

Legends of the Spanish Southwest. By Cleve Hallenbeck and Juanita H. Williams. Pp. 320, bibliography, index, map, illustrations. Glendale, California: The Arthur H. Clark Company, 1938. Republished by Gryphon Books, Ann Arbor, Michigan, 1971. \$15.00 cloth.

Review note by Sylvia Ann Grider.

Considering the current exorbitantly inflationary costs of printing and paper, it is curious that Gryphon Books chose to reprint verbatim a book of such slight value and interest as Legends of the Spanish Southwest without even so much as a comment or a preface to the new edition. Originally published in 1938, this collection typifies the exaggerated romanticism which enveloped folklore at that time and which folklorists today would just as soon forget. This is a book intended for the reading public which made Helen Hunt Jackson's Ramona a best seller and is typical of the supplementary readers which were used at one time in junior high school social studies classes throughout the Southwest. The twenty-eight "legends" are all sub-literary re-writes by the authors on about a fifth or sixth grade reading level and deal primarily with the romances and unrequited loves of the proverbial "dusky maidens" and "dashing caballeros." The collection even includes one of the ubiquitous lovers' leap stories so popularized by B.F. Skinner. (see "Antonia's Leap," pp. 139-41). There are, as to be expected in a work of this type and from this period, no notes and no sources for any of the material, although there are brief historical introductions for some of the selections.

The book is of absolutely no value or interest to a folklorist or any other serious reader, even as a "period piece," and hopefully it will not find its way again into the libraries of the public schools.

Legends of the Earth: Their Geologic Origins. By Dorothy B. Vitaliano. Pp. xiii + 305, illustrations, appendices, bibliography, index. Bloomington, Indiana, and London: Indiana University Press, 1973. \$12.50 cloth.

Reviewed by Sigmund C. Fredericks.

Ms. Vitaliano is a professional geologist who works for the Translation Center of the U.S. Geological Survey at the Bloomington Campus of Indiana University. In this volume she has combined mythology with the science of geology in order to create a new, mixed discipline, "geomythology," which "seeks to explain certain specific myths and legends in terms of actual geologic events that may have been witnessed by various groups of people (p. 1)." From

the outset it is clear that the book is intended for a popular audience and that most of the book is only a recapitulation of earlier scholars' theories and speculations.

The first three short chapters form an introduction to the subject. Chapter 1 contains definitions of the simplest sort, including terms like "myth," "legend," "folktale," and even "history." Chapter 2 makes the point that geomythology is mostly concerned with violent geologic disasters which have been striking enough to affect man's imagination. Spectacular human catastrophes are the stuff of myth and legend. Chapter 3, on the other hand, suggests that slow geologic changes are minuscule in their effect on the rise and fall of human culture. Most of these, like the glaciation that occurred during the last Ice Ages, were not even witnessed by modern man.

Throughout the rest of the book the author speaks of etiological myths, legends, and folktales which purport to explain the origin of geologic phenomena the world over. These include stories about striking natural landforms, volcanic eruptions, earthquakes, and floods. The mythical accounts are then counterbalanced with the modern geologist's explanation of these phenomena (see pp. 68-9 for a typical instance of her methods; here the molecular structure of the opal crystal is contrasted with folk superstitions about its supposed medical virtues).

Chapters 4, 5, and 6, however, are especially aimed at contrasting etiological stories with modern scientific explanations. Chapter 4 presents stories of striking landscape features said to have been created by gods, giants, and monsters (the Cliffs of Dover, Devil's Tower, Wyo., the Guillins of Inner Hebrides in Scotland), as well as many American Indian legends about the formation of mountains, rivers, and landforms like Puget Sound in Washington State and Hell's Canyon of the Snake River. The last part of this chapter takes up striking mineral formations like the Hawaiian "birth stones" and Australites or other tektites. Chapter 5 discusses earthquake lore: most of the myths are retold in the first half of the chapter, and the popular scientific account is reserved for the second half. At the very end Vitaliano offers a geologic refutation of folk beliefs about quakes, like massive clefts in the earth and planetary and tidal influences on their propagation. The subject of chapter 6 is volcano lore, in particular the Hawaiian volcano deity, Pele; others from New Zealand, Iceland, Japan, and Java are discussed more briefly.

There is a second kind of geomythical speculation that appears throughout the book, and I assume that these speculations are intended by the author to be the logical obverse of her geologic explanation of etiological myths. That is, whereas in the preceding cases she has only documented the geological naivete of

myths, now she attempts to show that myths contain a kernel of historical truth. The geomythologist has the legend or myth before him. Can he then find some geologic event in history, preferably a sensational cataclysm, to account for how the story got started? Everywhere Vitaliano enthusiastically responds "yes," and in fact she explicitly states that her theory is "with i euhemerism, meaning "the interpretation of myths as traditional accounts of historical. . . events (p. 1)." A typical example appears in pp. 89-91, where the older theories of Clapp ("34 in her list) and Harland ('98) are combined to relate the Old Testament legend of Sodom and Gomorrah (Gen. 19) to an earthquake in the southern environs of the Red Sea around 2000 B.C.

Most applications of the euhemeristic theory, however, are reserved for chapters 7 through 10. The first of these, taking up examples of flood myths from around the world (the famous Mesopotamian flood, that of Deukalion in Greece, the Eddic Ragnarok, and instances from South America), vacillates between two complementary reasons for the ubiquitous character of the myth: first, the almost universal character of floods themselves which are major disasters recurring around the world through human history; secondly, the literary appeal to the Biblical story of Noah which is so easily adopted by foreign cultures (American Indian story-tellers seem especially fond of it).

Chapter 8, 9, and 10 form one interconnected chain of hypotheses which seem progressively more farfetched. Chapter 8 discusses the prehistoric eruption of the volcano at Thera, the modern Greek island of Santorini. The author speculates about its date and its possible influence on the collapse of the Minoan empire, especially because of the aftermath effects of tsunamis (seismic sea waves) and tephra (volcanic ash). The allegedly parallel case of Krakatoa in 1883 is taken up again, and it soon becomes apparent that none of this chapter or any of the material in it is new. The author is retracing ground already covered by S. Marinatos (the first archaeologist at the site), G.A. Galanopoulos, J.W. Mavor, and J. V. Luce (nos. 146, 78, 156, and 143 respectively in her bibliography).

But for those who are interested in Vitaliano's personal views, I mention that she considers Atlantis a combination of Thera and Minoan Knossos. In line with her own study of the layers of tephra at Santorini, she posits two phases for the volcanic disturbance: the first destroyed and buried Thera, the second a generation or more later wrecked Crete and its empire (p. 206). In pages 209-217 she even includes a racy journalistic account of the whole business, but this is, by her own ironic admission, "science fiction."

In chapter 9 the author, piling hypothesis on hypothesis, tries to relate the Santorini eruption to Plato's story of the fall of Atlantis as told in the dialogues *Critias* and *Timaeus*. Following Luce and Galanopoulos for the most part, she then extends the theory to explain a whole range of other Greek myths: Jason and the Argonauts, Talos, Deukalion, Theseus and so on.

Chapter 10 is still more conjectural than its two predecessors. A major portion is given over to a geomythical reading of miracles described in the Biblical Exodus. Vitaliano resorts again to the eruption at Santorini to account for the plagues which devastated the Egyptians and then for the parting of the Red Sea (but not for manna, it seems); then to opt for a Cretan origin for the Philistines, a race important in the Old Testament but otherwise enigmatic. Finally, the book ends with a rash of speculations that famous Greek myths might also owe their origin to the same volcano. Phaethon: because volcanic dust suspended in the atmosphere caused extraordinarily brilliant sunsets. Alcmena: the myth tells of her 3-day love affair with Zeus--is it because the sun was blackened for just that long? The floating island of Delos: really, as Luce tells us, a floating bank of pumice stone. Icarus: some think the story originated from a volcanic bomb, others that it started with a meteor. One should also mention in this context the notion in the earlier chapter 9 (p. 246) that the Bull from the Sea which rose up to kill Hippolytus was perhaps a tsunami.

To this reviewer the book appears as a total failure in the areas of theory of myth and comparative mythology. In the passages concerned with geologic explanations for etiological myths, it seems that the myths are recounted only as examples of bad science. Indeed, Vitaliano makes only the most common sort of disjunction between myth and science, and there is no "relation" between them at all except in terms of rhetoric. Vitaliano herself admits that most of the book is in fact an "offbeat framework" (p. xii) to give a popular scientific account of the speculations, researches, and discoveries of modern geologic science. The first six chapters thus really offer no interpretations of myths. The author mainly debunks myths by saying they are in error and then by correcting the error. Thus "geomythology" is only a catchy, but artificial neologism.

Correspondingly, Vitaliano's knowledge of all the mythologies under discussion, but the Greek in particular, is solely popular handbook: Edith Hamilton appears in her list; on p. 50 she reports Bullfinch's discredited views on the myth of the creation of the Atlas mountains; p. 138 purports to relate the legends of the Hundred Hands and the Cyclopes to violent climactic forces like earthquakes, thunder, lightning, and hurricanes (?!), but

the passage is riddled with elementary errors about Greek theogonic myth. Likewise, regarding her discussions in chapters 7 and 9, it has apparently never been brought to her attention that the Near Eastern precedents for stories like Talos, Deukalion's Flood, and the divine succession myth are now well recognized. She prefers to resort to the local disaster at Santorini to explain the stories. It is generally the case, too, that she favors tsunamis as the major source of flood stories because they cause such spectacular disasters (stated explicitly p. 150). However, I have my own suspicions that tsunamis are paraded about so often mainly because they offer just the most recent in a long tradition of quasi-scientific ur-explanations of so-called "ancient mysteries" like Atlantis and Noah's Deluge.

On the other hand, when she tries, in the last four chapters, to suggest ways in which myths might be "true," Vitaliano resorts to pure genetic fallacy. Her outdated theory that myths explain natural phenomena is now universally recognized as of limited value. Has the author never heard of a twentieth century theory of myth (Structuralist, Symbolist, or whatever)? She repeatedly refers to outdated books, like Frazer on the Flood legends ("63 in her list) or Guerber on Norse myths ("91). Of course, these exemplify that same old outdated theory of myths as dealing with natural phenomena and thereby reinforce her own presumptions. Most of the time, then, there is no well-documented catastrophe behind the myth, only some earlier scholar's conjecture that there must have been such a catastrophe--otherwise, why the myth?

I dispute the assumption that myths of human catastrophe have to be based on events which really happened. Geomyths belong to a much larger class of myths which deal with the mutable relationship between man and his world. These focus man's attention and imagination on his own vulnerability before the powers of nature which operate, potentially with catastrophic effect, in his world. Is it really necessary to posit actual, specific disasters to account for such myths? The author might well have considered Mircea Eliade's Cosmos and History for the role of catastrophe myths in the context of archaic metaphysics. Taking figurative or symbolic meanings for literal, historical ones, as Vitaliano does, can never explain the popularity of catastrophe myths, either for their amazing survival value in their own cultures or for their wonderful adaptability to other cultures where there is no "empirical" basis for receptiveness to the myth. Geologic science cannot account for the imaginative appeal of myths like the Deluge or Atlantis.

As far as the reasoning of the last three chapters is concerned, I find several specific problems. Regarding chapter 8, the author's reportage of her own geologic discoveries in a recent field trip

cannot resolve any of the problems of chronology. Volcanology is simply too "gross" a scientific tool to tackle the precise chronological distinctions which are required. Only archaeology and its specialized subdivisions can add anything new here, and it is obvious that volcanology works with far larger scales of temporal measurement and margins of error than are useful for the Minoan-Mycenean problem.

Chapter 9 shows the author in a bad light. To follow an unreliable guide like Galanopoulos, as she does, is only to perpetuate a pseudo-scientific myth like Atlantis, not to bring new evidence to bear. It is simplest to say that Atlantis theories form a symbolic order all their own, each new theory enriching the tradition and refining its imaginative appeal. Atlantis buffs will never be convinced that this is just one among many myths that Plato told throughout his dialogues and that it simply does not deserve the special shrine built for it in the popular imagination.

I am even more unsympathetic to chapter 10, where the volcano theory is extended to explain so many diverse myths that it becomes a monomaniacal pseudo-science of the Velikovskian type. In particular the author overuses Galanopoulos again. The Atlantis chapters are intended to be the showpiece of the book but are the most questionable.

In sum, "geomythology" need not be taken seriously as a new scientific or humanistic discipline. The author succeeds only in her popular survey of modern geologic science. In the areas of prehistoric archaeology, cultural anthropology, and comparative mythology she is at best uninformed, and at worst she has a habit of reporting crank theorists, thus making her book look like an encyclopedia of unproven, ill-founded, or even discredited hypotheses about the origin of famous ancient myths.