

METEOROLOGY

Expert Discusses Probable Causes of Fog Deaths

LACKING detailed reports of the symptoms shown by the people who died in Belgium as the result of a supposedly poisonous fog, scientists in this country are unable to assign a probable cause to the disaster.

Fogs at this time of year in southern England, especially around London, and the low countries across the Channel, are not uncommon.

Dr. W. J. Humphreys, meteorological physicist of the U. S. Weather Bureau, expressed the belief that reports of suffocation being due to fog alone were exaggerated, and that the deaths were the result of chills suffered after being wet in a cold, damp fog.

He quoted a Scotch proverb, "Whoever would have a bad day should go into fog after a frost," as expressing this view. Still another possibility, he mentioned, is the pogonip, the fog consisting of fine ice particles that has sometimes been reported from the western mountain states. According to reports, these ice particles get into the lungs and produce a very severe inflammation, with almost immediate death in most cases. However, Dr. Humphreys expressed doubt as to the accuracy of such reports, and declared that much of the supposed information about the pogonip was really fancy.

No fog alone could produce death by suffocation, he stated. A fog contains very small amounts of water, as it has been determined by a study of the Grand Banks that a block of very dense fog 100 feet long by 6 feet high and 3 feet wide contains only about a seventh of a glass of water—enough for one good swallow. This is divided into about sixty billion separate droplets of water.

If the deaths were caused by suffocation, it must have been by some poisonous gas, he believes. It might have come from some factory, producing the gas, or from a cache of wartime gas. Some poisonous gases are hygroscopic, he said, that is, they easily combine with water, and so would be absorbed by the droplets of the fog, which would thus help disseminate it. He emphasized, however, that one can now do no more than guess at the cause, until further technical details are available.

If the gas came from some industrial source, it might be largely carbon monoxide, according to one suggestion that has been made. This is formed by burning any fuel without enough oxygen for complete burning to carbon dioxide. Carbon monoxide seldom causes death in the open air, but despite the fact that carbon monoxide is slightly lighter than air, the peculiar atmospheric conditions may have caused unusual concentrations in the region affected.

One suggestion at first was that the gas might have come from a zinc factory in the neighborhood, but it was found that this plant had been closed for some months. But it may have been that the dump at this plant contained large amounts of arsenic, which often occurs as an impurity in zinc. By bacterial action, it is barely possible, this might have been changed to a poisonous gas.

Science News Letter, December 13, 1930

GEOPHYSICS

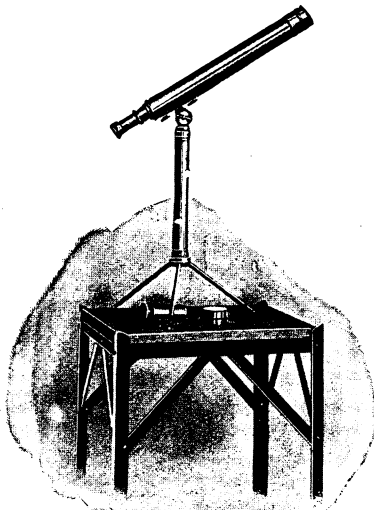
Mt. Lassen Steam Vents Changing Form and Location

STEAM vents that change not only their form but their location are a frequent occurrence in Lassen Volcanic National Park, California, an area that contains the only volcano on the United States mainland that is known to be semi-active.

Two outstanding examples of such change occurred recently. The vent known as the "Big Steamer" in the Sulphur Works area became plugged with mud and debris. This resulted in an increase of steam and pressure beneath, which caused it to blow up and scatter mud a distance of 40 feet around the vent. Now it is a large boiling spring, having changed its form after the explosion and in addition migrated several feet to the west.

Another large steam vent in the southeastern end of the Devil's Kitchen has become a boiling pool about 10 feet in diameter. It now boils constantly, raising the main body of water to a height of four or five feet and occasionally sending jets up to a height of 10 feet.

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