

to Watkins' discovery that Rig Vedic *kaprthám úd dadhātana* 'raise high the phallus' and Lyric Greek *anáget'*, *euruchōlan* (... *poiéite*) 'stand back (make) plenty of room' have the same scansion, are both second plural imperatives, and both occur during the presentation of a phallus (1995: 160), are not possible until the texts that contain these passages are published in full in the original.

With the achievements of Indo-European linguistics still in mind, it is disappointing that linguists contribute the least to the book under review. Nothing in the contributions of George van Driem (pp. 187–211) or Mark Post (pp. 153–186) is here published for the first time. Although unoriginal, van Driem's essay is un-problematic. In contrast, Post's paper presents problems. Post's proto-Tani-forms are nowhere explained or defended (p. 174 et passim). He postulates the erstwhile influence of a *lingua franca* in the history of the Tani language family without evidence (p. 164). He is likewise over-eager to see a substrate at work in Tani and Milang. Obvious cognates are at hand for many of the words he says "have scarce or non-occurring cognates elsewhere" (p. 179): Milang *ɲot-* 'bite', Lashi *ɲa:tʰ¹*, Risianku Tamang *ʰɲat* 'chew', etc.; Milang *m-* 'request', Tib. ལུ *zu* < \*ɾju (cf. Tib. ལག *zag* 'day', Bur. རྒྱུང *ryak*); proto-Tani \*ɾjap 'door', Bur. རྒྱུང *ryap* 'to stand, stop'; pTani \*puk 'arrow', Tib. √pug 'pierce' (pres. རྒྱུང *hbigs*). When one considers both that Tani at times has *r-* where other languages have *l-* (e.g. pTani \*pri 'four' versus Tib. བཞི *bzi* < \*bli, OBur. ལྷོ *liy*, Chi. 四 *sijH* < \*.lij-s) and that as yet unaccounted for variation between -ik and -iŋ reoccurs in cognates across the family (e.g. Tib. སྨི *sñin* 'heart', Lashi *nəkʰs⁵-*), Post is mistaken to claim that proto-Tani \*rik 'field' is not cognate with \*liŋ (cf. Tib. ལྷི *zin* < \*liŋ 'field', Kurtöp *Lley*, and Chi. 田 *den* < \*liŋ, etc.). Post discusses the *Wörter und Sachen* method, but refrains from engaging in it himself, with the contradictory explanations that "data published to date is [sic] insufficient" (p. 165) and "space prevents me from providing large lists of such forms here" (p. 166). He devotes ten pages (pp. 169–179) to a discussion of whether the Tani languages are more Indo-spheric or Sino-spheric, despite himself concluding in a previous paper that Matisoff's theorization of languages into a Sino-sphere and Indo-sphere is erroneous.<sup>7</sup> Why invite readers to relive this *Irrweg*? Despite these many oddities, it is Post's vision of the boundaries between disciplines that most shocks; he suggests that preparing "large compendia of well-transcribed, analysed and translated legends/folktales" (p. 182) is a task for others, not linguists like himself. If descriptive linguists hold themselves aloof from the documentation of traditional literature the future of comparative research on the languages of this family is bleak. [nh36@soas.ac.uk](mailto:nh36@soas.ac.uk)

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TAMBORA: THE ERUPTION THAT CHANGED THE WORLD. By GILLEN D'ARCY WOOD. pp. 293. Princeton, Princeton University Press, 2014.  
doi:10.1017/S1356186314000467

The eruption of Vesuvius in AD 79, for all its worldwide fame as the destroyer of Pompeii and Herculaneum, had no lasting impact on the Roman empire. The equally famous eruption of Krakatau, west of Java, in 1883 ejected enough volcanic dust to produce a dramatic impact on the earth's atmosphere and on the developing science of volcanology, but had no significant effect on international

<sup>7</sup>M. W. Post, "Prosody and typological drift in Austroasiatic and Tibeto-Burman: Against 'Indosphere' and 'Sinosphere.'" In S. Srichampa, P. Sidwell and K. J. Gregerson, Eds., *Austroasiatic Studies: Papers from ICAAL4*. Canberra, Pacific Linguistics, 2011: 198 – 211.

politics and economics. Yet, the far larger eruption of Tambora, east of Java, in 1815—though far less well known than the eruptions of Vesuvius and Krakatau—really did “change the world”, as Gillen D’Arcy Wood claims in the subtitle of *Tambora*. His remarkable, even pioneering, book is the first to discuss the Tambora eruption as a global phenomenon afflicting Asia as well as Europe and America. Five years in the making (including a visit to Tambora) but wearing its research lightly for the benefit of the general reader, the book gathers together and synthesises reliable evidence from 1815–19 and after—such as the eyewitness eruption report of a surviving local *raja*, graphic poetry about famine by a Chinese farmer, Li Yuyang, and cholera reports by a Calcutta physician, James Jameson—with subsequent academic studies ranging right across the humanities and the sciences.

Tambora’s eruption and its aftermath unquestionably deserve to be resurrected, studied and contemplated—not only because they are fascinating but also because of the alarming warning they contain about the likely effects of current and coming human-made climate change. On the downside, the eruption was the cause of transcontinental famines in India, China, Europe and the United States; of a global cholera epidemic starting in the Indian province of Bengal with an eventual nineteenth-century death toll running into tens of millions; of an exponential growth in the opium trade starting in the Chinese province of Yunnan; and of the first ‘great’ depression in US history, which financially ruined the farmer and former president Thomas Jefferson. On the upside, it stimulated “the first speculative steps towards Ice Age theory” and “a golden age of Arctic literature, science and navigation”, writes Wood, “a great leap forward in the sciences of agriculture and meteorology” (including the first weather map), as well as “the tentative emergence of a modern, liberal idea of the state, in which government’s responsibilities expanded, in the minds of many, to include the welfare of its citizens in times of crisis” — a reference to the British government’s reluctant response to a famine and typhus epidemic in Ireland in 1816–18.

Less directly, Romantic literature was strongly influenced by the bizarre weather of 1815–18 created by the unnoticed eruption on the other side of the world. Mary Shelley’s novel *Frankenstein*, written in 1816–17, was one of the outcomes, as is well known. So too, Wood persuades the reader, was John Keats’s celebratory ode, ‘To Autumn’ (“Season of mists and mellow fruitfulness,/Close bosom-friend of the maturing sun . . .”), written in 1819, the year in which the weather around the world at long last returned to its pre-eruption pattern. Later still, in 1826, Mary Shelley published her novel, *The Last Man*, based on descriptions of cholera coming out of India, in which a mysterious plague arises from ‘perturbation’ of the atmosphere. Thus, “not one but two of Mary Shelley’s novels may now be traced to Tambora”, writes Wood, who is well equipped to make such connections as a professor of English at the University of Illinois venturing into cultural and environmental history (with much assistance from geophysical, medical and climate scientists, as he is happy to acknowledge).

Much of the book, inevitably, concerns areas outside Asia. But three chapters are devoted solely to Asia. The first one, ‘The Pompeii of the East’, deals with the terrifyingly destructive eruption itself, on the island of Sumbawa, while two subsequent chapters, ‘Blue death in Bengal’ and ‘The seven sorrows of Yunnan’, discuss in detail the Indian cholera epidemic and the spread of famine and opium production in southwest China.

Essentially, in India the eruption drastically disrupted the monsoon in 1816 and 1817, causing disastrous droughts and floods in the Ganges delta, leading to famine and heavy fatalities. Precisely how this situation went on to provoke a cholera epidemic—which decimated the troops of the East India Company under Lord Hastings at Gwalior with “indescribable violence”—has long been controversial, entangled for decades in the debate between proponents of air-borne (‘miasma’) cholera transmission versus water-borne transmission. Since the complete sequencing of the cholera genome in 2000, it now seems likely that climate change altered the temperature, salinity and alkalinity of the cholera bacterium’s aquatic habitat. This caused genetic mutation of the bacterium, “by which the post-1817 pathogenic strains of the bacteria separated themselves from their benign or strictly

endemic marine ancestors” in the Bay of Bengal, though the details of this process of mutation remain mysterious.

In Yunnan, as a result of the eruption, the Himalayan plateau never warmed during the summer of 1816. The Tibetan plateau behaved as it did in winter, rather than summer, channelling cold air southwards and eastwards towards the Mekong peninsula. At the same time, the Indian Ocean—which was unusually cool (hence the failure of the monsoon)—failed to produce its usual warm winds to counteract the cold northerlies from Tibet. The harvest was blighted by cold winds and incessant rain. The resultant crop failure and famine in Yunnan—a province normally blessed with high agricultural yields—lasted until the summer of 1818. “There are no words for the bitterness of/An empty September. The flood-drowned fields/harvest three grains for every ten of a good year./And from these three grains? Meals and clothes till next September”, wrote Li Yuyang in his first post-Tambora poem, ‘A sigh for autumn rain’. In due course his poetry fell silent, and after 1818, having survived the famine, he became a recluse. But other despairing Yunnanese farmers, anxious to make money reliably, turned from food to opium production around this time. By the beginning of the twentieth century, almost half of the adult males in Yunnan were opium addicts. The Tambora period marks the emergence of the modern international illicit drug trade, Wood grimly notes.

He ends his enjoyable book on an even more sobering note: “Two centuries on, the global ranks of the wretched are set to increase exponentially in coming decades at the hands of our own climate ‘Frankenstein’, a monster who feeds on carbon waste and grows more violent year by year. Failure to draw down the carbon emissions and rampant deforestation that drive climate change brings us ever closer to the traumatised world of 1815–18 writ large.” In 1816–17, the Arctic Ocean became astonishingly ice-free as a result of Tambora; but after a couple of years it froze over again, as the volcanic dust dissipated from the atmosphere, before Britain’s disappointed navy could sail through the fabled northwest passage from the Atlantic to the Pacific Ocean. Today, the Arctic ice is again rapidly disappearing. But now humans, not a volcanic eruption, are responsible for the warming ocean. This time around, we may be sure that the polar ice will not return so conveniently. <[andrew.robinson33@virgin.net](mailto:andrew.robinson33@virgin.net)>

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ZHUGE LIANG: STRATEGY, ACHIEVEMENTS AND WRITINGS. By RALPH D. SAWYER and MEI-CHÜN SAWYER. pp. xii, 260. CreateSpace Independent Publishing Platform, North Charleston, South Carolina, 2014. doi:10.1017/S1356186314000509

*Zhuge Liang: Strategy, Achievements, and Writings*, is focused on Zhuge Liang 諸葛亮 (181–243 CE), a minister and commander during the Three Kingdoms period (220–280 CE), that is the period when China was divided into the states of Wei (220–265 CE), Shu (221–263 CE), and Wu (229–280 CE). While this book claims to be “intended for a broad audience” (p. xi), sinologists will find it useful as well. Not only is it the first book-length English treatment of the titular figure, it also offers substantial coverage of military thought in early medieval China, a topic that has so far not received much attention even in a most recent sourcebook.<sup>1</sup> Except in the title, the author adopts the Wade-Giles

<sup>1</sup>Wendy Swartz *et al.*, (eds.), *Early Medieval China: A Sourcebook* (New York, 2014).