



LAVA SPOUT—The eruption of new lava from Mount Mihara. This picture was taken from a spot about 370 feet from lava-spouting crater. Lava temperature was 1100 degrees Centigrade.

VOLCANOLOGY

Mt. Mihara's Lava Flow Is Continuation of Eruption

► THE LAVA that recently spouted from Mt. Mihara volcano on Oshima Island in Tokyo Bay was a continuation of the eruption of that volcano from last July to September. Japanese scientists were expecting and had predicted this activity. Dr. Kenzo Yagi, professor of geology at Tokoku University, Sendai, Japan, now visiting at Carnegie Institution, told *SCIENCE SERVICE* that the present continuing activity is "the greatest in the history of this volcano."

Science News Letter, May 5, 1951

ASTRONOMY

Discover New Comet Heading for Leo Minor

► A NEW comet, so faint that a small telescope is needed to see it, has been discovered in the northern sky. Sixth comet to be spotted this year, it was found by Dr. L. Kresak at the Skalnaté Pleso Observatory in eastern Czechoslovakia on Tuesday, April 24.

The celestial object, of magnitude 10, is moving away from the sun, heading towards the constellation of Leo Minor, the Smaller Lion. Astronomers expect that the comet's path will turn southward. If it does not, the comet may hit the edge of Ursa Major, the Great Bear, of which the Big Dipper forms a part. When first discovered by Dr. Kresak, it was near Castor and Pollux, the Twins.

Notice of the new visitor from space was cabled by Mlle. J. M. Vinter-Hansen of Copenhagen to Harvard College Observatory, clearing house for astronomical news for the western hemisphere.

Photographs of the comet by astronomers at the Naval Observatory in Washington, D. C., on April 25 confirm the original report that it probably has only a short tail and does not have a nucleus.

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ASTRONOMY

Does Universe Thin Out?

World's largest telescope, Mt. Palomar's 200-inch giant, expected to give answer to question on whether space has uniform sprinkling of extragalactic nebulae.

► MAN IS about to discover whether the universe thins out at the farthest limit of the world's largest telescope, the 200-inch on Mt. Palomar.

That is so far off that it takes light a billion years to reach earth from the farthest galaxy of stars that can be seen. Since light travels 186,000 miles per second, it would almost exhaust the supply of zeros to write the number of miles from the extreme edge of the observable universe.

A big question is whether space is uniformly sprinkled with the great spirals of stars, the extragalactic nebulae. These are like the Milky Way in which we inhabitants of a planet of a star, the sun, are located.

Dr. Ira S. Bowen, director of Mt. Wilson and Palomar Observatories, Pasadena, Calif., told the National Academy of Sciences meeting in Washington, D. C. that a hint as to the answer to this question can be obtained in a few years, but the detailed verdict will be reached only after generations of astronomers have done their work.

Whether the universe is actually expanding at an explosive rate should also be discovered. The great spiral nebulae or "universes" are rushing away from us at a

great rate, judging by the shifts in their spectrum lines that are observed. The older 100-inch telescope on Mt. Wilson at its limit reached nebulae which were receding at a velocity a seventh that of light. Scientists are eager to find out whether the relationship between the distance away and the seeming rush to escape is real. They want to know whether the universe is actually blowing apart like a gigantic bomb as has been suspected for some years.

Another great question is the amount of fuel available for keeping the stars stoked. Energy radiated by the sun and most of the stars comes from the transformation of hydrogen into helium in their very hot cores—they are counterparts of the proposed hydrogen bombs men are trying to make on earth.

Astronomers do not know how the stars can create or manufacture the heavier elements. One investigation planned with the new telescopes will find out whether all stars have the same relative abundance of heavier atoms. This may throw light on the origin of the heavier elements, which is now unknown.

Science News Letter, May 5, 1951

NEUROLOGY

Operation Stops Voices

► A NEW brain operation to stop the tormenting voices which some mental patients think they hear has been devised by Drs. Jonathan M. Williams and Walter Freeman of George Washington University Medical School, Washington, D. C.

In the operation a group of cells the size of a finger tip, called the amygdaloid nucleus, is removed from the temporal lobe on each side of the brain. These cells, the George Washington doctors believe, are part of an accessory hearing organization in the brain.

These brain cells are missed in the brain operation called prefrontal lobotomy which Dr. Freeman pioneered in this country for relief of some kinds of mental illness. In the prefrontal lobotomy operation certain nerve fibers, sometimes called the "worry" fibers, in the front of the brain are cut.

But some patients who have had the prefrontal lobotomy operation still hear voices or strange sounds that do not really exist. In such cases the operation may be considered a failure.

The first patient to have the new operation was a 20-year-old man who was hard of hearing and had to wear a hearing aid.

The voices he heard were never profane, as some are in mental diseases. Sometimes they were encouraging, saying "C., you're going to hear all right some day." At other times they were unkind, saying "There goes that nut with the hearing aid."

The voices were so bad that the young man had to give up his job, could not enjoy reading, and at times was driven to dash off to another city in an effort to escape them.

Six weeks after the operation, the voices had become only indistinct sounds without words. They occurred only when he was particularly tired and at bedtime. He was wearing his hearing aid again, looked forward to getting a job, was having dates and going to parties, all of which he had given up previously because of the voices.

The doctors consider the results in this case "distinctly encouraging" and think it bears out their theory of an accessory hearing organization in the brain. More time and study, they state, will be needed to test the theory further.

Details of the operation are reported in the *MEDICAL ANNALS* of the Medical Society of the District of Columbia (April).

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