

ASTRONOMY

New Object in Heavens Pronounced An Asteroid

A FAINT speck of light in the heavens, discovered by German astronomers, has been sighted through the 26-inch telescope of the U. S. Naval Observatory and pronounced an asteroid or minor planet.

Two German astronomers, Schwassman and Wachmann of Bergedorf Observatory near Hamburg, who have won fame for many such discoveries, located the asteroid and announced it to the astronomical world. They first sighted it on St. Patrick's Day, and also determined a second position on March 21.

Later an American astronomer, H. E. Burton, determined the position of the rapidly moving object and William M. Brown and John E. Willis of the U. S. Naval Observatory staff completed a preliminary computation of the object's orbit or path in the heavens.

The asteroid is about as far beyond the earth as the earth is distant from the sun. It is receding from the earth and the sun so that it will not grow brighter or approach closer to the earth. It has an orbit about twice the size of the orbit of Eros, the unusual asteroid which has just paid an extraordinarily close visit to the earth. It revolves about the sun once in four and seven-tenths years, the tentative computations of the astronomers indicate. The newly found asteroid is believed to be a rather ordinary member of the family of minor planets that circle about the sun in the space between the planets Mars and Jupiter. There are more than a thousand of these minor planets.

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NUTRITION

Rats Thrive on Diet of Canned Food Only

EXPERIMENTS designed to test whether canned foods can be used as the sole source of vitamins A, B and C have shown that laboratory rats and guinea pigs fare excellently on a diet consisting solely of canned goods.

The experiments were made by Dr. E. F. Kohman of the National Cannery Association, Prof. W. H. Eddy of Teachers College, Columbia University, and Celia Z. Gurin and were reported to the American Chemical Society.

A balanced diet of four or five canned foods was fed for five days to

the animals, who were allowed to use their own discretion in eating them. After the end of each period of five days a change was made to a new dietary combination. Three generations of rats and guinea pigs have thus dined on 74 combinations of 49 canned articles, and are now in better health than other animals fed on the usual laboratory stock fresh diets.

Previous trials of this kind have tested the deficiency of a particular vitamin in a special foodstuff, and have not sought deficiencies which made themselves felt in later generations. Extremely varied and balanced diets of the kind used in these experiments have failed to give evidence for the belief that canned foods cannot supply all dietary wants.

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MEDICINE

Heroic Doses Required to Save Cats After Gland Loss

HEROIC DOSES of the new glandular extract which maintains life in men and animals after loss of or injury to the adrenal glands are necessary to produce desired results, at least in cats, Drs. S. W. Britton and Herbert Silvette of the University of Virginia, report in *Science*.

The cortical extract, so-called because it is obtained from the vital cortex of the adrenal gland, has been prepared by two groups of scientists, Drs. W. W. Swingle and J. J. Piffner of Princeton University, and Drs. F. A. Hartman, K. A. Brownell and W. E. Hartman of the University of Buffalo. In the studies at the University of Virginia both types of cortical extracts were used.

The extracts have been used successfully in prolonging the lives of patients suffering from heretofore fatal Addison's disease.

The amount of extract necessary to restore animals that were prostrate as a result of loss of their adrenal glands represented more than a thousand times the amount of cortical tissue normally present in the animal's body, the Virginia investigators found.

"It seems likely that previous observers may not have secured noteworthy effects with their cortical extracts because of failure to employ the heroic dosage necessary," Drs. Britton and Silvette concluded.

While their studies were made on animals, the results are probably applicable to human patients.

Science News Letter, April 4, 1931

IN SCIENCE

PSYCHOLOGY

Scientists Relax To Solve Problems

PERIODS of rest or temporary abandonment of effort are quite essential to the successful research worker, Washington Platt of Syracuse, N. Y. and R. A. Baker of the College of the City of New York, told the American Chemical Society.

Several hundred research workers and directors of research had answered questions as to conditions which are favorable or unfavorable to efficient research. The majority agreed that "problems may be solved when the mind is on the fringe of consciousness."

The mind must be provided with facts, the scientists concluded, but periods of temporary abandonment of creative effort are also quite necessary.

Science News Letter, April 4, 1931

CHEMISTRY

Pill of Immortality Was Goal of Chinese Chemists

THE PILL of immortality was sought by the Chinese alchemists in the third century B. C., long before Europeans began their fruitless search for the Elixir of Life, Prof. Tenney L. Davis and Lu-Ch'iang Wu of the Massachusetts Institute of Technology told the American Chemical Society.

To become a "hsien" was the dream that lured on those early scientists in their quest for immortality. A hsien was "a benevolent supernatural being endowed with extraordinary powers, able to appear and disappear at will, to pass unharmed through fire and water."

The western counterpart of this idea, the Elixir, was probably invented by the Arabs and borrowed from them by European alchemists, said Prof. Davis. The Elixir was a sort of medicine by which ordinary existence was supposed to be prolonged indefinitely.

The obviously different notion of "hsien" is taken as evidence for the independent origin of Chinese chemistry and derives from the philosopher Lao Tzu.

Science News Letter, April 4, 1931

E FIELDS

ECOLOGY

Moving Dunes Threaten To Wipe Out Forest

OREGON'S "lost forest," a five-mile square tract of pine timber in the isolated interior of Lake county, southwest of Wagontire Mountain, has been reached by advance waves of huge sand dunes which menace its existence. The big dunes are creeping into the tiny forest, more than thirty miles removed from the nearest pine belt, at the rate of about twelve feet a year, before a prevailing southwest wind.

Some of the outlying trees of the compact group of pines on the Oregon plateau are already half covered by the drifting sand. The dunes are moving toward the "lost forest" in a series of waves which extend many miles into the southwest.

Whether the tiny forest of the Lake county plateau will eventually perish as the dunes slowly pile up among the trees is uncertain, but it is known that large tracts of junipers were covered by the sand and killed. The trunks of these sand-killed junipers, stripped of bark and foliage, now stand like ghost trees, white and gnarled, amid sage brush.

Soil where the isolated pines are growing appears to be peculiarly suited to the conifers.

Just to the south of the little forest, a big sand dune has moved over a spring from which a large stream of water flowed about ten years ago.

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CONSERVATION

Corn On Cob Saves Wintering Bobwhite

CORN on the cob, appreciated by every true American during the summer, is no less appreciated in the winter by that fine American bird, the bobwhite quail. It is their best source of food when the weather becomes severe and the weed seeds and smaller grain become exhausted or hard to get at.

This is one of the results of a study

of a thousand bobwhite carried on by P. L. Errington, a fellow at the University of Wisconsin, which will be announced shortly in a University publication.

Mr. Errington found that bobwhite thrive best when they had access to cornshocks, especially when these were arranged with an eye to their comfort, tied at the top and spread rather widely at the bottom. The birds would husk their own corn as they found it inside, and in the shocks they also had shelter from the weather and from most of their predatory enemies.

Science News Letter, April 4, 1931

PSYCHOLOGY

Color-Blind Salesmen Handicap to Firm

IF YOUR wife sends you to a dry goods store to match the proverbial "sample," you very likely leave the actual matching process to the salesman. And if you do there is a strong chance that you may have to take the goods back again—the salesman may be color-blind.

Prof. W. R. Miles and Homer Craig, Jr., of Stanford University, have recently given a color-blindness test to 375 dry goods salesmen who were dealing with colored goods. They found 27 well marked cases of color-blindness. This proportion is just about the same as that which exists in the general population. Dry goods work fortunately does not attract more than its quota of these individuals, but neither are they eliminated by ordinary employment methods. No color-blind salesmen were found in the silk department, however.

Prof. Miles believes that probably at least half of the color-blind salesmen are a handicap to the firms employing them, and should be transferred to departments where it would not be necessary for them to handle colored goods. He recommends the giving of a color-blindness test to all employees.

In some rare cases, color-blindness might be an asset to a salesman. One of the men who failed on the test had had considerable success in selecting ties for customers to match their suits.

"This man perhaps selected the neckties on the basis of brightness," Prof. Miles said. "He probably pulled several from the tie-racks, saying to the customer, 'Any of these ties would go well with your suit.' The customer then selected the best color combination from the group of ties.

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PSYCHOLOGY

Physical Exercise Does Not Retard Learning

ENFORCED physical exercise does not affect the learning ability of adolescents—at least when the adolescents are young rats.

In the Laboratories for Research in Athletics at the University of Illinois, Stephen Maxwell Corey tested the ability of several groups of young rats two months old to learn their way through a maze. At two months, a rat is at the stage of development roughly comparable to human adolescence.

Some of the groups took part in athletics, consisting of running about a revolving cage, treadmill fashion. The others led a more quiet life. In the majority of cases, it was found, the exercised rats made the better scores, but the difference was not great enough to be very significant, and the superiority of the exercised animals did not become greater as the amount of exercise was increased.

"Even in the case of the group exercised for five hours a day, which meant approximately six miles of running, the physical exercise appeared to have no decided effect upon the rat's ability to learn or relearn the maze," Mr. Corey says in a report of his experiment.

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PHYSICS

Electrons and Protons Paired in Atom Nucleus

ATOMS whose weight-bearing cores contain even numbers of both electrons and protons are twenty times more frequent than all others, Prof. William D. Harkins of the University of Chicago has reported. Of all the chemical elements found on the earth, said Prof. Harkins, 95 per cent. belong to a class in which each building stone of the atomic core has a mate.

The electrons of a pair in the central heart of the atom are not absolutely identical, however. One is spinning in the opposite sense to the other. Thus the nucleus as a whole is free from spin.

These facts throw very important light on the stability of atoms and therefore on the reason why some chemical elements, like radium, are continuously disintegrating into simpler atoms.

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