EASTER ISLAND … EARTH ISLAND

Strange as it might seem, the story of human occupation on a small island in the remote western Pacific can tell us a lot about the situation that is looming for our grandchildren.

Of all the islands of the great Pacific Ocean, none is more isolated than Rapa Nui, the most remote human habitation on the planet, 2,000 miles from the Chilean coast, otherwise known as Easter Island. It has a singular story – one that has heaps to tells us about humans and the Earthly environment. I want to say something about it here because, with a smallish stretch of imagination, you can see this as a story about all mankind and the planetary island we inhabit. Look at the two portraits on the next page. What makes them alike is the vast inhuman emptiness that makes such lonely islands of them. In the case of our planetary home, the vast black universe of space makes us as solitary as anything could be.

Only a couple of dozen people have ever seen the immense isolation of our planet with their own eyes, including the man who took this picture in 1972. All of them, when they returned, tried to convey that sense of precious singularity they discovered from seeing our blue world suspended in infinite blackness.

It doesn't take a lot of imagination to see a small oceanic island as a human habitation suspended in an infinite watery space either. Certainly, from the time

the islanders were on their own, they were as isolated as if they had dwelt on their own planet. As far as we know they had no visitors for several centuries.

What happened at easter Island?

Rapa Nui is a seamount – a great volcano whose summit rose above the Pacific waves at some distant time and was then colonized by a smallish suite of Polynesian and South American organisms. When humans arrived there, probably in the 9th century AD, they found a fairly well endowed, fruitful, forested island home and did what people have always done on encountering a new ecological opportunity – consumed hungrily and bred. By 1550 the population had risen to about 7,000 - maybe up to 15,000. But this rate of exploitation, even over several centuries, was unsustainable, and in the 16th century the Rapa Nuians found themselves facing a crisis which was partly economic (declining food resource and productivity); partly cultural (they had no institutional means of slowing growth); but fundamentally ecological (they had exceeded the long-term productive capacity of their island environment).

There followed a long period of contraction, during which they were obliged to find whatever sustenance they could. This inevitably entailed conflict. A poor quality diet was supplemented by cannibalism. Except for domestic chickens, edible species became scarce; the forest was cut down; the sloping soil eroded. Without canoes, they couldn't fish or go to sea. With no hinterland to buffer the consequences of their environmental mistakes, their whole territory was permanently impoverished. They had nowhere to go and nothing to do but survive in diminishing numbers until Europeans arrived in 1722, their first visitors for many centuries.

Fascination with the predicament of the Easter Islanders has often focussed on the question: "What was that man thinking who cut down the last tree?" But the question is a false one. We know that the crisis on Easter Island must have evolved and been very visible for a long time before the last tree. We also know that the islanders' institutions responded to it – but in ways that made things worse. There's every indication that, as their affairs deteriorated, both government and religion became authoritarian, coercive and inflexible – what today we would call ultra-conservative. Just when they needed a new perspective and a comprehensive diagnosis, the leadership appears to have

fallen back on traditional modes of explanation and response – at least that is a reasonable inference from the escalating frenzy of religious observance that seems to have preceded a disastrous civil war.

Archaeology at Easter

The island has intrigued visitors for 300 years, ever since Jacob Roggeveen, the first recorded European observer who anchored there on Easter Day 1722. How could these few impoverished people, without sea-worthy craft, he wondered, have survived in so remote a spot, and accomplished their feats of monumental design and building without timber or strong ropes or some form of complex social organization? The puzzle only grew deeper when the extent of those achievements was fully appreciated, provoking many speculations - some fanciful, some merely mistaken - until, in the last few decades, the methods of science began to be applied. A most remarkable story has been thus revealed.

First, the origins of the islanders. Ethnographic and linguistic evidence leaves no doubt that the island was colonized from Eastern Polynesia - probably by people from Mangareva or its neighbours. The earliest well-dated evidence of occupation comes from camps at Anakena Beach, the best canoe-landing place, and almost certainly the first settlement. They date from 900 AD, so the first arrival must have been not long before that.

Next, the island's puzzling lack of biodiversity. Roggeveen wrote that from a distance he thought the island to be covered in sand - but the cover turned out to be dry grass. There were no trees at all; only some bushes and lots of grass. No other sub-tropical volcanic island of this size in the Pacific lacked a forest, so this was a genuine puzzle. It was solved by careful detective work using charcoal from old campfires, cores of mud from the crater lakes, and other paleobotany techniques. The scientists were able to show, not only that Easter originally had a diverse tall forest, but that it contained several trees of economic importance - for canoe-making, building, fibre and food. The evidence also provides a timetable for the total deforestation. It began early in the 10th century AD, and climaxed in the middle of the 16th - after which all sign of the presence of trees disappears. Easter is the only Pacific island to have been stripped of every last tree.

Study of ancient camps has shown that when the first people arrived, there were at least a half-dozen species of land birds, and 25 species of nesting sea birds. From this diversity and the quantity of recovered bones it seems likely that Easter was possibly the biggest sea bird roost in the whole Pacific - a vast (but temporary) bonanza for those first relieved colonists. All of these birds were exterminated.

Then there is the matter of the statues. James Cook, in 1774 was the first visitor to stay a few days and to consider carefully the puzzle of Easter's past glory. Between the first European contact and Cook's, something strange had happened. Roggeveen saw all the statues standing, some with impressive red "hats" of soft scoria stone; but 50 years later Cook saw most of them had been felled ... it was clear that this had been done deliberately, but he didn't know why. The inhabitants seemed to him to be in very poor shape, thin, hungry and miserable.

Careful excavations of village sites, dwellings, cooking sites, the great stone chicken-houses, the quarries, the monumental platforms called *Ahu*, the *Orongo* monuments, and the statues themselves, have shown that the islanders did indeed generate the economic surpluses and social organization to undertake large -scale monumental projects. For a time they commanded the material and cultural resources, but sometime a few decades before Roggeveen turned up, their fortunes went into irreversible decline. At this time, the archaeological record is full of stone weapons - sharp spear points and daggers, and human bones begin to turn up, not in graves but in camp-fires along with other food waste.

It has to be said that, despite the clear archaeological evidence, not everyone agrees that the Rapa Nuians' fate was self-induced. This dispute has a wider setting. In anthropology and elsewhere, there is sometimes a conviction that pre-industrial people were "natural conservationists" - and that guilty exploiters like us are in no position to pin environmental crimes on them. Environmental historians, however, have provided compelling evidence that human encounters with virgin lands always follow the same pattern: maximal exploitation; population growth, followed by a collision with environmental limits. The problem for anyone who wants an alternative explanation for Easter

Island's story, such as climate change, is that there is simply no satisfactory supporting evidence.

What mistakes were made at Easter Island and what might we learn from them?

Perhaps the most pertinent reflection on this question is the one Clive Pointing made: it is not just that we need to understand how the islanders failed to notice that their vital trees were getting scarce, but that, when this was obvious and they could no longer be used to erect great statues, they nonetheless continued to carve them. In other words, when neither foresight nor imagination could have failed them, they nevertheless behaved as though they had. It is this inexplicable blindness that we really want to understand. How is it possible that people behave like lemmings when we know they can behave like - well, people.

The first and most obvious error is that they plainly over-exploited their island for resources that were only originally abundant, just as if they were infinite. It is not a large island. One can stand on one of its peaks and see just about all of it, or walk the perimeter in a couple of days. So strictly speaking, the knowledge that these good things would one day run out was available any time. Ecological historians are now certain that this perverse human behaviour is universal. Humans, like all other organisms when they encounter a new environment, consume resources with no thought for the morrow. If they have enough room and resource diversity and some luck, in time they can learn to live sustainably – but (this is the crucial point) only perforce, and only after precipitating some form of ecological crisis. If their territory is limited in size or resource diversity, adaptation is much more difficult or impossible; living standards collapse, populations decline, migrate or disappear, as they have done many times in the past.

Second, human ingenuity seems to have failed the Easter Islanders. They were not dumber than other people, but they made foolish choices, presumably again and again, in the face of something that might well have yielded to some rationally designed remedy. The shortest way to account for this is to say that, for the collective action required, they needed institutions much more flexible than the ones they had. Again, history tells us that priest-dominated societies are rigidly traditional, and autocratic ones tend to act in the immediate interest

of the ruling caste. We might even say more generally, that vested interests will always tend to constrain the vision and action potential of the group.

Third, when hard pressed in competition for diminishing resources, they fought savagely. In this too, they were following precedents which, as far as we can tell, are as old as our species.

Fourth, political loyalties on the island were structured by a system of clans or moieties. But their problems couldn't be solved – not even properly defined – within this structure, and they found it impossible to re-conceive their common interest as a pan-island collective, even when survival depended on it.

Fifth, the adverse trend in the Rapa Nuians' economy and environment was incremental, and probably never produced a moment when their problem was unmistakable to everyone. For all we know, no individual islander ever diagnosed their predicament accurately. On reflection, this is not so surprising. Foresight, the capacity to imagine the future by analyzing the present and remembering the past is only available when present understanding is both systematic and complete. If, for example, I believe the fortunes of my tribe are explained by the caprices of the gods, I won't do very well at anticipating the consequences of our collective actions (unless my belief happens to be true). Given the way Easter Islanders understood the workings of the world, we should not have expected them to view the slow collapse of their ecosystem as an ecological problem. Such a consensus is difficult enough for us, despite 300 years of scientific enquiry.

But this thought raises a critical issue. If we are the first humans ever to have understood the natural world well enough to correctly diagnose an environmental disorder, don't we then have a responsibility to avoid repeating the errors of those who did not? To whom should we answer if we fail in this, but our descendants? Looking round at the deranged state of our public discourse about the climate problem, it seems that we can, after all, choose not to know what we clearly do know, and to respond negatively rather than creatively to our own much larger crisis. Those young enough to live in the second half of the current century and all those unborn who will live to see its end, will surely find it incredible that we earned the necessary foresight, and then failed to act upon it.

If you want to read more about this fascinating subject, here are a few places to begin. There is a fairly big specialists' literature on Easter Island.

http://www.primitivism.com/easter-island.htm This is part of the first chapter of Clive Pointing's excellent *A New Green History of the World*, Penguin, 2007.

There's a very good chapter on Easter Island in Jared Diamond's *Collapse: How Societies Choose to Fail or Succeed*, Penguin, 2005. This is perhaps the best short account.

Paul Bahn & John Flenley, *Easter Island, Earth Island*, Thames & Hudson, 1992 is a very good general account of the island's prehistory and its significance. This book has a new edition 2003.

The first couple of chapters of Steven Roger Fischer's *Island at the End of the World: the turbulent history of Easter Island* deals expertly with the social & ecological pre-history of the island.

Jo Anne Van Tilberg's *Easter Island: Archaeology, Ecology, and Culture*. 1994, Smithsonian Institution Press, Washington DC. This is probably the best summary account of the archaeology of the island.