Nunn, Patrick. "Have We Underestimated Ourselves?." *The Edge of Memory: Ancient stories, oral tradition and the post-glacial world*. London: Bloomsbury Sigma, 2018. 201–207. *Bloomsbury Collections*. Web. 26 Apr. 2023. <<http://dx.doi.org/10.5040/9781472943255.0010>>.

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Have We Underestimated Ourselves?

By understanding that there are stories which have survived through largely oral means in our collective human psyche for several thousand years, not merely in isolated or anomalous situations, we are inevitably drawn to wonder whether in fact we have underestimated ourselves. As individuals, do we perhaps know stories that we have instinctively regarded as being of recent origin, but which are in fact far more ancient echoes of observations made – or stories invented – by our distant ancestors? Or as members of the human society, or cultural subgroups within it, do we have access to information – perhaps written, perhaps only oral recollection – that is of a considerable antiquity, significantly greater than we hitherto suspected? Today, the answers to both questions appear likely to be ‘yes’.

We privilege the written word over the oral because, for most of us reading this book, this is what we have been uncritically trained to do. The culmination of our formal education was to learn essential knowledge through reading, not from our grandparents’ rambling reminiscences of passing worlds. But consider that for most of the time – at least 90 per cent of the time in most of the world’s cultures – humans have received knowledge only through the spoken words of others, usually our ancestors. Do we unquestioningly assume that all that knowledge was written down when our ancestors became literate? Even for a tiny proportion of that knowledge, this assumption seems improbable because, as numerous examples in this book demonstrate, some of the discoveries that we have made through scientific investigations and that we therefore regard as ‘new’ knowledge are in fact ‘old’ knowledge.

Our ancestors witnessed the rising of ocean levels after the end of the last ice age, and the often dramatic changes it wrought in coastal landscapes worldwide. In some places – Australia, north-west Europe and India – people successfully passed on their observations of coastal drowning for hundreds of generations into the age of literacy and hence down to us today. What science has discovered in the last 100 years or so about postglacial sea-level rise confirms the eyewitness accounts of our ancestors, not the other way round.

It is the same with stories of volcanic eruptions, meteorite impacts, and islands in the ocean basins that disappeared. Perhaps it is even the same in the case of now-extinct animals with which our ancient ancestors once rubbed shoulders. Yet because many such stories were first reported to a literate world, typically within the past 200 years, from the mouths of non-literate peoples, we have long regarded these stories as anthropological curiosities, expressions of oral cultures that are inherently inferior to the expressions of literate, science-informed cultures. That also seems to have been mistaken. With hindsight there is no doubt that science, especially in its younger days, could have benefited from treating oral traditions and knowledge more seriously. Some would no doubt argue that we might still benefit significantly from taking many non-literate sources of knowledge more seriously.

For example, Aboriginal Australians understood clearly that drought every few years led to massive bush fires in Australia, but that these might be contained in extent and ferocity by proactively reducing the amount of dry fuel load; current environmental management in Australia and elsewhere could indeed benefit from closer study of Indigenous practices. And in those societies where high levels of non-literacy exist today, there are numerous examples of how oral knowledge about particular phenomena – from the management of coastal risk in Kerala (India) to the recognition of tsunami and eruption precursors on islands like Simeulue (Indonesia) and Savo (Solomon Islands) – is favoured by local people over the (often inappropriate) solutions,

underpinned by Western science, which many national or regional managers instinctively favour.¹

Despite such positive examples of the usefulness of oral knowledge – and there are numerous others – this information source has also been long undervalued because its ancientness has rarely been able to be demonstrated. Unless we can demonstrate that a particular oral tradition is ancient, perhaps several thousand years old, rather than something a group of people invented a few weeks back, the argument often goes, why should we treat it seriously? With oral traditions, antiquity is a coarse proxy for veracity. And for such ‘traditional’ knowledge to be able to compete with scientific knowledge, it has to be verifiable – as scientific deductions generally are.

Science allows us to give credibility to many oral traditions. The main focus of this book – Australian Aboriginal stories of coastal drowning – involves the use of sea-level science to demonstrate that such stories in Australia must be at least seven millennia old. Radiometric dating allows us to know that Klamath stories of Mt Mazama date from around 7,600 years back. And so on.

Ways of measuring the antiquity of other types of story have also been developed recently and show great promise for the future.

A little girl in a hooded red jacket walks, somewhat apprehensively, through the woods to her grandmother’s house, clutching a basket of bread and apples. But instead of finding her grandmother home, she encounters a wolf in her bed, disguised, and – depending on the version of the story – she is either eaten or rescued and the wolf is killed. Known to English readers as *Little Red Riding Hood*, the earliest written version of the story was *Le Petit Chaperon Rouge* in 1697 by Charles Perrault, widely credited as the first writer of fairy tales. Yet as Perrault happily acknowledged, the sources for his fairy tales – which also included the first written accounts of *Cinderella*, *Puss in Boots* and *Sleeping Beauty* – lay in popular oral stories that had been told for generations

in Europe. But for exactly how many generations? Can we know?

We can indeed find an answer to this question by applying to stories the same kind of tools that biologists have long used for tracing the evolution of species. This process involves identifying diagnostic characteristics of a range of species, deciding which characteristics and what proportion of these are shared between species at several points in time, then drawing up a phylogenetic tree to illustrate the likely process of species evolution. An analogous process is used to analyse the evolution of stories like *Little Red Riding Hood* and thereby pinpoint the time (and sometimes place) of their earliest expression. In short, the process begins with identifying key motifs within different versions of a particular story and those in others similar to it; such motifs might be the existence of a fairy godmother, the use of a magic ring or even the activities of a giant kangaroo.² Any combination of motifs that tells a story is a 'tale type', and it is tale types that provide the raw material for phylogenetic analyses of oral-written stories.

The *Little Red Riding Hood* story and its close relative, *The Wolf and the Kids*, have been found in 58 versions from numerous cultural traditions in Europe, but also in Africa and East Asia. On the assumption that the geographical concentration of tale types sharing the greatest number of defining motifs is likely to be the source of these tales, the indication is that this particular story originated as an oral tradition in the eastern Mediterranean at least 2,000 years ago, and was first written down in Greece as a fable in about AD 400. From here, the story spread along the Silk Road to China, across the Mediterranean to Africa, both orally and in writing, evolving different characteristics as it was adopted and reframed by other cultures.³

Phylogenetic analysis of such stories, like many of those quoted earlier in this book, holds great potential for understanding the ways in which particular tales evolved, and when and where they are likely to have originated. But whereas such analysis focuses on trying to understand the ways in which particular tales have changed across the

centuries and millennia that people have been telling (or reading) them, most of the Australian Aboriginal stories recounted here appear to have changed so little that their commonalities are readily detectable, whether they refer to coastal drowning or to volcanic eruptions and kindred phenomena.

In the cases of both the *Little Red Riding Hood* fairy tale and Aboriginal stories about the time, perhaps 10 millennia ago, when the Great Barrier Reef was the coastline, recent research has demonstrated with a high degree of plausibility that humans can pass on memories for several thousand years without the assistance of literacy. This, I feel, should make scientists of many different hues sit up and consider whether we have underestimated ourselves – whether, caught up in the whirlwind of literacy and all its attendant possibilities, we have discarded something valuable – its antecedents.⁴

So where is the edge of memory, the point in time beyond which humankind has no direct record?

It lies probably more than 10 millennia ago but perhaps nowhere near 20. It is not that a case cannot be made for the latter, but simply that applying the law of parsimony – which tells us to choose the simplest scientific explanation of the facts – makes it improbable.⁵ In this book, examples of oral memories of events that apparently occurred more than 10,000 years ago have been related, but the precise antiquity of many is difficult to assess, either because the event (like an eruption or a landslide) has itself proved difficult to date, or because the errors inherent in many dating techniques unavoidably reduce precision.

Consider the first of these points. With many ‘drowning stories’, for instance, the depth below the present sea level to which a particular story refers is often difficult to fix. For example, do the ubiquitous Aboriginal stories of the time when the Great Barrier Reef was the coastline refer to a sea level 10, 45 or even 65 metres below the present sea level? It makes a huge difference to the minimum age of these stories. And if a lava flow is too weathered to date directly, how close

are the 'minimum' or 'maximum' ages obtained from proxy eruption indicators to its formation? It also makes a difference.

Then you have the second point, the fact that most dating techniques are imprecise. Radiometric dating techniques produce results that are expressed as age ranges, a function of the techniques used. Other techniques, such as linking drowning stories to envelopes showing how sea levels changed in the past, often amplify those kinds of error.

But these are caveats. They should not deter us from pursuing ways of measuring the antiquity of oral traditions, of calibrating the longevity of memory.

Stories of coastal drowning from five places in Australia appear (see Table 4.1) to date from more than 9,000 years ago, and perhaps over 13,000 years ago. Of these five, the most compelling are likely to be those from Spencer Gulf (9,330–12,460 years ago) and Kangaroo Island (10,080–10,950 years ago). Elsewhere in the world, drowning stories of similar antiquity may be preserved for Baie de Douarnenez in France (perhaps 8,750–10,650 years ago) and Cardigan Bay in Wales (perhaps 9,000–10,250 years ago). There are many other drowning stories dating from more than 6,000 years ago.

Then there are other types of story, including the Australian Aboriginal memories of the Tyrendarra lava flow from Mt Eccles (more than 10,500 years ago) and the formation of the *maar* volcano at modern Lake Eacham (9,130 years ago), the explosive eruption and caldera formation at Mt Mazama in the western United States (7,600 years ago), and perhaps even the landslide-damming of the Citarum River at Tangkuban Perahu in Indonesia (16,000 years ago?).

Together, these data imply that human memories can remain alive for many millennia. Others, as yet undocumented, perhaps exist. We should consider the possibility.

As a final point in this book, consider that if the edge of our memories today lies 10 millennia or so in the past, what of people who lived earlier than this, in those times beyond the edge of memory?

Our species, modern humans, has been in existence for almost 200,000 years. For much of this time, oral communication has been the main form of knowledge transmission between individuals. But what happened to knowledge that was more than 10,000 years old, which slipped into the abyss over the edge of memory? It became forgotten – just as today much of our ancestors' knowledge has been forgotten. Was that forgotten knowledge important? Did things have to be rediscovered or reinvented because of that knowledge loss? Absolutely.

In our species' history, there are many examples of innovations that did not endure, ideas that probably made life easier for a time but did not last. One of the most obvious refers to the ability of humans to cross water gaps too large to swim. Consider the first people to arrive in Australia, who had to negotiate ocean gaps as much as 70km (43 miles) wide. Obviously they used boats or rafts that were able to make the crossing, a sufficiency involving not only boat-building technology but also maritime and navigational skills. Yet 65,000 years or so after they reached Australia, their descendants had no such skills, and were hardly able to sail far from shore in most cases.⁶ What happened? Was it simply a case of no longer needing an ability to travel long distances across the ocean, or was it that people just lost the knowledge of how to do so?

It seems that the history of our species has been marked by an alternation between knowledge acquisition and knowledge loss through gradual memory attenuation. It is probable that in societies that had to cope with especially harsh environments, like those of the Aboriginal Australians, optimally effective techniques for intergenerational knowledge transmission were evolved. Today we look at those societies in awe, as examples of how it might once have been for all of us.