesting and powerful things about our origin and situation but it does not answer, or ask, every question our experience prompts. Suppose, on crossing Omaha Beach, I found a watch upon the ground. I’m not sure that the first question I would want to ask would be about who designed it to fulfil its manifest purpose of timekeeping. For an age dominated by mechanics, like that of William Paley who first used this example to expound an argument for a Creator from design,⁷ that would be a very natural enquiry. My own questions would more likely be about how it got there, whose it was and why it was stopped some time shortly after 6.25: in other words, the questions would be about ownership and cost.

To sit on the lumpy shingle of Omaha Beach, exonerated of any tendency to wishful thinking by remembrance of what took place there, is to be, as John Bowker puts it,⁸ haunted by the ghost of significant action, to be bequeathed a fingerhold ourselves that is not dislodged from the landfall by the “melancholy, long, withdrawing roar” of the sea. For Matthew Arnold, who wrote those words in between the publication of Darwin’s *Origin of Species* and the even more shocking *Descent of Man*, the world of nature yielded no answer itself to our sense of loss.⁹ How then, in this post-Darwinian age, can nature provide anything more than neutral or uneasy scenery to our own predicament?

One major aspect of the sense of abandonment that looms over Dover Beach is the loss of that conviction of some direction in the workings of nature, the notion that it is all going somewhere, with purpose and foresight and, more particularly of course, that it has culminated in the appearance of ourselves, held in its mind’s eye, as it were, from the start. For Christians, for example, humankind appears (as the story is rehearsed in the first account of Creation in the Bible¹⁰) as the crown of God’s activity, formed in his own image, master of all else that is made – and whose remaking in Christ tends to that completion or fullness that is implicit from the start.

For me, this kind of sense of purpose does not square with what I accept within the Darwinian understanding of evolution, nor does it convince in the face of my own experience – that the most striking feature of all that there is in nature, and beyond into the cosmos, is the sheer gratuitous character of it all, its incomprehensible extent and breathtaking diversity, that not only has it come, we say in the Christian tradition, out of nothing, but that it is “for nothing”. It is therefore, in a very real sense, play, in the sense in which Wisdom plays in the Book of Proverbs: “I made play in this world of dust, with the Sons of Adam for my play-fellows”.¹¹ Leviathan sports in the deep¹² because that is what whales do. Genes *are* selfish¹³ because that is the consequence of the freedom they have, of ... creation *ex libertate*, under no constraint.

Dependencies and Cost in Creation

However, as an ecologist, I find it hard to accept a simple reading of the notion that nature is condemned to futility. Of course, I am familiar with the fleeting existence of the adult mayfly, released from its watery time as a nymph one summer’s evening and, mating and egg-laying over to ensure the continuance of another generation, usually dead by dawn. Pointless? Unable to attain its purpose? In bondage to decay? Well, not pointless to mayflies, I guess, nor to the dragonflies, swallows, bats and fish which snatch a meal from the expiring adults, nor to the algae and plant debris which the nymphs themselves recycle

in the water's bed. Ecology is the study of such households of nature, complex interlocking networks of mutual dependencies which bind living creatures, together with their physico-chemical frame of rock, soil, water and the shifts of climate, into working ecosystems. This gives a context and functionality to organisms which in isolation seem to us without purpose or meaning, and intrigues us with its revelations of hierarchies of organisation and the long, tortuous tracks of cycling gases, nutrients, water, atoms, electrons and energy between the component parts.

I commend to you Primo Levi's story of a carbon atom from his book *The Periodic Table* – how, after hundreds of millions of years trapped in limestone, it is released by the roasting of the rock in a lime-kiln, out into the atmosphere, in and out with a falcon's breath, into a vine leaf where, captured in a sugar molecule by photosynthesis, it travels to the ripening grape, through wine into a drinker's liver and out through his out-of-breathlessness in a horse chase, into a moth, from *its* decaying chitinous case into soil, grass, cow, milk and so into the author's brain itself which “at this instant, issuing out of a labyrinthine tangle of yeses and nos, makes my hand run along a certain path on the paper, mark it with these volutes that are signs: a double snap up and down, between two levels of energy, guides this hand of mine to impress on the paper this dot, here, this one.”¹⁴

And, when *you* have such i's to dot and t's to cross in your own lives, I urge you to call to mind these tracks of relationship and inter-dependencies. What brings you to here may not be purposeful or directional but we could say that, from this perspective, it is for one moment focused and, in that light, which one of *you* will call the mayfly futile? On the mayfly's back, *human* life is lived, our own households ordered, cultures built and religious experience had. Indeed, if it is part of our experience that God himself is active and imminent in this world, I find it difficult myself to understand how he can be exempt from such dependencies or such cost. If he is somehow its originator, it is hard to see him as impassive bystander.

The Integrity of Nature

For there you see us tangled with some things which human feeling and, more particularly, religious sensibilities have found it hard to bear. Jackals, for example, part of the wild dog group, live in woodland and savannah through Africa and east to India. They have a very stable family life with unusually durable partnerships between male and female, the males strictly monogamous, the close-knit packs – including helpers who are not parents – sharing food and care for the young. Such scenes, for which we would probably coin the word 'touching', are further commended by the service the jackals provide to the ecosystems where they live by consuming waste carrion. Yet to see the co-operative hunting of jackals where, working together, they pursue and bring down young gazelles and then tear them apart alive, is not for the squeamish.

We could agree with St. Augustine, one of the earliest Christian thinkers to reflect on this question, that it would be ridiculous to condemn the succumbing of the weak to the strong in nature, the decay of animals and plants, because such mutability has “a beauty of its own kind, finding its place among the constituent parts of this world”.¹⁵ And ecology helps us comprehend such patterns with our intellect a little more readily. Yet, for many, the inflicting of what we can only construe as pain (the prey of the jackal *do* seem to suffer) is such a problem for some that it has been seen as “natural evil”; indeed, one of the more perplexing aspects of the notion of evil, since it (presumably) offers none of the opportunities some see in human pain for character-building or soul-making.

Hence John Stuart Mill's jibe against those readily convinced by an argument from design: what kind of creator would it be to so cunningly design such instruments of torment?¹⁶ As strange, I would say, as one who would so order things that wolf dwelt with lamb, leopard with goat and the lion ate straw like an ox.¹⁷ Uncomfortable though it may be, I urge you not to wish away the fierce and the cunning, the debilitating or stealthy from among the inhabitants of the natural world without pausing to reflect on the consequences for your understanding of religious experience and of God.

My experience as an ecologist tells me that the management of nature, the exploitation of resources, the simplification of ecosystems – excising species here, short-cutting processes there, let alone turning nature into some sort of 'experience' or entertainment – is always done at a certain cost, though the accounts may not be settled for some time. Only now, for example, surprisingly to some, are we starting to pay the price for feeding animal waste to herbivores. And, of course, for many of us (not all) our generosity towards the natural world is tempered by an awareness that we would opt to protect our own kind even if this meant eliminating the malarial mosquito or smallpox virus with all their own peculiar beauty and efficiency. Our sharing of the planet with the rest of nature, then, has to involve a lot of negotiation and barter, striking deals and fixing trade-offs with our fellow creatures and the physical frame of land, water and air which we seek to occupy with them. Engaging with nature in these places where wonder and need collide, where I both describe as a scientist and yet need to consume, I find a dirty and exhausting task, yet it has turned out for me to be a religious experience: through it, I have discovered what I can only describe as a divine concern for both nature and me together.

Responsibility and Participation

At one level, this is about the ethics of environmental concern, our responsibility for something on which we ultimately depend, working out the practicalities of survival and development, through conviction and campaign, policy and legislative instrument, towards what we hope is morally defensible and capable of being sustained. That process may often be nourished by religious conviction – indeed the Judaeo-Christian tradition of which I am a part calls this concern for the environment 'stewardship' (or 'dominion' in the days when exploitation seemed less threatening) and sees it expressed in the first Creation story as part of God's gift of being to humankind.¹⁸ This ability to negotiate and express our concern for all else that is, is one of the qualities which distinguishes us from other creatures; and clearly one test of our religious experience is how effectively we re-mint this as ethical behaviour.

More deeply, we can say that part of what makes us different is that we appear to be the sole product of the evolutionary process that is moved to proclaim that nature as apprehended by science is in some sense a creation, that is, is dependent upon the love of God and exists at some cost to God. For me, making this discovery real is expressed partly through articulating the thankfulness of the whole of nature for its existence: in the fable of St. Francis' sermon to the birds, what impresses most is not his ability to charm them but his charge that they should sing in gratitude for their existence.¹⁹

Nature, of course, is far from silent but in the cacophony of frogs in the rain forest dawn, or among the curious clicks, whistles and rhapsodies of the humpback whale, can you hear a note of celebration? If not, perhaps you have taken too seriously the rubric in the Anglican prayer book²⁰ that, when singing the canticle *Benedicite omnia opera*, O all ye works of the Lord, bless ye the Lord ..., "verses 4-17 may be omitted": that is sun, moon, rain, winds, falling snows, lightnings, all plants on the earth, whales, fish, birds and beasts may be

excused the charge to celebrate, leaving us with me, you, priests and angels. To this impoverished little glee club, I suggest, we can trace some of the deficiencies in how we comprehend the character of our dependency on the natural world and miss the opportunity to learn to sing in harmony with it.

Of course, as we have seen, the noise of nature can be raw and raucous (there are also the yelps of the jackal), but myself I see what St. Paul called the continuing groans and travails of creation²¹ as a consequence of God's generosity in bestowing the gift of existence. Traditionally, we say God's creative activity proceeds *ad extra*, as it were away from him, though this has to do not so much with direction but with the freedom which he imparts. What it asserts is that God does not exert a monopoly on being and yields up supremacy over what he has made. In Christian language, some would evoke the notion of *kenosis*²² to convey this liberty from control or direction. From medieval Judaism, we have the more robust notion of *zimzum* where God, as it were, breathes in, making space for something other than himself.²³

For me, as an ecologist, the implications of this are worked out partly through the process of naming. Much of my own scientific work is descriptive, concerned with cataloguing the diversity of vegetation types in Britain and elsewhere in Europe by analysing data on the frequency of their constituent species and trying to understand their relationships to those characteristics of climate, soil and human impacts which determine their composition, distribution and ultimately their survival. This task has a profound religious resonance for me that is illuminated by that moment in the second Creation story when God parades the beasts before man "to see what he would call them, and whatever man called each living creature, that was its name".²⁴ Here we see the process of the naming of creation pictured as part of a direct and innocent converse between God and man.

Blessing and Belonging

Of course, as a scientist, I know only too well how incomplete and partial my data are and how easily I can manipulate what information I have to make a picture that is all too clear in its delineation of the character and relationships in the natural world – an understanding which then speaks less of *it* than of *me*. And, of course, I will go on seeing darkly, as in a mirror. But is it really too fanciful to see what I do on naming as somehow recognising the gift of identity and freedom in those things which are the object of my study, making room for them in my intellectual world, surrendering supremacy over them and trying to see them as God intends them to be seen. For me this is a religious experience, articulating what St. Paul called the "eager longing" or *apokaradokia*²⁵ of the natural world, what I would call its yearning to be recognised as creation. In naming, by divine invitation, humankind makes its own struggle to sense and signify the world part of God's creative purpose.

We could conceive of such an activity as akin to pronouncing a *berakah* or blessing over the elements of nature – that is, declaring them to be in a state of dependency upon the love of God and yet revealing his gift of the freedom of existence. As an Anglican priest, such language of blessing is very persuasive because, fresh from my fieldwork, the computer screen or lecture hall, I find myself at the altar, taking – in the same hands that name and celebrate nature there – "these thy creatures of bread and wine"²⁶ and setting *them* in a framework of signification and blessing. To me, they speak of God's passionate engagement with all he has made, that through the flesh and blood of creation he makes himself known and on him, too, the costliness of creation may be seen to have left its mark.

In naming, the namer also discovers something of his or her own identity, and may come to bear a little of the burden of knowing and being known, to be marked also with 'the wound of knowledge' as R.S. Thomas, the Anglican priest and poet calls it.²⁷ For me, certainly, there has opened up a seamless continuity between what I have come to know about nature and what has been revealed to me, in my experience, about my own condition and the frailty of human love. This sets my own predicament in a breathtaking perspective, as in the closing chapters of the Book of Job where God responds to Job's (understandable) incomprehension at his own condition by conjuring up the whirling planets, winds being born and the terrible beauty of the hippopotamus²⁸ – and by revealing something of the cost to himself of this and all else that is yet to be known and borne by us.

My own experience tells me that this is where we belong, this is where we rightly do our knowing. We are at home in nature, and from its costly fabric springs our own extraordinary gift to conceive of it imaginatively in our science and our art. Nature is also the place where I have discovered that I am myself known. It is riven with the yearning to be recognised as creation – and in that recognition we ourselves are met with God.

NOTES

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2. Dawkins, Richard (1996). *Climbing Mount Improbable*. London: Penguin Books.
3. Hardy, Alister (1967). *Great Waters*. London: Collins.
4. In September 1947 a tethered balloon and basket used for parachute training went up from Weston-on-the-Green near Oxford, with Dr E. B. Ford and Alister Hardy on board carrying butterfly nets; on the ground was their assistant, Mr H. N. Southern. Lights suspended from the balloon, and others mounted on the ground, were used to create a variety of moon-like effects. The arrangement of lights was changed and further experiments carried out on other occasions.
5. Dawkins, *op. cit.*
6. Forsyth, P. T. (1916). *The Soul of Prayer*. London: Independent Press.
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8. Bowker, John (1973). *The Sense of God*. Oxford: Oxford University Press.
9. Arnold, Matthew (1853). 'Dover Beach' in *Poems* London
10. Genesis 1:26-27.
11. Proverbs 8:30-31 in the Knox translation.
12. Psalm 104:26.
13. Dawkins, Richard (1989). *The Selfish Gene*, 2nd edition. Oxford: Oxford University Press. Dawkins (1991) *The Blind Watchmaker*, 2nd edition. London: Penguin Books.
14. Levi, Primo (1985). *The Periodic Table*. London: Michael Joseph.
15. Augustine of Hippo, translated by Henry Bettenson (1972). *City of God*, book XII, chapters 4 & 5. London: Pelican Books.

16. Mill, John Stuart (1875). *Three Essays on Religion*. London: Longmans, Green.
17. Isaiah 11:6 and 65: 25.
18. Genesis 1:28-29. See also Pasmore, John (1976). *Man's Responsibility for Nature*. London: Duckworth.
19. *The Little Flowers of Saint Francis*, translated by H. E. Manning (1915). Edinburgh: Turnbull & Spears.
20. *The Alternative Service Book 1980*. Cambridge, Colchester & London: Cambridge University Press, William Clowes & SPCK.
21. Romans 8:22.
22. Philippians 2:5-11.
23. See, for example, Moltmann, J. (1985), *God in Creation*. London: SCM Press.
24. Genesis 2:19-20.
25. Romans 8:19.
26. *Book of Common Prayer*, prayer of consecration from the Holy Communion.
27. Thomas, R. S. (1978). From 'Roger Bacon' in *Frequencies*. London: Macmillan.
28. Job 38:1-39, 30 & 40:6-41, 34.

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The Revd Professor John Rodwell was born in 1946 and brought up in South Yorkshire and North Wales. From his teenage years, he was fascinated by the natural world and studied botany at Leeds University before doing a doctorate at Southampton. He is at present Professor of Plant Ecology and Director of the Unit of Vegetation Science at Lancaster University.

The bulk of his research career has been concerned with producing the first systematic account of the plant communities of the British Isles. He was co-ordinator of a government-funded research programme which, over 20 years, surveyed and described all the vegetation types of this country. This scheme is now accepted as the standard by all environment, forest and agriculture agencies in Britain, corporate industry, local government and wildlife charities, and provides a common language for evaluating landscape quality and environmental impacts. In addition to being editor of the published version of this work, the five-volume *British Plant Communities*, he has authored numerous scientific papers and articles.

He represents the UK on key international research programmes and is deeply committed to developing a collaborative approach and common standards for sustaining the biodiversity of Europe. He is an expert adviser to the European Environment Agency and has recently directed a skill-transfer programme funded by the UK Darwin Initiative to establish computerised databases for cataloguing the vegetation resources in Russia, Latvia, Albania, Slovakia and the Czech republic.

In 1975, after three years at Cuddesdon Theological College (now Ripon College, Cuddesdon), he was ordained as an Anglican priest. From the outset, he felt drawn to a non-stipendiary ministry working as an ecologist and, through his pastoral work, preaching and writing he has tried to live one life with these two demanding commitments. He also shares this life with his wife and two sons.

His particular theological interest is in creation and creativity: the relationship between the human world and the natural creation and between human and divine making. He was part of the group which produced *Incarnation and Myth*, the follow-up to *The Myth of God Incarnate*, and served as a Consultant to the Church of England Doctrine Commission when it was working on *We believe in the Holy Spirit*. More recently, he has participated in the *Science and the Spiritual Quest* programme funded by the Templeton Foundation at Berkeley in California.

In his scientific work there are also links with the religious realm through his Unit's Environment, Nature and Creativity programme which is exploring the cultural resonances of landscape through collaborations between ecology and theatre, music and the visual arts.

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