

## PUBLIC SAFETY

# Future Disasters Threaten

**Famine, earthquakes, epidemics and plagues, floods and hurricanes, insects and insecticides continue to threaten man, along with the new dangers of atomic disaster.**

► THE WORLD can expect major disasters, even without war.

Accidental atomic disasters, such as might have occurred had the atomic bomb that dropped near Florence, S. C., on March 11, been armed, add a significant new dimension to the world's vulnerability to disasters.

But atomic or hydrogen weapon disasters, intentional or accidental, are by no means the only disasters the world faces in the future.

Disasters have been becoming worse and more frequent in recent years. This is pointed out by Capt. Walter S. Diehl, U.S. Navy, Retired, and a Washington, D. C., consulting engineer, who has written a scientific paper for the *Washington Academy of Sciences* (Dec. 1957).

What is more frightening, perhaps, is that there is every reason to believe that they will become still worse in the future.

Capt. Diehl defines a disaster as an event that kills a large number of people at one time. Disasters are becoming more frequent because the population of the world is increasing rapidly. There are more innocent bystanders these days whenever disaster strikes, and the very fact that the population is larger makes some kinds of disaster more likely.

The rarest of the 22 kinds of possible disaster listed by Capt. Diehl, is the one recorded case of "geological explosion." This occurred in 1348 when Mount Dobratsch in Austria suddenly "exploded," killing thousands of people. The Mount Dobratsch explosion was not an earthquake, and its cause has never been explained.

Seven types of disaster are singled out by Capt. Diehl as being potentially dangerous to the largest number of people. The most widely discussed are the results of atomic fallout or by-products from reactors, and the dangers of atomic warfare.

Famine, resulting from drouth and crop failure, is already a severe check on population in countries such as China and India where most people live at a bare subsistence level. Insects have serious disaster potential because man has violently upset the balance of nature. The insecticides now in use are frequently poisonous to man as well as insects.

The widespread use of processed food has a potential for large-scale disaster if any of the additives in food processing should turn out to have very long-range toxic effects. Epidemics and plagues have been brought under control but the margin of control is small. New York City had a bad smallpox scare in recent years.

Finally, the climate of the world has changed radically in the past. If such a change occurred again now, large parts of the world population could die of famine.

Lives lost through regularly recurring natural disasters such as hurricanes, floods, blizzards, and earthquakes, are certain to increase, Capt. Diehl points out, because the population continues to increase in the danger spots.

Housing developments have been built below the high-water mark of dry river beds, for example, and some large communities are located on known active earthquake faults. Even where protective measures can be taken, people usually are unwilling to pay the price. They would rather take their chances on an earthquake than go to the expense of building an earthquake proof house.

Other types of disaster are rare yet can cause extreme damage. It is impossible to predict a large meteorite like the one that levelled many square miles of forest near Lake Baikal in Siberia in 1918, or an earthquake in a normally inactive area like the Charleston, S. C., earthquake of 1886.

Yet comparable disasters will certainly recur. As the world fills up with people there will be more and more chance of their occurring in a very heavily populated area and taking a larger toll of human life.

Science News Letter, March 22, 1958

## ARCHAEOLOGY

## Ancient "Magic" Figures Found in Grand Canyon

► MYSTERIOUS little twig figurines found in caves in the Grand Canyon may have been used in prehistoric Indian magic to bring success in hunting more than 3,000 years ago.

Description of the little wooden animals and the archaeologists' guess at the purpose to which they may have been put is reported in *American Antiquity* (Jan.) by Dr. Douglas W. Schwartz of the University of Kentucky, Lexington, and his associates Drs. Arthur L. Lange and Raymond deSaussure of Newmont Exploration Ltd., Jerome, Ariz., and San Francisco, Calif.

The little animals ranged in height from two inches to 14½ inches. The bodies were from one and one-half to eight inches in length. They were found buried in caches in very inaccessible caves in the Redwall escarpment, the most prominent cliff of the Grand Canyon.

It seems unlikely that the animals were children's toys because no indication was found that the caves were used as human dwellings. Only a few other objects of human manufacture were discovered, the most spectacular of which was a hank of human hair about four inches long wrapped with string.

Some of the animals were found pierced

through with miniature wooden spears. This the archaeologists believe may indicate a ceremonial or ritual killing of the animal images to bring success in a coming hunt.

The animals were made by splitting a small stick for most of its length, bending the unsplit portion down to form the back leg and then winding the split portions around to form the body, front legs, neck and head. After their ceremonial killing they were taken to an inaccessible sacred cave and hidden away.

No evidence was found to indicate what prehistoric people may have made the little animals. It is thought from the radio-carbon date of two of the figures at more than 3,000 years that their makers may have been part of the widespread Desert Culture of the area.

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