

of it just as sounds from a human mouth are broken up, it is explained by A. H. Inglis, C. H. G. Gray and R. T. Jenkins.

Not only does the artificial speech check within a few per cent. by diagrammatic analysis with the original human product, the engineers state, but it also

sounds natural. An important advantage of the mechanical mouth and ear is that they reproduce exactly the same sound and hear with precisely the same sensitiveness and distinction every time they are used. Their human counterparts vary with mood and physical condition of the person talking or listening.

Science News Letter, October 1, 1932

GEOGRAPHY

"Wild West" Gorges Found in Sea Bottom Off New England

By DR. FRANCIS P. SHEPARD, Department of Geology, University of Illinois; Collaborator, U. S. Coast and Geodetic Survey

A WHOLE SERIES of vast canyons, rivalling anything that the West has to offer, have been found in the bottom of the ocean off the New England coast by the U. S. Coast and Geodetic Survey during the season which has just closed. Corsair Gorge, which created something of a sensation a couple of years ago when it was first discovered, is only one feature in this stupendous submarine landscape.

This summer it was decided to examine in much more detail some of the valleys in the Corsair Gorge neighborhood, to see if they might be used as landmarks for navigators. The last survey revealed an area with such relief and irregularity that it dwarfs by comparison anything above water in eastern North America and must rival the grandest topographic features of the West. The area charted represents only the upper mile of the two-mile-high continental slope.

The preliminary contour map which I have drawn shows a series of steep-walled canyons cut thousands of feet deep into this escarpment. The least of these is deeper than the Yellowstone Canyon and the greatest must be comparable with the Grand Canyon of the Colorado.

Some geologists have attempted to show that submarine valleys are not the product of river erosion, but the valleys under discussion have every indication of a fluvial origin. They have the typical sinuous shape of river valleys, as well as the branching tributaries and the V-shaped cross sections characteristic of canyons cut by streams. Since the valley floors are traceable to depths of at least 7,000 feet, it is evi-

dent that during the valley cutting stage New England must have been a plateau a mile and a half above sea level.

The steepness of the canyon walls, probably exceeding 45 degrees in places, make it appear very probable that they were cut in solid rock rather than in the soft sediments of the ocean floor. The finding of fragments of weakly cemented conglomerate on the wall of one canyon partially confirms their rocky nature. Unfortunately only a few samples were collected since the soundings were made by echoes using the "fathometer," and it takes a long time to get samples from deep water.

The outer portions of the valleys have hummocky topography suggestive of landslide accumulations. It seems probable that the sediments which were deposited in the inner valleys after they were submerged have been shaken loose and have slid out into the outer valleys where they lodged because of the decrease in gradient.

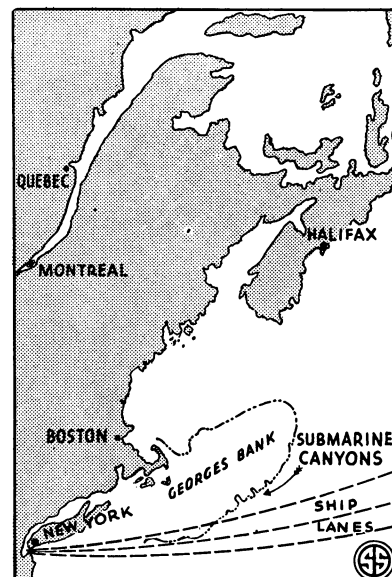
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ASTRONOMY

Year May Bring Record For Comet Discoveries

AT LEAST one business, that of discovering comets, seems to have passed the corner. Already the record of 1927 has been equaled, and there is every likelihood that it will be surpassed. In 1927 ten comets were reported by astronomers, six new, and the rest periodic visitors on regular returns. This was a greater number than had ever before been discovered in a single year.

The figures for 1932, with more than three months yet to go, are identical with those for 1927, although one of the new discoveries this year, by A. Schmidt, of the University of Algiers,



AID SHIPPING

Some trans-Atlantic liners are already using the new underwater gorges as "landmarks" to guide them safely over the dangers of Georges Bank. A sonic depth finder automatically reports the irregularities of the sea bottom. When the record shows the gorges in their expected positions, the pilot is assured that he is exactly on the right course, though fog obscures both the sun and the stars.

was not confirmed by later observations. Four of the 1927 comets, two of them new, were discovered during the last quarter of the year. Several periodic comets, expected this year, have not yet appeared, and thus it is quite likely that 1932 will set a new record.

The new comets of 1932 were found by H. E. Houghton, at the Royal Observatory, Cape of Good Hope, on April 1, by P. Carrasco Garrorena, at the Madrid Observatory, April 25; by Newman, at the Lowell Observatory, in Arizona, June 1; by Geddes, at the Melbourne Observatory, June 22; by Schmidt, at Algiers, on June 25, and independently by L. C. Peltier, of Delphos, Ohio, and Dr. F. L. Whipple, of the Harvard Observatory, on August 8. All these comets are now called by the names of their discoverers. In addition, two very remarkable asteroids, or tiny planets, were found, the first on March 12, by Dr. E. Delporte, of the Royal Observatory of Belgium; and the second on April 27, by Dr. K. Reinmuth, of the Konigstuhl Observatory, Heidelberg. Both of these asteroids come closer to the earth than any previously known object except the moon.

The periodic comets that have returned this year are those of Grigg-Skjellerup, Kopff, Borrelly and Faye.

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