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Time Capsules



The son of Danaë . . . slew the Gorgon, and, bearing her head adorned with locks of serpents, came to the islanders bringing them stony death. But, to me, no marvel, if the gods bring it about, ever seems beyond belief.

—Pindar, *Pythian Ode* 10 (trans. Race 1997, 363)

Evidence shows that people have had brains like ours for at least 100,000 years. By that time, as the excavated bones show, our vocal tract had developed for speech as we know it [Lieberman 1975, 1991]; and language could not have come into being without both an efficient vocal mechanism and the complexly structured brain necessary for language.

But if people were so smart—just like us—100,000 years ago, why do the myths they passed down often seem so preposterous to us? And not just to *us*. Even ancients like the Greek poet Pindar, who made his living telling such stories ca. 500 B.C., sometimes felt constrained to a disclaimer: “Don’t blame me for this tale!” The narrators present these myths as “histories”. Yet how can we seriously believe that Perseus turned people to stone by showing them the snaky-locked head of a monster, or that a man named Herakles (or Hercules) held up the sky for a while, slew a nine-headed water monster, moved rivers around, and carried a three-headed dog up from the land of the dead? Or that a man named Methuselah lived for almost a millennium? That an eagle pecked for years at the liver of a god tied to a mountain, or that mortal men—Beowulf, St. George, Siegfried, and Perseus included—actually fought dragons? And how can one view people like the Greeks or the Egyptians, who each believed simultaneously in three or four sun gods, as having intelligence? Didn’t they *notice* a contradiction there? Why did people in so many cultures spend so much time and attention on these collections of quaint stories that we know of as “myths”?

The problem lies not in differing intelligence but in differing resources for the storage and transmission of data. Quite simply, before writing, myths had to serve as transmission systems for information deemed important; but because we—now that we have writing—have forgotten how nonliterate people stored and transmitted information and why it was done that way, we have lost track of how to decode the information often densely compressed into these stories, and they appear to us as mostly gibberish. And so we often dismiss them as silly or try to reinterpret them with psychobabble. As folklorist Adrienne Mayor points out, classicists in particular “tend to read myth as fictional literature, not as natural history” [Mayor 2000b, 192]—not least because humanists typically don’t study sciences like geology, palaeontology, and astronomy, and so don’t recognize the data.

In order to understand how and why myths were constructed to encode real and important data, we must come to understand the possibilities—and hazards—for the collection, processing, and trans-

mission of information in nonliterate societies. Just how much can you keep in your head? Simply put, writing allows people to stockpile data in masses that are not possible when one must rely on memory alone, and it allows people to transmit as much as they want—without much compression—to future generations. Conversely, without writing, people had both to winnow out the key information, presumably according to perceived importance, and to compress it by any means possible until it fit into the available channel: human memory. We have come to term this overarching problem the Memory Crunch.

During two dozen years of empirical research on myths from all over the world, we found that many of these stories could be understood through a series of simple observable principles. These principles show how particular types of myths developed out of actual events: how people crunched down the information into the limited channel available for transmission, enhanced its memorability, then shot these little time capsules of knowledge down the pipeline to the listeners of the future.

Not all myths are of this type, of course, but many more of them turn out to stem from actual events and real observations of the world than twentieth-century scholars have commonly believed, and possibly all types of myths can be understood better through understanding the close relationships between myth, language, and cognition. At any rate, myths encoding verifiable facts proved the easiest place to begin recognizing the cognitive processes involved.

Working initially from a few myths whose historical or archaeological origins are independently known and verifiable, we first noticed a dozen or so rather specific principles. (One of us works principally in Old World archaeology and linguistics, the other in comparative literature and folklore.) This empirical list increased slowly to about forty principles, over the next fifteen years, as we happened on more and more usable data. Then, abruptly one day, they all collapsed down into four overarching principles, *each of which has clear correlates in linguistic process*. Why were we so surprised? After all, myth is transmitted through language, and it is the same human brain with its peculiar design features that must handle both language and the data it encodes *into* language. These myth principles start to make the inner workings of myth rationally intelligible on many levels.

Discussion of the four fundamental “mytho-linguistic” principles—Silence, Analogy, Compression, and Restructuring—forms the greater part of this book. For each, we present the more specific principles we discovered that fall under its sway, together with parallel insights about

language and a multitude of examples from world mythology. If Indo-European myths (especially Greco-Roman, Germanic, Slavic) and those of the Pacific Northwest preponderate, that is where the combined knowledge and interests of the present authors are strongest.

What this book is not about is archetypes, the stuff of C. G. Jung and Joseph Campbell. Those aspects of myth that appear “universal” are, in our opinion, the result of pitting human cognition against the small-channel problem just described—common responses to common problems.

Why would one want thus to “strip the veil of mystery” from mythology? Some people won’t want to; they don’t have to read this book. But for students of cognition, the practical structure of myth gives interesting new insights into the language-oriented brain that spawned myth. And for archaeologists, the decoding of myth provides the possibility of restoring a certain amount of actual history to the “prehistoric” world, the world before writing. Writing was invented a mere 5,200 years ago, but we have been speaking and presumably mythmaking for 100,000 or more. That’s a lot of history lost.

To recover what is left of these precious time capsules, we begin with some of the most transparent mythologies available and build our way, principle by principle, toward the knottier stuff.¹

¹ For the reader’s convenience, the Myth Principles from the entire book are reprinted together in the Appendix (pp. 245–51), in the order discussed, with hierarchical indentation.