

discovered in 1931. Of these craters, 12 are roughly circular while the 13th and largest crater is oval. It is the only crater in the world of an elliptical shape so far definitely identified as of meteoritic origin. Scientists believe that it may have been caused by the simultaneous impact of two large bodies a short distance apart.

In the Rub'al Khali desert of Arabia are the Wabar Craters, their claim to distinction being that they were made in desert sand. Two separate craters have been mapped, with indications of two others, perhaps more, buried in the sand. In the shifting desert, it is difficult to tell how old these large depressions in the sand are. But they are evidently fairly recent, else they would have been long since obliterated.

Dumping Spots for Stones

Although discovery of meteoritic impact craters is quite recent, and many of them are in places not easily accessible without modern transportation, man has been living and cultivating fields among a group of them since "time immemorial." On the Baltic Island of Oesel, six of them were investigated and identified in the 1920's, although they were first described in 1827. More craters than the six now identified may belong to the group—these are the holes that have been considered by the nearby farmers as convenient dumping places for stones turned up when tilling their fields.

Twice in this century Siberia has been the scene of a meteoric fall—two "bombings" that would have resulted in more destruction than atomic bombs if the targets had been cities instead of relatively deserted areas.

On June 30, 1908, a great meteor swarm blazed over central Siberia and tore into the earth, destroying a large forest area. This was the first time that the formation of sizable meteor craters had been observed, although unfortunately no investigation of the fall was made until 1921.

Place of the fall was spotted from the devastated forests. Pine trees were felled

with their tops pointing away from center for a distance of 37 miles. Several thousand square acres were laid waste.

The center of the fallen forest is near the southern limit of permanently frozen ground. In the muddy swamp are numerous round depressions—varying reports place their numbers from 10 to 200.

Second Siberian Meteorite

A few hundred miles from the port of Vladivostok is the Siberian village of Novopokrova. There on the morning of Feb. 12, 1947, a school teacher with admirable presence of mind noted down the time of a brilliant flash in the sky: "10h35m."

Searchers for this blazing meteorite found a series of more than 100 holes, in the Sikhotaalin Mountains, some of them 30 to 400 feet deep and as wide as 75 feet. These holes were scattered over a one-square-mile area that has been intensely studied by Russian scientists.

They believe that the "rain of iron" resulted from the breaking up of a large single mass within the earth's atmosphere. Before it broke into millions of pieces it is believed to have weighed a thousand tons and to have had a diameter of about 30 feet.

Shock Wave Devastation

After this mass broke up, each piece rushed through the air at a speed many times that of sound, carrying in front of it a shock wave of compressed air that did not have time to move aside from the projectile. It was these shock waves that produced the extensive devastation.

One queer geological feature in the United States, never yet satisfactorily explained, is the Carolina "Bays." They lie in the coastal region of Georgia, North and South Carolina, Virginia and Maryland—hundreds of shallow, elliptical depressions, many of them filled with peat bogs. Approximately half of them are more than a quarter of a mile long, and over 100 of them exceed a mile in length.

Although they are of generally oval shape, measurements have shown that the shape varies with the size, the larger being the more elliptical. These giant marks in the earth's surface have their long axes in nearly the same direction—northwest and southeast.

The Bays were formed at least 10,000 years ago, perhaps as long as 50,000 years ago. Although a few geologists attribute them to a shower of meteorites, the consensus is that they have an entirely different origin.

Science News Letter, December 1, 1951

Chipmunks retire to winter quarters earlier each fall than most hibernating animals but they awake from time to time to eat the food they stored in their burrows.

DENTISTRY

Four Ways to Ward Off Toothaches

► RESEARCHERS are struggling to find an easy way to prevent tooth decay with its consequent toll of aching and lost teeth. They hope to find a tasteless, decay-fighting chemical that could be put into food, as iodine is put into salt to prevent goiter. But until they find the right chemical, they advise the following four ways of reducing tooth decay:

1. Reduction of carbohydrate consumption, especially sugar. Evidence indicates that decay is started by acids resulting from the action of bacteria on carbohydrate foods in the mouth.

2. Removal of carbohydrates from the mouth by tooth brushing immediately after each meal. The decay activity takes place within 20 to 30 minutes after eating.

3. Strengthening the resistance of enamel to decay by the use of fluorides. This could be done by applying the fluoride to the tooth surface in the dental office or as a community activity by adding it to the drinking water. This has been undertaken in many communities as a public health measure by adding an optimal amount of fluoride—1.0 part per million—to the drinking water.

4. Use of urea, ammonia, chlorophyll or penicillin to augment the mouth's natural bacteria-fighting ability. Anti-bacterial substances are being thoroughly investigated in many research studies today in the hope of learning their effectiveness in the control of dental decay.

These methods were discussed on the University of Illinois' telephone refresher course for dentists.

Science News Letter, December 1, 1951

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