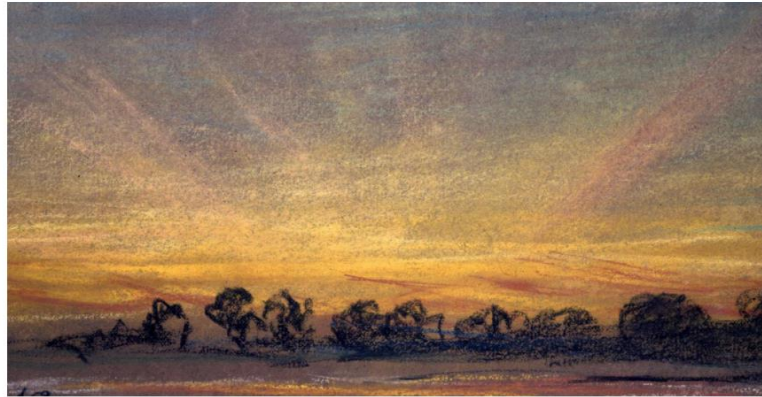


WEATHER EYE

Wondrous twilight skies were caused by Krakatoa

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Thursday October 21 2021,
12.01am BST, The Times

A sketch by William Ascroft documenting the effects of the eruption of Krakatoa in August 1883
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On the evening of September 5, 1883, people in Honolulu gazed in awe at a spectacular sunset, followed by a vivid and long-lasting twilight. The remarkable twilights carried on for weeks. No one could work out why the skies were glowing so dramatically but one Honolulu resident was keen to find out. The Rev Sereno Bishop was an avid amateur scientist and recorded the strange skies but had no idea what caused them. It wasn't until the San Francisco newspapers arrived in Hawaii that he realised there had been a volcanic eruption at Krakatoa, in what is now Indonesia. And he pieced together a theory to explain the twilight phenomena, published in a letter to his local newspaper.

"I am disposed to conjecture that some very light element among the vapours of the Java eruptions has continued at a very great height in the atmosphere, and has been borne . . . across the Pacific into this region," Bishop wrote. And he suggested that the volcanic "vapours" had caused the astounding twilights.

He then asked for reports of when these remarkable twilights were first seen around the world. "I earnestly invite, on behalf of science, all shipmasters and mates to publish what they may have observed at sea," he asked in his letter. He received a dozen replies in the three weeks after the eruption of Krakatoa. By mapping the path of the volcanic "vapour" he found it was carried westwards from Krakatoa along the Equator, reaching Honolulu ten days later.

Bishop later suggested there was "a vast stream of smoke due west with great precision along a narrow equatorial belt with an enormous velocity, around the globe". He had discovered a jet stream — a high-altitude wind that swept particles and acid droplets from Krakatoa around the world, creating the coloured skies. Bishop's discovery went unnoticed until the meteorologist Kevin Hamilton at Hawaii University recently brought the work to light.