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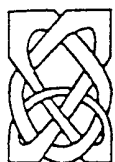
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## **The Integrity of Nature Over Time**

by

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## **Abstract**

The subject of this paper is the integrity of nature over time - 'diachronic integrity'. The argument of the paper is that any serious attempt to address conservation problems - the kinds of problems faced by environmental managers the world over, needs to operate with an eye to some principle of diachronic integrity (although not solely with such a principle), but that a satisfactory articulation of the principle is a matter of considerable difficulty. As our title implies, however, we are more forthcoming with problems than with solutions.

Philosophical and ecological interest in the concept of integrity, as applied to the natural world, has focused almost exclusively on 'synchronic' integrity. In contrast, the subject of this paper is the integrity of nature over time - 'diachronic' integrity. The argument of the paper is that any serious attempt to address environmental problems - the kinds of problems faced by environmental managers the world over, needs to operate with an eye to some principle of diachronic integrity (although not solely with such a principle). A satisfactory articulation of the principle remains a matter of some difficulty, and we identify some of the problems on the way.

The paper begins with a brief account of three walks which the authors have taken, two together and one a solo walk, where we have encountered conservation problems of what we call the 'old world' kind. In the second section we offer an (old world) suggestion about how such problems should be approached. In the third section we criticise certain 'new world' approaches to such problems and in the fourth section suggest that our 'old world' approach has application to 'new world' conservation problems also. Finally (presto), we suggest that our preferred approach has explanatory power, and is metaphysically sound.

## **Introduction**

We begin with a brief account of three walks which we have taken, two together and one a solo walk, where we have encountered conservation problems of what we shall call the 'old world'

kind. In the second section (andante moderato) we offer an (old world) suggestion about how such problems should be approached. In the third section (scherzo) we criticise certain 'new world' approaches to such problems and in the fourth section (vivace) suggest that our 'old world' approach has application to 'new world' conservation problems also. Finally (presto), we suggest that our preferred approach has explanatory power, and is metaphysically sound.

## **Ambulando**

Walk 1. The first walk was around an area called Little Langdale in the UK's Lake District National Park, and our guide was the regional manager for the National Trust, the conservation body which owns the land. Our attention was drawn to a number of problems typical of the region which bodies such as the National Trust face: the amount of grazing to permit; how to manage the small wooded areas; whether to fence off some of the higher slopes to allow the juniper, which still had a foothold there, to recover. Then our path turned through a farmyard and out the other side to a small mound. The mound, we learnt, was a largely natural feature, slightly shaped at the edges by human hand. Recent archaeological investigation had established that this mound was once a 'Thingmount', or Norse meeting-place, the only such site on the UK mainland (another having been found on the Isle of Man). Part of the mound had been excavated unwittingly by the local farmer and was now buttressed by a concrete silage clamp; so one question was whether the Trust should aim to 'restore' the mound to its original condition by removing the clamp. The other question was raised by a more ephemeral adornment. Atop the mound and, as it were, its crowning glory, stood a thoroughly unabashed and utilitarian washing line. It was, after all, an excellent spot for drying clothes.

Question: Should the washing line be removed?

Walk 2. The second walk was around Arnside Knott, a small limestone outcrop in an area just south of the the Lake District known as Silverdale and also in the care of the National Trust. Once more we were fortunate to have the regional manager as our guide. Here, in recent memory, a certain butterfly had flourished - the High Brown Fritillary - which is relatively rare

in the UK context. The colony was now much reduced and risked dwindling further. It had flourished because of local use of the land for grazing purposes; this created the limestone grassland which the insect requires for breeding purposes. It began to dwindle when the practice of grazing ceased. What the National Trust has recently done is to fence off a section of the land, cut down the naturally arriving yew and silver birch which had successfully begun to recolonise the land, and reintroduce grazing.

Question: Is this a defensible decision?

Walk 3. The third walk was around a disused slate quarry in North Wales. From a landscape perspective it would normally be judged something of an eyesore - a 'scar'; and from an ecological point of view it would be judged relatively barren, showing little sign of life except for a few colonising species. For both these reasons the local council decided to embark on a reclamation project which would involve landscaping the area. But as work started, there was local opposition. To carry through this project would be to bury the past: it would involve burying the history of the local community and the story of their engagement with the mountain, revealed in the slate stairways, the hewn caverns and the exposed slate face. Higher up, and most poignant of all, the workmen's huts were still in place, and inside the huts could be seen rows of decaying coats hanging above pairs of rotting boots, where the last men to work the quarry had left them.

Question: Should one let the quarry be?

### **Andante moderato**

Our objective here is not to give precise and articulated solutions to the questions we have raised, but simply to offer a proposal about how they should be addressed. The Roman Stoic, Epictetus (Carter, 1910: 270) said that everything has two handles, one by which it can be carried and one by which it cannot; and that one should get hold of a thing by the handle by which it can be carried. In our view, one way not to get hold of these problems is to attempt to itemise the 'values' of the various items which feature in the situation - the Thingmount, the washing line,

the butterflies, the rotting boots - and pursue the policy of 'maximising value'. Nor, we urge, will any attempt to get hold of these problems be satisfactory which approaches them from an atemporal perspective. Rather, it is crucial that we pay attention to the temporal - the 'diachronic' - dimension. Thus, the problem is, or should be construed as, the problem of how best to continue the narrative; and the question we should ask is: what would make the most appropriate trajectory from what has gone before? The value in these situations which we should be seeking to uphold lies in the way that the constituent items and the places which they occupy are intertwined with and embody the life-history of the community of which they form a part. This is the perspective which lies behind the following attempt to characterise the objectives of conservation: "conservation is .... about preserving the future *as a realisation of the potential of the past*..... [it] is about negotiating the transition from past to future in such a way as to secure the transfer of maximum significance" (Holland and Rawles, 1994)

What we are saying, then, is that time and history must enter our environmental valuations as constraints on our future decisions. It should be observed that many ethical theories fail dismally in this regard, having no place for time, narrative and history in their accounts of how we should decide on what is to be done. Utilitarianism, with its emphasis on future consequences, and existentialism, with its emphasis on the unconstrained nature of human decision-making, are notable culprits. And even those theories which do introduce retrospective considerations do so in the wrong way, for example by making it a matter of some contract which we are supposed to have entered into, wittingly or unwittingly, as suggested by some deontological theories. In the context of conservation we are not constrained by the past in virtue of any promises we have made. It should also be observed that a number of currently proposed goals of environmental policy, such as 'sustainability' and 'land health', fail similarly to incorporate the dimensions of time and history, and must be judged inadequate on that account.

From here on we shall no doubt disappoint some of our readers by failing to give any very clear guidelines for what exactly constitutes an appropriate trajectory from what has gone before, or

what the best way of continuing a narrative might be. One reason is that we would find this difficult. But a more serious reason is that to a large extent we believe this to be a matter for reasoned debate and reflective judgement on the part of those who have studied the situation carefully and thought hard about it: it is a matter, in short, of deliberative judgement, not a matter of algorithmic calculation according to some formula which we, or others, have supplied. This is an approach broadly endorsed by the UK's old Nature Conservancy Council: "The standards of nature conservation value thus became established through practice and precedents based on collective wisdom" (NCC, 1989).

However, rather in the spirit in which Aristotle offers his principle of the 'mean' to guide us in deciding upon the right course of action in ethical matters (*Ethics*, Book II), we do have some initial thoughts about what some of the guiding considerations might be:

(i) The first is, in fact, an analogue of Aristotle's very own principle of the 'mean': this is that there should neither be too little change nor too much, because both are disruptive. Some attempts at conservation can be disruptive in this way, by virtue of stifling change and transforming the lived world into a museum piece. We are personally inclined to say that some rotting boots should be left to rot, and that some ancient monuments should continue to be decked with washing lines, rather than be removed from the intelligible temporal processes in which they feature. On the other hand, some change is disfiguring, or worse; and this is often either because of its scale or its pace. Indeed, many of our conservation problems arise out of the fact that human induced change generally has a faster pace than ecological change, thus preventing the numerous and subtle ecological checks and balances from operating as they might.

(ii) Another initial thought is that some notion of 'integrity' does indeed capture quite a lot of what we have in mind in speaking of 'appropriate' trajectories, provided that the integrity in question is understood in a diachronic sense. Thus, it is plausible to suppose that some kind of 'intactness' is involved, and a certain kind of 'wholeness' or continuity, in the notion of an appropriate trajectory; above all is the idea of 'being true to' what has gone before. All of these

notions might plausibly be invoked in defence of the claim that some particular policy or course of action was 'appropriate' from a conservation point of view, and all are near the core of what constitutes integrity.

(iii) But finally we must acknowledge that the same place might embody quite different narratives which sometimes point to different trajectories between which we must adjudicate. The same mound of earth belongs both to the story of an ancient meeting place, a drying area, and a farmer attempting to make a living in a world of unpredictable markets and state subsidies. There are different histories to which we have to be true - and there are histories that, when they are unearthed, change our perceptions of the nature of a place and what it embodies. The empty hills of highland Scotland embody not just a wild beauty but also the absence of those who were driven from their homes in the clearances. Their memory must also be respected. The argument over the fate of the 100 foot high statue to the Duke of Sutherland on Beinn Bhraggie Hill near Golspie is a case in point. Between 1814 and 1819, the 'Black Duke', as he was known, played a leading role in evicting the indigenous people from their homes (Craig, 1990). The question is which history we choose to acknowledge. We should perhaps support the statue's removal not just on aesthetic grounds but also for what it represents to the local people, some of whom are descended from those who were driven out. For the same reasons, the now delapidated cottages which their ancestors left behind should perhaps remain. That there is a problem about conflicting trajectories, often associated with differences of scale and pace between natural history and human history, we do not deny. But we hold that this is not a problem for our approach, but a problem revealed by our approach. It is not the task of analysis to make difficult problems appear easy, but to reveal difficult problems for what they are.

### **Scherzo**

An alternative, 'new world', approach to all of the conservation problems we have mentioned might be to say that, given the chance, we should do what we can to restore a given site to its 'natural state'. But, however plausible this approach may seem at first sight, we believe that the attempt to apply it in the 'old world' context is beset with problems.

Consider to begin with the site of our first walk, the semi-cultivated Little Langdale valley. The first question which needs to be asked here is: to which natural state should we attempt to restore it? To its Mesolithic state perhaps? Or to its natural state during the glacial, or interglacial period? To which interglacial period, exactly? One begins to get a distinct whiff of 'disneyfication' in the whole idea: 'roll up, roll up; come and see a genuine replica of a Boreal forest!'. But besides the arbitrariness implicit in such a suggestion, there is also the point that restoration in this sense would be inappropriate, in view of the ecological changes which have no doubt taken place in the mean time.

A natural response to such objections is to propose that we 'restore' the site, so far as possible, to 'what it would now be like if there had been no human intervention'. We shall not dwell on the practical difficulties lurking behind the parenthesis "so far as possible", for we believe that this idea is in principle misconceived. More precisely, we suggest that this definition of the 'natural state' as 'how things would be, if humans were abstracted' is either (a) incoherent or (b) radically indeterminable.

(a) If, first, we simply imagine humans removed, then we have an incoherent situation: there would be a hole (because humans were in fact there), and it is well known that there cannot be a hole in nature because nature abhors a vacuum. All of which is a complicated way of saying, (b) that if we imagine humans removed, then we have to imagine something there to replace them. But this, we argue, must be a radically indeterminable state of affairs, due to the radical contingency of natural processes, and the arbitrary choice of starting point. First, recall the old nursery rhyme which tells how 'a kingdom was lost, all for the want of a horse-shoe nail'. Given that the slightest event may have the most far-reaching consequences - consider, for instance, the difference that may flow from the arrival or non-arrival of a particular species at a particular site at a particular time - then one can only specify what the situation would be like, if all potentially relevant variables are assigned determinate values. But it would be impossible to complete such an assignment, and even if it were possible, the assignments would be bound to be



arbitrary, except on the assumption of a completely deterministic universe. Second, one has to ask at what point one would begin this 'alternative' natural history, for at whatever point one chose to begin, a different history would unfold. One is reminded of the conundrum sometimes posed in graduate logic classes, where counterfactual examples are used to suggest that two incompatible statements might both be true. (This is a conundrum because if two statements are incompatible, then at least one of them ought to be false.) Two such statements are: 'If Caesar had been alive today, he would have used arrows' and 'If Caesar had been alive today, he would have used the atom bomb'. The truth is that, because of the radical contingency referred to, there is simply no saying what Caesar would have done. To take an example closer to home, the situation is exactly analogous to attempting to speak of 'what Cortona would now be like if there were no Sala Sant' Agostino'. The fact is: there is simply no saying what Cortona would be like under that supposition.

Perhaps the best response to the difficulty we have just outlined is to settle for the weaker notion of what a site might be like (rather than what it would be like), save for the human presence. But this has some disadvantages. One is that it is not clear what it excludes; perhaps a site might (naturally) have come to be a pile of ashes. Another is that it becomes less clear that we have any incentive to bring about a situation just because it might have become like that naturally. This supposes that we should be prepared to endorse any possible natural world, and it is not clear that we should be so prepared. We shall return to the point later.

## **Vivace**

So far, our stance has been merely defensive. We have defended an 'old world' approach to certain 'old world' problems, and found a 'new world' approach wanting. But now we propose to go onto the offensive. We are aware that natives of 'new world' countries, such as the United States or Australasia, are likely to find these 'old world' conservation problems quaint or parochial. They hardly concern big global issues; and they hardly concern the problems of

conservation in large wild places, the areas of so-called minimal human influence. Or so it may seem. But in fact, we want to suggest that, far from it being helpful to bring over 'new world' concepts of nature to help solve the quaint and parochial problems of the old world - and we have just attempted to show that it is not helpful - on the contrary, what would be more helpful would be to take the perspective we have just suggested for dealing with the old world's conservation problems out into the new world's wildernesses.

The first of our reasons for preferring the old world perspective is empirical: the 'new' world is much more like the 'old' world than it likes to pretend. In short, we do not quite buy the 'wilderness story'. Our preferred version of that story would be this: that emigrants from the 'old' world arrived in the 'new' world and mistakenly thought it to be wilderness; this folk memory has lived on... and on. In fact, what these immigrants were encountering as new was another people's old world, another people's home. The Indian and the Aborigine had already radically transformed their land. Although (as previously argued) we may not know, because it is impossible to say, what that land would have been like 'naturally', we may at least be sure that the presence of these indigenous peoples will have made a considerable difference.

The failure to recognise this has itself been the source of problems in the treatment of the ecology of the 'new' world. In particular, in both Australia and the United States the treatment of nature as a primitive wilderness led to a failure to appreciate the ecological impact of native land management practices, especially those involving burning. Thus, consider the history of the management of one of the great symbols of American wilderness, Yosemite National Park. In the influential report of the Leopold Committee, *Wildlife Management in the National Parks*, we find the following statement of objectives for parks:

'As a primary goal we would recommend that the biotic associations within each park be maintained, or where necessary be recreated, as nearly as possible in the condition that prevailed when the area was first visited by the white man. A national park should

represent a vignette of primitive America.' (Leopold, 1963: 4)

What was that state? The first white visitors represent the area thus:

'When the forty niners poured over the Sierra Nevada into California, those who kept diaries spoke almost to a man of the wide-space columns of mature trees that grew on the lower western slope in gigantic magnificence. The ground was a grass parkland, in springtime carpeted with wildflowers. Deer and bears were abundant.' (Leopold, 1963: 6)

However, this 'original' and 'primitive' state was not a wilderness but a cultural landscape with its own history. The 'grass parkland' was the result of the pastoral practices of the native Americans who had used fire to promote pasture for game, black oak for acorns, and so on. After the Ahwahneeche Indians were driven from their lands by Major Savage's military expedition of 1851, 'Indian style' burning techniques were discontinued and fire suppression controls were introduced. The consequence was the decline in meadowlands under increasing areas of bush. When the Totuya, the grand daughter of chief Tanaya and sole survivor of the Ahwahneeche Indians who had been evicted from the valley, returned in 1929, she remarked on the landscape she found that it was "Too dirty; too much bushy" (Olwig, 1995). It was not just the landscape that had changed. In the Giant Sequoia groves, the growth of litter on the forest floor, dead branches and competitive vegetation inhibited the growth of new Sequoia, and threatened more destructive fires. Following the Leopold report, both cutting and burning were used to 'restore' Yosemite back to its 'primitive' state.

Such talk, however, simply disguises the nature of the problems which, we suggest, are much better approached from our 'old world' perspective. Reference to wilderness suppresses one part of the story that can be told of the landscape. The non-European native occupants of the land are themselves treated as part of the 'natural scheme', of the 'wilderness'. Their history as dwellers in a landscape which embodies their own cultural history is made invisible. Moreover, such language also disguises the way in which the history of the landscape is being frozen at a particular point in time: "The goal of managing the national parks and monuments should be to

preserve, or where necessary recreate, the ecologic scene as viewed by the first European visitors" (Leopold, 1963: 21). To refer to 'natural' or 'wilderness' states avoids the obvious question, 'Why choose that moment to freeze the landscape?'. There are equally obvious answers to that question, but they have more to do with the attempt to create an American national culture than with ecological considerations.

This position is open to a twofold challenge. The first part of the challenge is to maintain that there were large tracts of the Americas and Australasia which the Indian and the Aborigine did not, in fact, penetrate. So here, at any rate, the wilderness concept remains applicable. Without disputing the factual claim we shall respond to this challenge presently by arguing that the old world perspective not only provides a better account of the value of human ecological systems but of natural ones too. The second part of the challenge is to distinguish between low level human impact and 'techno-human' impact, and argue that it is only the second kind of impact which results in a seriously degraded and 'unnatural' environment. Our response to this challenge would be to insist that, even though the Indian and Aboriginal peoples may not have wrought any great devastation, they will nevertheless have made a great difference to their environments, and that therefore, in broad terms, the conservation problem has to be about how to continue the story in which they have been involved, rather than about how to construct a different story in which we imagine that they were never there, because they are somehow assimilated to the natural world.

The second of our reasons for preferring the 'old world' perspective is, in the broad sense, a moral one, to do with the question of what goals and objectives are desirable. The question is most simply approached by asking, 'What is so good about nature?' More particularly, what is so good about ecological, or biological, integrity - those states or conditions for which measures and indices are being developed as potentially usable in environmental policy contexts? The most plausible answer is to connect the defence of nature, understood in terms of biological and ecological integrity, with resistance to biological and ecological impoverishment. To defend

nature is to hold the line against biological and ecological impoverishment.

Two questions arise. (i) The first question is: won't the goal of ecological health serve this purpose just as well as the goal of ecological integrity? The point behind the question is that those who wield the concept of ecological integrity believe that it will serve to justify the protection of wild places in particular. At the same time, they sometimes seem willing to grant that ecological health, on the other hand, is in principle as applicable to human ecological systems as to natural ones. Indeed, this is why the notion of integrity is preferred. But if biotic 'impoverishment' alone is the villain of the piece, and we can insure against such impoverishment by maintaining ecological health, we seem so far to lack a justification for the protection of wild places in particular.

(ii) The second question is: what gives us the right to be speaking of biotic impoverishment in the first place? To be sure, if biotic impoverishment threatens, we should no doubt do our best to avoid it; but have we earned the right to such language? As instances of biotic impoverishment, attention is often drawn to the following kinds of process: (a) habitat destruction, (b) 'pest' outbreaks, (c) increase in exotic species and (d) depletion of natural resources. But so far as the first three of these are concerned, why, exactly, are they not just 'changes in the pattern of flourishing'? So-called 'habitat destruction' might alternatively be described as a 'change in the pattern of niches'. 'Pest' outbreaks and increases in the presence of exotics, it might be said, are no more than 'changing distributions of plant and animal species'. The question which needs to be pressed is: why are these bad changes?

The reason we press the question is that, although we may be inclined to agree that many such changes are indeed bad, we are disinclined to accept that they are always so. Consider another short walk at Reposaari on the south west coast of Finland taken by one of us while the other was delivering an earlier version of this paper in Italy. This was a walk on what is in a quite straightforward sense a new land. The land is a recent post-glacial uplift from the sea - Finland's

area is increasing by about 1,000 sq.km. every hundred years. The land on which Reposaari stands emerged over the last 1,000 years (Jones, 1977: 15, 59). The nearest large town, Pori, was founded as a port on the coast in 1558. The port moved with the land uplift. Pori is now an inland town, 30 km. from the harbour of Reposaari. Reposaari's status as a harbour is witnessed by the quite remarkable and sometimes beautiful graffiti carved into the rock from the last century. Its history as a port is also embodied in the very particular biology of the area. The export trade from the harbour was predominantly timber, the imports generally were lighter cargoes, amongst them spices from further south in Europe. The pattern of heavy export cargoes and lighter imports meant that the ships of previous centuries arrived at Reposaari carrying ballast - soil from southern Europe - and left without it. The ballast soil deposited on the new land contained the seeds of a variety of 'exotic' species of plant which were able to flourish in the coastal climate of Finland. The result is a flora unique to the area (Suomin, 1979; Jutila). The history of human activity is part of the narrative of the natural history of the area. The idea that the proper way to continue that narrative is to cleanse the area of any seed of human origin in the name of biological or ecological integrity strikes us as quite wrong, and would be properly resisted by local biologists and inhabitants of the area. The ballast flora forms as much a part of the ecology of the area as do the seeds distributed by migrating birds. The position we are urging instead is that in considering whether an 'introduced' species constitutes harm or good we need to consider the specific narrative we can tell about it, not whether its origins happen to be human or not.

There remains as an instance of biotic impoverishment (d) - the depletion of natural resources. We have two reservations over this kind of example. The first is that it fails to differentiate between the concept of 'natural resources' and the concept of the 'natural world'. The distinction is an important one because, even if it can be demonstrated that the natural world is disappearing fast, it does not follow that natural resources are dwindling. The reason is that natural resources are understood as comprising the natural world only insofar as it is capable of supplying human needs, and possibly those of other selected species. It is well recognised that manmade capital,

and technology in particular, can enhance the value of the natural world in this sense, thus enabling resources to be maintained even while the natural world is dwindling. Indeed, in some cases, the increase of natural resources can require the decrease of the natural world. Our second reservation stems from the suspicion that what most fuels concern about the depletion of natural resources is indeed concern for resources rather than for the natural world as such. However natural hurricanes and locusts might be, they are more often conceived as a curse than as a blessing. Should this suspicion prove to have some foundation, and should natural capital, as distinct from the natural world, prove relatively robust, then this aspect of the case for claiming widespread biotic impoverishment would remain to be made.

But even where there is agreement in judgement as to what will count as biotic impoverishment or loss, the question remains whether the new world approach provides an adequate account of the justification for such judgements. This is the subject of our final section.

## **Presto**

We want to suggest, in conclusion, that the 'old world' historical perspective we are proposing has considerable explanatory power with respect to new world conservation problems, in the sense that it does a great deal to explain the claim that we feel the natural world has upon us and wherein its value lies. For, the natural world, just like human culture, has a particular history which is part of our history and part of our context, both explaining and giving significance to our lives. Thus, what it is that we value about an ancient town such as Cortona has much more in common with what it is that we value about the natural world than the new world accounts of such value would allow. Moreover, and somewhat paradoxically, those accounts do not always carry value as far out into the natural world as does the old world perspective which we are recommending. A test case is the hurricane. Hurricanes are a very evident feature of the natural world. But they wreak much havoc; and it is hard to think of many perspectives from which they would not be judged to promote rather than hinder processes of 'impoverishment'. The historical

approach we are advocating would view things somewhat differently. Of course there are various human and natural ecological systems whose histories are ruptured by hurricanes, which are therefore unwelcome. But, as the practice of naming hurricanes perhaps intimates, this is not the whole story. They too have their own history and play their own awesome role in the histories of others, so that they come to have their own significance in the narratives of human and natural events.

We suggest two areas in particular where the virtues of our account show through: i) in diagnosing cases of conflict and ii) in diagnosing the tragedy of environmental loss. Taking conflict first, if we return to the conservation problems with which we started, we see that part of the tension is between human history and natural history arising from the different paces of change in the two. And it is the history of the natural world and the objects it contains that matter just as much as do those from human history; for the 'natural', too, has its own narrative dimension. It is the fact of their embodying a particular history that blocks the substitutivity of natural objects by human equivalents. While 'natural resources' may be substituted for one another and by human equivalents - they have value in virtue of what they do for us - natural objects have value for what they are, and specifically for the particular history they embody. The block on 'faking' nature (Elliot, 1982) lies not just in the origin of natural objects but in the history that takes us from their origin. Were we in 500 years time to release into some natural bamboo plantation pandas developed from embryos which were naturally conceived but then frozen, their natural origins would be unlikely to confer a 'natural' status on the result. Thus, 'naturalness' is a question of both origin and history; and conservation problems are frequently associated with conflicting historical narratives.

Our second illustration concerns the 'tragic' dimension of environmental loss. We do not here challenge the appropriateness of applying terms such as 'impoverishment' and 'loss' to certain environmental situations, but we do question whether reference to the ecological characteristics of these situations is alone adequate to convey the gravity of such applications. We find a hiatus.



If we look in the larder and find the sugar is running out, we may speak of this as a tragedy; but in doing so we would be conscious of using hyperbole. There is a shortfall between saying of a situation that it is unsustainable, and saying that it is tragic. The ecological characterisation fails, in our view, to capture what is at stake - fails to capture the element of tragedy which environmentalists feel. A sense of tragedy requires that there be a story - and the story can be fiction or, as Colin Macleod argues in his essay on 'Thucydides and Tragedy', fact.

"Thucydides", Macleod writes, "can certainly be said to have constructed his history and interpreted events, in a strict sense of the term, tragically. This is not at all contrary to his aims as a historian. History is something lived through" (1983: 145-6). We agree. It is only in the context of a history of nature, we submit, that the sense of something akin to an environmental tragedy can find adequate expression.

## **Coda**

It is worth noting that the perspective offered here has some sound metaphysical backing. For what we are in effect proposing is that the term 'nature' should be taken in a sense which the philosopher Saul Kripke has identified as that of a 'rigid designator' (1980: 3-4). That is to say, we should be taken to be using 'nature' in the manner of a (proper) name, as referring to a particular historically identifiable individual. We should not be taken to be using the term descriptively as referring to 'whatever is, or might be, natural'. This coincides with the way in which Kripke himself has proposed to construe terms referring to constituents of the natural world, such as organic and inorganic kinds, and is consonant with the theoretical position adopted by some leading biologists who construe species (ontologically) as individuals rather than classes (Ghiselin, 1986). We are claiming, accordingly, that our evaluative attachment is to this natural world, not to any possible natural world. For there could be no guarantee that any possible natural world would be good. Some possible natural worlds could turn out to be horrific,

like some medieval depictions of hell. A corollary of this position is that there is no such thing as a state or condition of something which constitutes its 'being natural', or an identifiable set of characteristics which makes any item, event or process 'natural'. Being natural is, and is only, determined by origin and by history: it is a spatio-temporal concept, not a descriptive one. Metaphysically speaking, therefore, nature is the kind of entity which is fitted to be characterised by a notion such as diachronic integrity.

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