

the flames devouring the city from which all life had disappeared, dissipated by the magic worked by Mount Pelée. Part of Carbet had been struck by the wave of fire from the volcano, but the greater portion of the village was left uninjured."

To confirm this narrative I will ask your permission to quote the following attributed in a despatch of May 26th, 1902, from Fort de France, to Mr. Robert T. Hill, of the United States Geological Survey, who was then studying the volcanic phenomena at Martinique, for the National Geographical Society. In speaking of the great catastrophe in Martinique, Mr. Hill, in his despatch is quoted as saying:—"There were three well marked zones; 1st, a centre of annihilation in which all life, vegetable and animal, was utterly destroyed. The greater northern part of St. Pierre was in this zone; 2nd, a zone of singeing, blistering flame which was also fatal to all life, killing all men and animals, burning the leaves on the trees, and scorching but not utterly destroying the trees themselves; 3rd, a large outer destructive zone of ashes, wherein some vegetation was injured. The focus of annihilation was the new crater midway between the sea and the peak of Mount Pelée, where now exists a new area of active vulcanism with hundreds of fumaroles or miniature volcanoes." From the above quotations and from other accounts published in the press at the time, we feel quite justified in citing this terrific outburst of Mount Pelée as a wonderful example of the production of large quantities of inflammable gases from a volcano.

We mentioned above that these inflammable gases must have been mainly hydrocarbons (probably mixed with hydrogen and sulphuretted hydrogen), and we draw the above inference from the fact that inflammable or combustible gases thus constituted have often been noticed and observed before in connection with many other volcanic eruptions by scientists of great repute, who were actually able to collect and analyse the gases. For instance, in the Vesuvian eruption in 1855 and 1856, it was observed by Charles Sainte Claire Deville and Leblanc (1), that the lava as it cooled and hardened gave out successively vapors of hydro-chloric acid, chlorides and sulphurous acid, then steam, and finally, carbon dioxide and combustible gases.

(1) A Geikie, *Geology*, p. 200.