

ASTRONOMY

Find Asteroid's Distance

► A NEW and simple method for plotting the distance to a just-discovered asteroid, or minor planet, has been suggested by Dr. John S. Hall, of the U. S. Naval Observatory.

Until now, astronomers have figured out the distance to newly-discovered heavenly objects by plotting their paths, or orbits, through the sky. To be done accurately, this takes at least three observations of the object at three well-separated times.

The method proposed by Dr. Hall and Arthur A. Hoag, also of the Observatory, depends on the polarization of the sunlight reflected from the object.

When light is polarized, its rays are not at random but have been altered so that their vibrations have a preferred direction. Polaroid film is used for sunglasses to cut down glare. A piece of polaroid will let through light vibrating in only one plane, just as a directional antenna preferentially receives certain radio waves.

The proposed method consists of measuring the amount of polarization in the light

from the asteroid. Astronomers know from observations of the moon, Mars and Mercury that the polarization value changes quite markedly with the angle of vision. That is, this value varies with the angle between the earth and the sun as seen from the object.

Following Dr. Hall and Mr. Hoag's suggestion, astronomers will try to determine this relationship for some minor planets. They will do so by finding the relationship between the amount of polarization and the angle of vision. When the polarization of an unknown object is observed, astronomers from this relationship can then determine the angle of vision.

When this angle is known, the solution of the distance problem is simple. This is because the angle formed at the earth by the sun and by the asteroid, and the distance to the sun are both known. That is, two angles and one side of a triangle are known and the distance to the unknown object can be readily determined.

Science News Letter, June 16, 1951

AERONAUTICS

Military Planes All-Jet

► FIGHTERS AND BOMBERS of the Royal Air Force will soon be composed entirely of jet-propelled planes, it is predicted in London. A forward step in this direction is the new four-engine Vickers 660, which recently made its first flight and has now gone into quantity production.

This bomber is in the 600-mile-per-hour class. Details are not revealed. It is said to be faster than the twin-engined Canberra which is capable of speed of over 600 miles an hour, and it has far greater bomb-load capacity and much greater range. It is designed to replace piston-engine bombers now in use.

The announced objective of British authorities is a military air force with all

planes powered by jet engines. Included are fighters, night-fighters, all-weather fighters, trainers, tactical bombers, heavy bombers, naval all-weather and strike fighters and anti-submarine aircraft. The program for a completely jet-equipped service is well on its way with the development of this Vickers heavy bomber.

In addition to an all-jet military air service, British aviation is headed toward extensive use of jet power in commercial airliners. As recently announced, jet airliners will go into regular service on the London-Rome-Cairo route within a year. The present jet-propelled airliner known as the Comet is now flying the route as the first stage in route trails before the other jet-liners under construction go into service.

Science News Letter, June 16, 1951

GENERAL SCIENCE

Philadelphia Citation to Science Service Director

► FOR WORLD-WIDE activities in public understanding of science, the Philadelphia Science Council has awarded a special citation to Watson Davis, director of SCIENCE SERVICE.

The citation was presented in connection with awards to Philadelphia area high school students selected by competitive

examinations as those most promising for college work in science.

Activities conceived and carried through by Mr. Davis and his associates in SCIENCE SERVICE have had "particularly significant results in encouraging boys and girls to carve their careers in science," it is stated by the citation signed by the president and secretary of the Council, Dr. Armand Spitz, president of Spitz Laboratories, and Prof. Harold F. Bernhardt, of Temple University.

"The world of tomorrow will be influenced strongly by the science students who today are being helped toward their future professions," the citation further reads. "They and the world are richer for the inspiration and guidance of Watson Davis and those who share his dream."

Composed of scientists, industrialists and educators, the Philadelphia Science Council for five years has conducted a program of science encouragement for high school students in the Philadelphia area.

Science News Letter, June 16, 1951

MEDICINE

Nervous High Blood Pressure Relieved by Two New Drugs

► TWO DRUGS that relieve high blood pressure of nervous origin were reported by Dr. Henry A. Schroeder of Washington University School of Medicine, St. Louis, at the meeting of the American Heart Association in Atlantic City, N. J.

The drugs are known by their chemical names of 1-hydrazino-phthalazine and 1-hydrazino-4-methyl-phthalazine.

After it was found that these drugs could keep the blood pressures of dogs with high blood pressure at normal or near normal levels, they were given to 30 patients.

"Considerable sustained action was shown in reducing blood pressure in hypertension of nervous origin, but little or no effects were seen in hypertension associated with the kidney," Dr. Schroeder said.

The drugs were given by mouth. In the beginning of treatment with them, the patients suffered headache, nausea and vomiting, which were controlled by anti-histaminic drugs, and low blood pressure associated with change in posture. After repeated doses, these toxic signs grew less.

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● RADIO

Saturday, June 23, 1951, 3:15-3:30 p.m. EDT

"Adventures in Science," with Watson Davis, director of Science Service, over Columbia Broadcasting System.

Dr. Farrington Daniels, professor of chemistry at the University of Wisconsin, will discuss "Utilization of the Sun's Energy, Our Greatest Source of Continuing Energy Available to Mankind."

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