

## 1888年磐梯山水蒸気爆発に関するノート

— (3) 1888年の水蒸気爆発論考に潜むジレンマ —

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Notes on the 1888 Phreatic Explosion at Bandai Volcano  
(3) Hidden Dilemmas in Interpretation of the Mechanism  
of the 1888 Phreatic Explosion

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A great phreatic explosion at Bandai volcano on 15 July 1888 was accompanied by a huge rock avalanche that flowed northward and strong windblasts and mudflows that flowed southeastward. This extraordinary eruption occurred at the dawn of modern Japanese civilization during the middle Meiji era when the Imperial University of Tokyo began to introduce to their curriculum for systematic studies of scientific theory developed in the western world.

Although more than 120 years have passed since the eruption, no firm conclusions have been reached about the mechanism of the 1888 phreatic explosion at Bandai. This is partly because statements and interpretations by Sekiya and Kikuchi (1890) were based on circumstantial evidence from their own observations and those of local inhabitants, and partly because in their 1890 paper, Sekiya and Kikuchi chose to disregard scenarios for the eruption other than the one they published in Japanese. However, after a critical review of their paper and related reports written in Japanese, we found evidence that Prof. Sekiya (the first Japanese seismologist) and Associate Prof. Kikuchi (a young and spirited geologist) had different opinions on the mechanism of the 1888 eruption. Therefore, they faced several dilemmas when preparing their paper for publication. For example, they disagreed on whether the explosive source was beneath Kobandai-san (the collapsed edifice after the 1888 eruption) or beneath Numanotaira (the old crater). Prof. Sekiya appears to have overruled his junior colleague: their published interpretation of events was based on Humboldt's (1849) outdated views on the causes of earthquakes and volcanic eruptions. Associate Prof. Kikuchi favored the more modern theory of volcanism of Scrope (1862), but consented reluctantly to Prof. Sekiya's interpretation of the mechanism of the 1888 eruption. Here, we provide a detailed discussion of how the dilemma faced by these scientists developed and reveal that they were deeply affected by mid-19th century controversies in geological theory as espoused in the western world. We must take into account that Japanese geologists of that era generally accepted the western world's theories about the causes of earthquakes and volcanic eruptions, some of which are now seen to be fanciful.

**Key words:** volcanism, Bandai volcano, phreatic explosion, scientific dilemma

## 1. はじめに

磐梯山水蒸気爆発の噴火位置, 規模やメカニズムなど

については様々な解釈があり, いまだに混迷した状態が続いている. 例えば, 最初の噴火位置の同定についての

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