

RADIO

September 21, 4:15 p. m., E.S.T.

WAR ON WEEDS—Dr. Earl Bressman of the U. S. Department of Agriculture.

September 28, 5:15 p. m., E.S.T.

DISEASES OUTSIDE OUR DOOR—Dr. C. V. Akin, Chief Quarantine Officer for the Port of New York.

In the Science Service series of radio discussions over the Columbia Broadcasting System.

comparing the sun's light with that given off by first magnitude stars, among the brightest in the heavens, but only about a hundred billionth the brightness of the sun as viewed from the earth. Both were compared with a standard lamp, the sun in the daytime and the stars at night, with the lamp 500 feet away. Stars used were Vega, in the constellation Lyra, Deneb in the Swan, and Capella in the Charioteer. Measurements of the light of the full moon were conducted in a very similar manner.

Science News Letter, September 18, 1937

MEDICINE

Match Inhaler Invented For Treatment of Colds

A FRICTION match for treating colds has been invented by Alfred Schmid of Berlin-Dahlem, reports the American chemical journal "Industrial and Engineering Chemistry." The device consists of a small glass rod coated with absorptive charcoal which contains a carefully measured amount of iodine. The tip of the match is covered with an incandescent mantle of easily ignited iron. When this covering is ignited, iodine vapor is created and can be inhaled directly. The inhaler can be carried in the pocket.

Science News Letter, September 18, 1937

Cherries, unlike many fruits, stop developing in color and flavor as soon as they are picked.

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SEASICKNESS

ASTRONOMY

Giant Variable Stars Vary Entirely By Laws of Chance

Statistical Analysis of Cycles of 400 Long-Period Variables Explains Why Blinks Were Unpredictable

SCIENCE'S many futile attempts to predict the changes in brightness of the heavens' blinking giants, the long-period variable stars, have been ended by the explanation of two Harvard astronomers that only the law of chance governs their irregular flarings and fadings.

Under this circumstance, say Leon Campbell and Dr. Theodore E. Sterne of the Harvard Observatory staff, no mathematician can possibly anticipate the irregular changes of brilliance. Their research has also eliminated the belief of some astronomers that there have been important and widespread evolutionary changes of increase or diminution of cycle among these long-period variables.

The findings are the result of a two-year statistical analysis of the cycles of nearly 400 long-period variable stars, some of them with observation records running back more than a century. These stars are a class of gigantic red suns which flare and fade in brilliance in periods ranging from several weeks to several months. When at their brightest they may be as much as ten thousand times more brilliant than when they are dimmest.

Early studies of these stars told astronomers that their cycles are not exactly periodic and that the irregularities are too large to be accounted for as observational errors, but astronomers have never been able to devise any formula that would enable them to predict the cyclical alterations. Some mathematical expressions have been obtained to cover a given series of data but these have almost invariably been away off in later observations.

In explanation, Mr. Campbell and Dr. Sterne say that "most of the irregularities of period can be attributed to a natural spread among the cycles of a star. Some cycles are longer than the average, some shorter. It appears to be usually a matter of chance, in a long-period variable, whether a particular cycle is long or short.

"In view of the improbability that over two different intervals of time there

will be exactly the same proportions of long and short cycles, unpredictable deviations from uniform time-keeping should be expected."

As for evolutionary changes among these stars, the two scientists admit they have probably occurred since the universe was formed several billion years ago, but they find "no good evidence" of such a change during the past century. If there is any general evolutionary change, they say, it is too slow to be detected over so short a period as a hundred years.

The "mathematical chance" solution fitted nearly all of the stars observed, the only exceptions being a small group of stars which have shown increases or decreases "of too systematic a nature to be explicable by the natural spread among cycles." These included the stars R Hydrae, R Aquilae, U Bootis, R. Cancri and S Serpentis.

Science News Letter, September 18, 1937

Some kinds of palms make suitable house plants, says a Cornell botanist, but he warns that they cannot stand sudden changes of temperature.

Soviet scientists are trying to find out the meaning of 50 great structures of rough piled stones, about 3,000 years old, in Azerbaidjan.

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