

R. J. Blong, *The Time of Darkness: Local Legends and Volcanic Reality in Papua New Guinea*. Canberra: Australian National University Press, 1982. Pp. xi, 257, figures, tables, glossary, references, indexes, appendices, \$A23.95.

Using methods of oral transmission alone, Pacific peoples have produced and preserved rich bodies of literature of several genres including legends, those stories regarded by their tellers and hearers as rooted in actual historical events. Across Papua New Guinea one finds a number of roughly similar legends about a "time of darkness" when, purportedly, the daytime sky grew dark and ashes or other strange material rained on the land. In that highly volcanic part of the southwestern Pacific it is surely plausible that such stories refer, in some fashion, to the aftermath of real eruptions. Establishing definite links between particular legends and dateable eruptions could be of great significance to anthropologists and others who attempt cultural reconstructions in a region where historical and other observational records are few and only recently initiated. In some areas events such as the introduction of sweet potatoes are associated with the legendary "time of darkness" and many other clues to past customs and circumstances fill the stories, lacking only a clear temporal context.

In *The Time of Darkness*, R. J. Blong attacks the problem of linking "local legends and volcanic reality" from the standpoint of a geomorphologist. His inquiry began in the Mount Hagen region of the Western Highlands, where layers of tephra (volcanic ash) coexist with a local Melpa legend, the details of which suggested to Blong the possible utility of such sources in learning about eruptions that were not witnessed or recorded by European observers. A decade later, the scope and potential significance of his project have expanded considerably. He believes that he has

now succeeded in identifying and dating the eruption that deposited a tephra that covers much of Papua New Guinea and that also served as the impetus for most of the “time of darkness” legends occurring there. The development of his thesis involves complex and highly varied source materials and analytic techniques, required by the several distinct lines of investigation he has pursued. In general the argument seems persuasive, but close reading discloses methods and interpretations that surely will stimulate debate. It is to Blong’s credit that the organization of the discussion makes it easy to follow and evaluate.

Long-term archaeological excavations at the Kuk prehistoric site near Mount Hagen have now revealed a number of tephra layers deposited over the past 30,000 years. The youngest of these, radiocarbon-dated at c. 240 BP, Blong names the Tibito Tephra (hereafter TT). In chapter 2 he describes some of the problems involved in discriminating clearly among tephtras, which are subject to disturbance, and outlines the physical characteristics by which TT might be distinguished from others in field surveys. Chapter 3 concerns the geographical distribution of TT which, according to analysis of samples collected from a number of locations, is found over an area of more than 84,000 km² in Papua New Guinea, suggesting an eruptive source of staggering magnitude. The discussion of analytic techniques is punctuated with cautionary notes and qualifications, and geomorphologist readers might take issue with Blong’s interpretations in this phase of the study.

In chapter 4 he reviews the geomorphological evidence that leads to his elimination of the possibility that TT was deposited by any mainland Papua New Guinea volcanoes. By process of elimination only the western arc of the Bismarck Sea is left as a source and various candidates there are also rejected (although not all have been studied thoroughly by vulcanologists). Finally, Blong arrives at Long Island (Arop Island) as “the only likely source” (p. 46). Chapter 5 surveys radiocarbon dating and geochemical evidence supporting this conclusion, and chapter 6 compares the distribution and volume of TT with those associated with other major eruptions worldwide, leading to a judgment that “the eruption of Tibito Tephra ranks among the great eruptions of the last few centuries” (p. 68), with a scale and magnitude quite capable of inspiring legends even hundreds of kilometers away.

In chapters 7-10 Blong turns to the analysis of “time of darkness” legends, addressing several main questions: How many of these widespread stories refer to ash falls (vs. solar eclipses, hailstorms, etc.)? Can they be considered versions of the same story, i.e., rooted in the same eruption, and was it the one that produced TT? If so, what can we learn about that

event from the physical characteristics and effects reported in the legends? Blong tries to answer these questions by examining a collection of stories and other information gleaned from published works and, mainly, responses to a detailed questionnaire he sent to anthropologists and others with access to oral traditions. His survey was not exhaustive and the resulting coverage is very uneven in both regional and cultural terms, although many different parts of the country are represented in his final sample of fifty-six "accounts" (not all of which are legends) which he judges to be "almost certainly related to tephra fall" (p. 85).

Assuming in each instance that the legends derive from the most recent tephra fall in the region, and identifying TT as the youngest tephra in most of the areas involved, Blong confidently concludes that "the link between the time of darkness legends and the fall of Tibito Tephra [is] firmly established" (p. 95). He then proceeds with a superficial content analysis of the accounts, only a few of which are included in the book for others' inspection (but all of which have been published previously, if somewhat obscurely, in *Oral History*, 1979, 7(10):1-135). The unevenness of information available in these sources is evident as he tries, usually unsuccessfully, to generalize about the duration of the darkness, particle size of the material that fell, and other physical characteristics, and the same is true with regard to legendary effects of the fall on gardens, houses, livestock, and people (chapters 9 and 10). Repeatedly he is forced to work with varying numbers of accounts for each variable and faced with interpretive difficulties in dealing with many different original source languages, the translations of which are not necessarily consistent across cases.

In chapter 11 Blong discusses these and other problems, including inconsistencies among different accounts from the same location, and variation in the stories due to differential embellishment, stylization, and selectivity in emphasis. Finally, he is forced to conclude that "few meaningful spatial patterns emerge and few accounts can be grouped as similar . . . when all or even most analyzed variables are considered together" (p. 134). However, so far as some variables are concerned when considered alone, enough similarity exists to regard most of the highlands legends, at least, as stemming from the fall of TT. Proceeding from this premise he turns to accounts recorded by European observers of comparable eruptions elsewhere in the world to determine whether their descriptions resemble those in the legends.

Using both scientific and popular literature, Blong again is plagued with uneven information. With respect to both the physical characteristics (chapter 12) and the effects of tephra falls (chapter 13), the Eu-

Europeans' accounts appear to show as much inconsistency and variation as do the legends, although comparisons are neither quantified nor systematically summarized, but merely illustrated with examples. The inadequacies of the records left by literate observers reportedly preclude "a more detailed examination of the veracity of the various legendary accounts" (p. 175).

At this point Blong's painstaking and multifaceted labors might be viewed as coming to grief in much the same ways as have numerous attempts by anthropologists and folklorists to ascertain the degree of correspondence between the world as described in oral literature and the world as actually experienced by its authors. Even when independent and reliable evidence has been available for comparison, the results have been decidedly mixed. With regard to the historical accuracy of legends, probably most such analysts would agree that one should not expect much. This is partly due to factors recognized by Blong, such as the inevitable loss (and addition) of informational details through generations of oral transmission, and partly because of distortion that arises through stylization and deliberate manipulation of "the facts" for ideological and other purposes. Indeed, in the view of many specialists, legends must be understood as having quite other purposes than the storage and transmission of "historical facts."

Apparently unaware of or unconcerned with such considerations, Blong takes a surprising next step. After acknowledging the limitations of his sample legends and noting similar problems with Europeans' reports, he concludes that since "the time of darkness story" (note the singular) is "in most respects as accurate an account as are European accounts of tephra falls," we should accept it as "an accurate historical report" (p. 176). Apparently his earlier warning that the European accounts "should not be accepted uncritically as accurately recording the physical characteristics of a tephra fall" (p. 173) does not pose a contradiction, or at least a questionable use of reference points, for Blong.

Confident that he "has demonstrated not only the essential veracity of the time of darkness legends [note the plural; such alternation is common toward the end of the book] but also that most of the legends refer to the same tephra fall, namely that stemming from the cataclysmic eruption of Long Island" (p. 177), it remains only to date the event. Again, however, the legends are problematic (chapter 14). Genealogical studies of Enga people of the Western Highlands yield estimates for the time period referred to in their legends as ranging from 1803-1899, but this timing of the Long Island eruption seems precluded by European mariners' descriptions of the island during that period. The latter's reports (apparently con-

sidered accurate) suggest instead a major eruption during the eighteenth century or prior to 1680. Legends and genealogies on Long Island itself indicate a time span from 1630-1680, but Blong admits that "most" estimates point to a late eighteenth or early nineteenth century eruption. Geomorphological evidence from the volcano, unfortunately, allows "no firm conclusion" (p. 189).

Conceding that the failure of convergence of all the lines of evidence leaves it a matter of "personal preference" as to how to weight them, his choice is to accept the historical accounts regarding Long Island and the radiocarbon dates from material in or surrounding tephra beds at Kuk and on Long Island, and conclude that the eruption occurred "almost certainly in the mid-seventeenth century (say 1630-1670)" (p. 193). Regarding the legends as "essentially accurate historical accounts of an actual event" (p. 195) which he has now located and dated, Blong draws general implications in chapter 15. Wondering what other events have been dismissed too readily as merely legendary, he offers the present study as an example of how much we can learn by treating such sources with the respect they deserve.

It is difficult to share Blong's confidence that he has in fact demonstrated the veracity of the legends or, indeed, many of his other conclusions. We surely learn here how much we do not know, geomorphologically, about Papua New Guinea, and we realize the difficulties encountered in the analysis of legends--difficulties that would likely remain even with larger, more representative samples subjected to systematic analysis. For anthropologists, the study could be seen as reinforcing the view that legends are not, and are not intended to be, "accurate historical records." Blong's efforts can be used profitably as a pilot study, conducted ingeniously around a potentially fruitful hypothesis, but methodological weaknesses and debatable leaps of interpretation and inference somewhat dim the light reportedly shed on "the time of darkness."

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