ASTRONOMY

Earth Has Lost Leonid Meteor Stream

THE earth has lost touch with the densest part of the Leonid meteor swarm which astronomers had confidently expected to see as "shooting stars" recently.

Prof. Charles P. Olivier, director of the University of Pennsylvania's Flower Observatory and also president of the American Meteor Society, has come to this conclusion after observations made under ideal conditions for four consecutive nights beginning Nov. 13-14.

Instead of an unusual number of Leonids, never more than 11 meteors, eight of which were Leonids, were seen by a single observer in one hour. Few of the Leonids were bright, none were remarkable, and no long-enduring trains were left. Prof. Olivier in 1901 observed Leonids 15 times as numerous.

Prof. Olivier believes that the Leonid meteor-causing part of a stream of comet fragments has shifted sideways, taking it out of the path of the earth.

"It will be almost impossible as the 1960 cycle approaches," Prof. Olivier said, "to make any definite predictions, as the erratic behavior of the stream in the 1928-1934 cycle shows we have lost all touch with the densest group. There is, however, not the slightest reason to interpret this as a consequence of the actual partial dispersion of the stream, or to lose hope that in future the densest group may not again intersect the earth's orbit and give equally fine showers with those seen in past centuries."

Science News Letter, December 1, 1934

PUBLIC HEALTH

Encephalitis Outbreak Possible Anywhere in U. S.

AN encephalitis outbreak of the type that occurred in St. Louis and vicinity last year may appear anywhere in the United States at any time, studies conducted by the U. S. Public Health Service show.

The virus that causes this disease is pretty well distributed throughout the country, the federal health experts find. When, where and why this low level of infection will flare up into another serious epidemic is not known. The government's disease fighters, however, are trying to discover what factors determine when an outbreak takes place. Many suggestions have been made, but at present these cautious, thoroughgoing men of science are unwilling to give even an opinion.

They have already devised a test which gives a pretty good though not an absolute indication of whether or not a person has been infected with the virus of St. Louis encephalitis, as this type of the disease has come to be known.

Numerous healthy carriers of the disease have been detected by this test, Dr. J. G. Wooley of the U. S. Public Health Service's National Institute of Health reported to the Washington branch of the Society of American Bacteriologists. Dr. Wooley reported studies made by himself and two other U.S.P.H.S. officers, Drs. Charles Armstrong and R. D. Lillie.

People who were in contact with cases in the St. Louis epidemic last year but who did not suffer an attack of the disease more frequently have immunity or resistance to it than the population at large, Dr. Wooley finds.

The disease probably invades the body through the nose and is therefore spread much the same as a common cold or influenza is spread.

Science News Letter, December 1, 1934

ASTRONOMY

Host of Variable Stars Reported by Astronomer

SEVENTEEN hundred hitherto unreported variable stars, 1,000 in the Small Magellanic Cloud and 700 in our own Milky Way galaxy, were reported by Prof. Harlow Shapley, director of the Harvard College Observatory, in one of his periodic comprehensive reports on the astronomical state of the universe as seen through telescopes. Prof. Shapley spoke before the meeting of the National Academy of Sciences at Cleveland. The newly located stars will give us a better idea of the great aggregations of the star-studded nebulae that dot space as far as telescopes can reach.

In addition, thousands of faint and remote galaxies, each a cloud of thousands of stars, have been discovered, Prof. Shapley reported. The Harvard census of new faint galaxies now totals 125,000, with about a third of the sky covered and only galaxies lying between about fifty and a hundred and fifty million light years away included.

Science News Letter, December 1, 1934

IN SCIEN

PHYSIOLOGY

High Blood Pressure Cause Of Thickening of Arteries

HIGH blood pressure brings on the dreaded thickening of the arteries that afflicts so many and takes such a death toll these days. It is not the other way around, as some medical investigators have believed. Dr. Alan R. Moritz of Western Reserve University has made this discovery in careful and laborious microscopic tests upon 72 individuals, half of whom came to the post-mortem table with records of high blood pressure, heart damage, and kidney disease, while the other half had no such trouble.

To the National Academy of Sciences, Dr. Moritz explained that researches into the ultimate cause or causes of hypertension, as doctors call persistent high blood pressure, will be directed and executed with greater precision and hope of success if it is known that thickening of artery walls is the effect and not the cause of the high blood pressure. His view that high blood pressure is the horse and the artery condition the cart is supported by the fact that although thickening of the arterioles, or tiny arteries, was characteristic of the high pressure group, it was not present in all individuals who were known to have had long-standing high blood pressure.

Science News Letter, December 1, 1934

ASTRONOMY

Lick Observatory To Have New Photo Telescope

PHOTOGRAPHING stars will be made much more rapid and acurate by a new wide-angle photographic telescope soon to be constructed for the Lick Observatory at Mount Hamilton. As yet, only preliminary plans are in hand, and details of either lens type or mounting are not yet available, Director R. G. Aitken stated.

Funds for the construction of the instrument have been donated by the Carnegie Corporation of New York.

Science News Letter, December 1, 1934

CE FIELDS

PHYSIOLOGY

Negroes' Brains 10 Per Cent. Lighter Than White Men's

NEGROES' brains average about ten per cent. lighter than the brains of white men, a recent statistical study by Prof. Raymond Pearl of the Johns Hopkins University tends to indicate (*Science, Nov. 9*).

Measurements of Negroes' cranial contents, and weights of Negroes' brains, have been recorded by various investigators over a long period of years. Prof. Pearl reviewed these researches, and treated the figures recorded by modern statistical methods, as far as seemed practicable.

Among the points brought out in his summary is the following: "The mean brain weight for the black series is 92.1 per cent. of that for the white series. The approximate agreement of this with Morton's, Peacock's, Duckworth's and Vint's results is clear, and may reasonably be taken to lead to the conclusion that the Negro brain is, on the average, from 8 to 10 per cent. lighter than the fairly comparable white brain."

Science News Letter, December 1, 1934

ASTRONOMY

Suns in Swarms Pass Through Each Other's Ranks

OUR sun, with a great swarm of its sister stars, is swimming through the emptiness of space in one direction, while at the same time we are in the midst of another group of stars that is passing us, apparently going in another direction. This other group is known as the Ursa Major group, because the first recognized stars in it are members of the familiar constellation known as the Great Dipper. The two groups interpenetrate each other's ranks like schools of fish that mix without collision, each holding to its own course.

Advances in our knowledge of this stellar traffic problem were outlined before the meeting of the National Academy of Sciences, by Prof. J. J. Nassau and L. J. Henyey of the Warner and Swasey Observatory, the Case School of Applied Science.

"The unusual fact about the Ursa Major Group is that our own sun happens to be near the center of it and does not partake in the motion of the group," said Prof. Nassau. "In other words, the 126 stars finally accepted as forming the group move uninterrupted amongst the stars in the neighborhood of our sun; much like a school of fish moving through another school.

"Although the group passes the sun with a speed of about 10 miles a second, it will take some 2,600,000 years for our sun to be left outside the group. The fact that the stars of the group are moving becomes apparent in a relatively short interval of time; for example, the shape of the Dipper will be totally unrecognizable within 50,000 years.

"The stars in the cluster are more massive than our sun. Half of the stars are white with some yellow and a few red. Our sun is a yellow star. The blue stars are conspicuously absent from the group."

Science News Letter, December 1, 1934

PUBLIC HEALTH

Fight Against Smallpox Not Yet Entirely Won

THE fight against smallpox has not yet been entirely won.

Statisticians of the Metropolitan Life Insurance Company make this statement in spite of the fact that their figures show there was less of this dread disease in the United States and Canada in 1933 than ever before and that the records for the first seven months of 1934 promise a further drop in the number of smallpox cases.

Significant is the fact that fully three-fourths of the smallpox cases reported by American states in 1933 occurred in only 12 states whose population is only one-fifth of that of the entire country.

"Generally speaking, these states are the ones in which popular sentiment has been most opposed to compulsory vaccination," the statisticians point out.

The twelve states are California, Colorado, Idaho, Iowa, Montana, Nevada, Oklahoma, Oregon, Texas, Utah, Washington and Wisconsin. Falling in the same class of above-average prevalence of smallpox during 1933 was the Canadian province of Saskatchewan.

Science News Letter, December 1, 1934

MEDICINE

Leprosy May Enter Body Through Nose or Skin

HOW does the leprosy bacillus get into the human body? If scientists knew the answer to that question, they might be well on their way to victory over a disease that has inspired horror and despair since Biblical times.

A group of Uncle Sam's disease fighters in far-away Hawaii are investigating the possibility that the "germ" that causes leprosy enters the body through the membranes that line the nose, which is the way the infantile paralysis virus gets into the body. It is not practical and would, indeed, hardly be possible to prove this directly, Dr. N. E. Wayson, in charge of the leprosy investigations, points out. So, following established scientific custom, he and his associates are investigating the possibilities of rat leprosy being transmitted via the nose.

They find that when they put a suitable number of leprosy bacilli into the nose of a rat, the neighboring lymph glands become infected and the infection spreads throughout the animal's body, producing the changes of skin and internal organs typical of the disease. Injecting material from leprous sores into the tissues of the face about the nose of the animal also is followed by a generalized spread of the infection in a large percentage of cases, although such injections into superficial tissues elsewhere on the body rarely produce a wide spread of the infection within a comparable length of time.

These results support the theory that leprosy enters the body through the nose.

This may be only one of its ways of getting into the body, however. Further investigations showed that when leprous material is inoculated at any place on the body, the bacilli get into the blood even though the body tissues do not show any signs of the infection. Subsequent alteration of the tissues, the exact nature of which is not known, results in development of leprous sores at the place where the material was inoculated.

These findings in rat leprosy may be of important significance, Dr. Wayson points out, as indicators of the manner of invasion of human leprosy in man and of how the disease starts after the infecting organism has entered the body.

Science News Letter, December 1, 1934