

property is done by lava flows, dust falls, and gas clouds, the toll frequently being measured in hundreds of lives and millions of dollars. The indirect damage to man is perhaps even greater.

Volcanic dust hangs in the air for months, and sometimes for years, reddening the sky, and upsetting normal precipitation. It has been suggested by many workers that a series of eruptions in relatively rapid succession might easily mask out enough of the essential ultraviolet radiation from the sun to definitely harm life on the earth, causing decreased growth in plants, and rickets in animals.

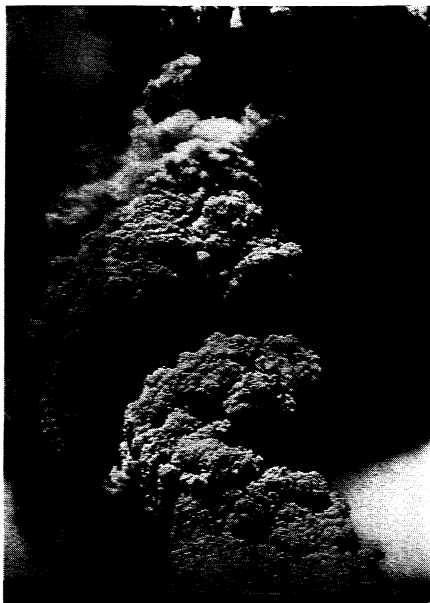
Further, the lesser radiation received by the earth would result in a decreased temperature, and perhaps, in an extreme case, in another ice age. Can we, then, assume that our recent ice ages, the last of which ended only about 20,000 years ago, were caused by great volcanic activity? We know that during the time of the ice ages (Pleistocene) many volcanos were active. Climatologists will not state definitely that this is so, and there are other factors to be considered, but volcanic dust may well have been one of several factors influencing the formation of the great Pleistocene ice sheets.

Volcanos, however, are sometimes beneficial to man. The slopes of Vesuvius and other volcanos are extremely fertile, and men occupy and farm these slopes despite the known danger from eruptions. Prior to most of its eruptions vineyards were planted on its slopes, and even when the danger of eruption was imminent, the farmers stayed on the slopes to harvest their crops, often losing their lives in doing it.

#### Fertile Soil

In Hawaii, Java, and other volcanic regions, the fertility of the volcanic soil likewise attracts farmers, in spite of the danger of the location. Some of the early Indian agriculturists of the Southwest probably benefitted from the fertility added to their fields by falls of volcanic ash, and their cultures may have declined more rapidly because of the exhaustion of the minerals in this newly-added soil.

Recently, in Italy and in California, attempts have been made to harness the heat of volcanos, with some success, and for many years, the hot springs of Iceland have been used as sources not only of hot water but of heat. While the problem of volcanic power is by no means solved, recent developments in corrosion-resistant pipe and deep drilling methods are of great assistance in har-



#### DUST

*This is what pours from the mouth of an active volcano to redden the sunsets for many nights to come.*

nessing this underground power. Perhaps, as our supplies of coal and oil become exhausted, and our water power is used up to its limit, we will turn to volcanic power, and build on this a new series of power-consuming industries.

Much has been learned in recent years about the whys and wherefores of volcanos, and much more has been suspected but not proven. Not many years ago, volcanos were regarded as supernatural things—the workshops of the fire gods, or as “chimneys to Hell,” or even as leaks in the earth’s crust, allowing the molten interior of the earth to escape. While we still have much to learn about them, we now know that they are natural phenomena, having their sources of heat relatively near the earth’s surface, and that volcanos, instead of being sources of great danger, are more nearly like great terrestrial safety valves, which keep pressure from accumulating under the surface, and by erupting prevent more violent and devastating explosions.

Today, although our modern civilization is more easily damaged than ever before in history, and although we have no means of preventing eruptions, damage to man from volcanic action is less to be feared than ever before in the past, for we have rough methods of predicting activity of a volcano; we are able, in some cases, to dam up or divert lava flows, our modern methods of transportation permit rapid evacuation of a

threatened area, and this same rapid transportation enables relief to be rushed to the stricken areas. Perhaps, in the not too distant future, we will be able to divert not only lava flows, but the eruptions themselves, from areas of great economic importance into nearby areas of lesser value.

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#### ARCHAEOLOGY

### Mysterious Cave Men Inhabited Utah Caves

**N**EW and mysterious cave men must be added to the story of ancient America, explorations in Utah reveal.

Excavating floors of caves in Utah’s Salt Lake region, Dr. Julian H. Steward of the Smithsonian Institution has discovered traces of human life entirely different from the Pueblo Indians, or the older Basket Maker Indians, or the old, old Folsom bison hunters, who represent the main stream of ancient history in our Southwest. The expedition, the report of which Dr. Steward has just published, was financed jointly by the Smithsonian and the University of Utah.

Salt Lake cave dwellers, thus suddenly thrust into the limelight, go back at their earliest to 10,000 or even 15,000 years ago, Dr. Steward estimates from geology of the region. Black Rock Cave, scene of some of the discoveries, became dry and habitable about that time when old Lake Bonneville was receding, and the evidence is that early hunters lost little time moving in.

A baby found buried in the floor of the Black Rock Cave was one of its earliest occupants. With the child, Dr. Steward found only a dagger-like article of bone. Hunting weapons of men of this era were also unearthed, and the archaeologist reports that these small dart or arrow points do not offer any evidence that these Utah cave dwellers were related to the Folsom bison hunters, though they may have been contemporaries in the Southwest.

So new are the Salt Lake aborigines to science that even the successive occupants of two caves cannot be fitted into their relationships one with another.

The latest inhabitants, who lived in the region about 1000 A.D., after Pueblo Indians had vanished from northern Utah, have left numerous clues to their way of living. Dr. Steward suggests calling these Indians the Promontory people, from a cave at Promontory

Point, where they first came to light.

Features of their unusual culture include: a unique type of crude black pottery, decorated by the thumbnails of the potters; soft-soled moccasins resembling baby booties, and mittens with the thumb ingeniously tailored, both of which, Dr. Steward believes, were borrowed or inherited through some relationship with far northern hunting tribes; a variety of gaming devices, in-

cluding flat bones, cane gambling pieces, a netted hoop and dart game, and an ornamented beaver tooth rather similar to those used as dice by northwest coast tribes.

Promontory people of Utah were economical, Dr. Steward's findings show, for out of 248 moccasins found in one cave, all but 58 had been repaired with half soles, patches, and even patches on patches.

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#### MEDICINE

## Nose and Throat Specialists Told How to Use Polio Spray

### Zinc Sulphate Used to Blockade the Nerves of Smell Recommended By Organization of Physicians To Members

**E**YE, ear, nose and throat specialists throughout the nation now have information on how to apply the new protective nose spray against infantile paralysis.

An "emergency communication" has been rushed into the mails by Dr. William P. Wherry, executive secretary-treasurer of the American Academy of Ophthalmology and Otolaryngology, to all members of that professional organization in order that they may be equipped to treat protectively children and others in the epidemic areas.

Zinc sulphate is the chemical used to blockade the nerves of smell in the upper part of the nose and thus close the road of the virus to the nervous system and brain.

#### Special Instrument

The specialists are warned that an ordinary atomizer such as used for spraying the nose does not reach the olfactory area. It is recommended that the one per cent. zinc sulphate solution with 1/2 per cent of saline, be sprayed on both sides of the nose by use of a long metal tip (De Vilbiss No. 156) which has been inserted between the middle turbinate and septum. The mucous membrane is shrunken with benzedrine inhalant or aqueous ephedrine solution.

Recognizing that this protective treatment may cause rather severe headaches, particularly in the case of adults, one per cent. of pontocaine, a local anesthetic, is added to the solution.

The treatment is given on two consecutive days and then repeated once

every two weeks until the epidemic subsides.

For little children who can not be treated successfully with the spray, dropping the solution into the nose with the patient lying on his back with head dropped back over the edge of a couch is recommended, although this method is likely to be less positive than the spraying properly done.

#### Reports Requested

Physicians are being asked to send in detailed reports to Dr. Wherry giving their experiences in handling the treatment. The treatments must be given by physicians.

The zinc sulphate protective treatment was worked out by Dr. E. W. Schultz of Stanford University after Drs. Charles Armstrong and W. T. Harrison of the U. S. Public Health Service had discovered and announced that the infantile paralysis virus, enterin the spinal cord and brain by way of the nerves of smell, could be blocked by chemical spraying. Dr. Schultz independently and simultaneously made the same discovery. First alum or tannic acid, then picric acid, and then zinc sulphate were used as the protecting chemical.

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An arm of the sea once cut North America in half from the Gulf of Mexico up to the Arctic Ocean.

Government scientists have tried out 13 crosses of standard breeds of chickens, and have found two hybrids that look valuable.

#### PUBLIC HEALTH

## Infantile Paralysis Wave Has Reached Its Peak

**E**IGHT hundred and seventy-nine new cases of infantile paralysis were reported to the United States Public Health Service during the week ending Saturday, Sept. 18. The total constituted a small increase over figures for the previous week, when 817 poliomyelitis sufferers were reported.

The peak of this year's wave of the dread disease has probably been reached, the Public Health Service officials believe. Otherwise the health of the American nation is in good shape.

Illinois, where the number of new cases dropped from 130 to 81 during one week, relinquished first place in the list of states visited by infantile paralysis to New York, where 91 new cases were again reported. Minnesota with 52, Ohio with 59, Michigan with 57, Wisconsin with 45, Connecticut with 41, California with 46 and Pennsylvania with 40 cases were the states from which the most serious trouble was reported.

Behavior of the epidemic each fall during the last nine years led the Public Health Service to believe that this year's outbreak has already reached its most menacing proportions and is due to recede. Infantile usually drops sharply with the approach of brisk weather. No predictions with regard to individual states, because of the lack of adequate past figures, were made.

Texas with 33 new cases against 21 the week before was one state to report a marked increase. Up to September 18, 6,319 cases had been reported this year as compared with 2,261 during the same period last year. But the figures are still far below the proportions of the 1931 epidemic.

#### Cholera Spread Watched

Public health officials are not worried about the possibility of a spread of cholera from war-torn China to the United States, but are nevertheless keeping a weather eye peeled in the direction of Hong Kong, Dr. Robert Oleson stated. The short incubation period, five days, makes it impossible for anyone, even though coming by transpacific airplane, to enter the United States before showing symptoms of the disease if contracted in the Orient.

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A famous Arizona copper mine has installed air conditioning, and for the first time in its history, it did not lay off its workers in mid-summer.