

WOLF'S COMET DISCOVERED BY GERMAN ASTRONOMER

Wolf's comet, which visits the neighborhood of the earth every eight years, was sighted on Monday, July 13, by J. Stobbe, astronomer at the Bergedorf Observatory near Hamburg, Germany. This information was received by cable from the international bureau at Copenhagen, Dr. Harlow Shapley, director of the Harvard College Observatory has announced.

When observed, the comet was in the constellation of Pegasus, just west of the "Great Square", in right ascension 22 hours, 58 minutes and 12 seconds, and declination 24 degrees, 16 seconds north of the equator. It is slowly moving towards the southeast. As this constellation does not rise at present until late in the evening, and is not directly south until 3:00 a.m., astronomers must either get up early or stay up late to see it. Not many will be able to observe it at present, however, for it is of the 15th magnitude, so faint that only the very largest telescopes are capable of revealing it.

It will become brighter as it gets closer to the earth, but it is doubtful whether it will become bright enough to be visible to the unaided eye, even in the fall when it reaches perihelion and comes nearest the sun. Previously it approached within 149,000,000 miles of the earth. Since its last visit, however, it passed near Jupiter, a rather rash thing for a comet to do, as it was moved out of its former orbit by the great gravitational attraction of that planet, and now it will not come as close.

BRITISH CANCER DISCOVERY OFFERS NO PRESENT CURE

The success of the British scientists in cultivating, observing, and photographing the organism that causes a malignant cancer in chickens is of great scientific interest, but it will not help any one now ill with cancer, according to Dr. Erwin F. Smith, senior plant pathologist of the U.S. Bureau of Plant Industry, and an authority on cancerous growths in plants and animals.

In a recent visit to London, Dr. Smith visited the laboratory of Dr. J. E. Barnard, one of the three British scientists whose work is creating so much interest. There he saw tubes of clear serum containing the invisible infectious organism. Then he observed the living organism dancing about in a drop of serum under a specially constructed microscope, and also photomicrographs of this germ that is so small that it cannot be seen under the highest powers of any ordinary microscope and that will pass through the pores of filters which will not let through the smallest known bacteria.

"But this organism which causes a malignant tumor in chickens is related only very indirectly to human cancer," says Dr. Smith. "Dr. Petyon Rous, of the Rockefeller Institute, who discovered and studied this chicken tumor in the United States, determined beyond question its malignancy, and also that it could be produced in chickens in the absence of any tumor cells. He took portions of the malignant tumor and killed the cells in various ways, by grinding, by freezing, by drying for months, and with these dead cells he could still produce tumors when they were introduced into susceptible chickens. He found also that the cause of the disease is a filter passer, that it is so small that it will pass through the pores of medium Berkefeld filters which will not let through the smallest known bacteria. Nevertheless, this clear filtrate would produce

the disease. Thus, once for all, he settled the question that the cause of cancer may be something separable and independent of the tumor cell, a matter which had been denied for all cancers by many research workers who said that the tumor cell is the only parasite. Dr. Rous was never able to isolate, cultivate, or see the cause of this tumor in spite of prolonged and diligent search.

"What Dr. Gye and his colleague, Dr. Barnard have done is to cultivate this organism through a whole series of tubes, to see it under especially constructed microscopes quite different from the microscopes in ordinary use, and to photograph it.

"The organism is a very peculiar body unlike any ordinary bacteria, and it seems to me problematic where it belongs in the natural classification of organisms. It is like the pleuro-pneumonia germ."

As to the general bearing of this discovery on the whole subject of cancer, Dr. Smith points out that nothing is yet known as to the cause of the human cancer aside from the fact that very frequently, if not always, it appears in irritated places; and if on its first appearance, it is removed by the surgeon, it may never return, whereas, if operation is neglected, the help of the surgeon comes usually too late.

"A few years ago nothing also was known as to the cause of malignant tumors in the lower animals," he continued. "But now we know of three tumors of the lower animals closely associated with parasites. One is a chicken tumor and two are in rats.

"In both of these rat tumors a worm appears to be the cause of the disease. Rats may be 100 per cent. susceptible to either tumor and no tumor results unless the worms are fed to the rats.

"There are other experimental cancers apparently due to the application of certain chemical substances to the surface of animals. These are due to tar, arsenic, aniline and similar substances. Such cancers occur naturally in men and have been produced repeatedly in recent years in experimental animals. Only a portion of the animals become cancerous, although all are irritated by the applications, and not the whole irritated area in every animal becomes cancerous, but only tiny portions of it here and there. The question is raised whether the irritation is the direct cause, or whether it only paves the way for an organism.

"It is possible to conceive that some stimulus might so disarrange the chromosomes or other substances in certain cells so that all their descendants would be abnormal and destructive to other portions of the body. This is one hypothesis. The other is that a parasite must be closely associated with the tumor in all its forms and stages, otherwise the growth comes again under the physiological control of the body."

NEW TIDE GAUGE WILL AID GOVERNMENT SCIENTISTS

Scientists of the United States Coast and Geodetic Survey at Washington are enthusiastic over a new type of gauge for recording movements of the tides, which has just been developed.

"For some time," said Commander G.T. Rude, chief of the division of tides and