

## BOOK REVIEWS

**The Time of Darkness: Local Legends and Volcanic Reality in Papua New Guinea.** By R. J. Blong. Seattle and London: University of Washington Press, 1982. Pp. xi + 270, illustrated, bibliography, indices. \$25.00, cloth.

Reviewed by Dorothy B. Vitaliano

This very competent and very thorough work is concerned almost entirely with the documentation of a cataclysmic volcanic eruption which occurred in Papua New Guinea over three hundred years ago. Because the historical record for that part of the world is far from complete, the documentation had to rely not only on the stratigraphic record, but also on local legends.

Chapters 2 through 6 (of interest mainly to volcanologists) concern the identification of two New Guinea tephra\*, the Tibito and Olgaboli, and their distribution. The latter is found at too few sites to permit pinpointing its source, but the more abundant evidence concerning the Tibito Tephra leaves no doubt that it was erupted from Long Island, off the coast in the Bismarck Sea, and that it was extremely violent.

Given the magnitude of the eruption, it would be surprising if accounts of the tephra fall and its effects were not to be found on the mainland, particularly in areas remote from recently active volcanoes where a tephra fall would be very unusual, interesting, and possibly hazardous. The most memorable effect associated with any great tephra fall is the darkness produced when the sun is obscured by volcanic ash in the atmosphere (as in the case of Krakatoa in 1883), and legends of a time of darkness are indeed

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\*Tephra is a term for all airborne pyroclastic material erupted from a volcano; it is frequently used to indicate only airfall volcanic ash, as in this case.

numerous in the area of distribution of the Tibito Tephra. The greater part of this book is devoted to a very detailed investigation of those legends, and thus should be of considerable interest to folklorists.

The study used a variety of sources, but the main information came from the circulation of a questionnaire. The largest group of respondents were field personnel of the Summer Institute of Linguistics and social anthropologists from various universities; replies were also received from missionaries and patrol officers with many years' experience in Papua New Guinea. Other information was culled from the literature. Most of the data met many of the requirements of the oral historian.

Preliminary analysis of the information (Chapter 7) established a body of 56 traditions recounting the story of a time of darkness or ashfall, and most of the informants believed it was an actual event. Chapter 8 finds that 43 of the 56 traditions quite definitely stem from the deposition of the Tibito Tephra, and that most of the others possibly are also part of this coherent group. Then two major aspects of the legends are examined-- the physical characteristics of the tephra fall (Chapter 9) and the effects of the tephra fall (Chapter 10). Chapter 11 discusses issues arising from the analysis of the legends and finds that despite variations in detail, there is a general sense of a westward decline in the severity of the experience (i.e., away from the volcano), a trend that is reinforced by the general idea that the time of darkness was regarded as harmful in the eastern part of the distribution area but as beneficial, broadly speaking, in the western.

Chapters 12 and 13 compare the reality of the physical characteristics and effects of the Tibito Tephra (as described in Chapters 9 and 10 and in reports of known tephra falls) with the physical characteristics and effects described in the legends, and Chapter 14 discusses the dating of the eruption on the basis of genealogies, historical and volcanic evidence, and various geological dating methods.

On the basis of the analyses presented in the preceding chapters, the last chapter concludes that the Tibito Tephra eruption was one of the greatest in the last thousand years; that the legends of the time of darkness within the

area of distribution of that tephra must stem from its deposition; that these legends can be regarded as essentially accurate historical accounts of an actual event (except that the duration of the darkness is exaggerated in almost all versions); and that the best estimates of the timing of the eruption and tephra fall indicate a mid-seventeenth century date (in which case the genealogical dates are very seriously in error).

A discussion of a number of implications and questions arising from these conclusions, not only for volcanologists but also for students of anthropology and oral history, concludes Chapter 15.

Four appendices give, respectively, a list of sample descriptions and analytical results; an analysis of the factors influencing the spread of values in samples identified in the field as the Olgaboli Tephra; two versions of the Long Island legend; and the questionnaire circulated in 1976-1977. In addition, there is a glossary of volcanic terms, more than 9 pages of references, a subject index, place-name and linguistic-group index, and author and informant index.

Although this is not the only known instance where legends have been useful in solving a volcanological problem-- for instance, the German volcanologist Jörg Keller used a legend concerning St. Calogero, a seventh century hermit on the island of Lipari north of Sicily, to date the last pumice eruption of the Lipari volcano<sup>1</sup>-- it is without doubt the most voluminously documented and thoroughly analyzed instance. Folklorists and anthropologists may skip over the details of the volcanological data and geologists and volcanologists may skim through the details of the legends and their analysis, but both should appreciate the fact that a comparison of scientific data with oral history can be mutually beneficial at times.

#### NOTES

1. Jörg Keller. Datierung der Obsidiane und Bimstoffe von Lipari, **Neues Jahrbuch für Geologie und Paläontologie, Monatshefte**, no. 2 (1970), 90-101.