

ASTRONOMY

Most Rapidly Flashing Star Found By Dutch Astronomer

THE "electric sign of the sky," a star flashing out brightly every 100 minutes, has been discovered by H. van Gent, of the Leyden Observatory. The discovery was made while Mr. van Gent was performing research at the Union Observatory, in Johannesburg, South Africa. Many variable stars, which regularly change in brightness, are known and studied by astronomers, but this one, which is in the southern constellation of Puppis, part of Argo, the ship, changes more rapidly than any other known variable. Usually the period is a matter of days.

A difficulty arose in measuring the period of Mr. van Gent's star, because the exposure required to photograph it, on account of its faintness, is about half an hour, and during this time it makes a considerable change in brightness. However, when brightest it is of the 14th magnitude, and can be observed visually with the great telescope at the Union Observatory. From these observations with the eye aided with the telescope, the period has been determined. The change is about one magnitude, so when brightest it is about two and a half times as brilliant as at the minimum of the period of variation.

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PSYCHOLOGY

Criminality Results From Damage to Personality

THAT criminality is a disease resulting from damage to the personality was demonstrated by Dr. Ben Karpman of St. Elizabeth's Hospital to fellows of the American College of Physicians meeting in Washington.

Criminality is essentially a psychic disease, Dr. Karpman explained. It may be what psychiatrists call a neurosis. It is an expression of conflicting social and diverse drives.

Dr. Karpman believes that the criminal act appears as an attempt to neutralize the damage originally done to the personality. However, the act is only symptomatic and can find but partial satisfaction in the deed. This leads the individual to seek satisfaction constantly in further repetitions of the criminal acts, which in turn leads to criminality as an habitual reaction.

If the source of irritation to the personality is removed, it should be pos-

sible to restore the criminal, or the patient, to his original state of health and moral rectitude.

This has been done in a few cases, Dr. Karpman said. However, psychotherapy, or treatment of diseased personalities and minds, is like a major surgical operation and requires post-operative care. The careful surgeon when discharging his patient directs him on how to live so as to avoid a recurrence of his ailment and to remain healthy. The patient who has recovered from a mental or personality disease needs similar direction and after-care. If he is returned to the same environment in which he became ill, a relapse may be expected. The necessary after-care of these cases requires extensive and expensive social service work, Dr. Karpman stated.

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ARCHAEOLOGY

Scabbard of Roman Sword Dredged Up in German River

DREDGERMEN operating along the west bank of the Weser near Bremen were astonished a short time ago to see the huge bucket of their machine bring up from the silty bottom the scabbard of a Roman sword. Rescued with but little damage, it now resides in the Bremen Municipal Museum.

The find is described in the German scientific journal *Forschungen und Fortschritte* by Prof. Alwin Lonke of the Museum. The scabbard is made of wood, which was enclosed in an outer sheath of leather, and that in turn overlaid with ornamental plates of metal wrought with artistic designs.

The scabbard was designed for the typical Roman short sword, for it is only about twenty inches long. Its width is a little over three inches. The iron blade of its sword had almost wholly disappeared, only a rusted fragment remaining.

What the Roman officer who bore his weapon in this scabbard was doing away up there on the northwest coast of Germany, very far from the nearest Roman city, is hard to guess. There may have been occasional Roman galleys on reconnaissance in the Weser, or possibly the sword may have been in the hands of a German warrior, either through the fortunes of war or through purchase, when it was lost on the swampy shore of the Weser nearly two thousand years ago.

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IN SCIENCE

ZOOLOGY

The Precious Jewels In His Head Are Twain

See Front Cover

DID YOU ever stop to take a really good look at a toad's eyes?

Just as many a plain-faced person is redeemed from ugliness by having fine eyes, so also does the toad find salvation from his ungraceful form, his abysmal mouth, his warty skin. His eyes are of beryl and chrysoptase.

In his almost-too-often quoted line about the toad bearing a precious jewel in his head, Shakespeare was only repeating the current belief of his time, which was older than Aristotle. Though then it was believed that this jewel was concealed inside the toad's broad cranium, it seems quite possible that the idea first arose from someone's seeing a toad's eye shining in the dusk by reflected light. For like most hunters that stalk their prey by half-light, the toad has highly reflecting surfaces on his eyes.

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ENGINEERING

Stethoscope Used to Detect Flaws in Metal Welds

IF YOU see a serious young man industriously hammering a piece of pipe and listening to it through a regulation physician's stethoscope, don't be alarmed.

For the familiar double tube listening device used by your doctor in inspecting your chest and heart is now a testing instrument to detect flaws in welds of pipes and other metal objects. As welding has replaced riveting in joining pieces of metal together, engineers have felt the need of a simple test to assure them that the fusion of the metal has been accomplished without leaving dangerous weaknesses. Welds that are defective give out a different sound when they are sharply tapped.

The new test was invented by A. B. Kinzel of the Union Carbide and Carbon Research Laboratories of Long Island City, N. Y.

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E FIELDS

SEISMOLOGY

Alaska Lighthouse May Slide Into Sea

A HIGH BLUFF of solid rock towering above the sea at Cape Hinchinbrook, Alaska, has been so affected by a series of small earthquakes in that region, that it is about to crumble and fall into the sea, the Department of Commerce Lighthouse Service has reported.

This would be especially serious to one of the lighthouse keepers in the service, because it happens that his lighthouse is built upon this bluff. Since 1910, when the lighthouse was built, he has felt safe; but lately he has gone into the tower to keep the light going, only in fear and trembling, and has completely abandoned some of the other buildings on the spot.

Cracks have appeared in the rock of the cliff as a result of the little quakes, and these cracks have filled with water which has frozen. Tons of rock have already fallen to the beach as a result, and it is only a question of time before the lighthouse tower itself will crash.

A new station set back from the edge of the cliff will be built this summer; in the meantime the keeper of the light will have to be careful.

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ENTOMOLOGY—PUBLIC HEALTH

Trap May Exterminate Africa's Dread Tsetse Fly

THE TSETSE fly, worst enemy of man and beast through wide stretches of Africa, seems to have met his match in a sharp-witted naturalist, R. H. T. P. Harris, who has devised a trap it can't keep out of, and once in can't get out of.

The tsetse fly, which is the insect carrier of sleeping sickness among human beings and also of a disease known as nagana, even more fatal to domestic animals, has been responsible for the depopulation of wide and fertile lands in Africa, and for the slowing down of further settlement in the veldt coun-

try. It has been recognized that these parts of Africa will be literally no man's land until the fly can be conquered.

Since the fly is known as a hunter by sight rather than by scent, the first efforts against it were made by setting up dummy game animals, smearing them with a contact poison which would kill the insects when they alighted on it. This method, however, has not proved economical.

Mr. Harris' much more effective method is based on his close observation of the habits of the tsetse. He had seen that the fly is a nervous sort of creature, darting into the deepest shade it can find, resting a while, and then as abruptly darting toward the brightest light it sees.

So he rigged inverted trough-shaped shelters of cloth stretched on wooden frames. This provided attractive darkness for the flies. On top, over a small opening, he placed wire flytraps. The bright shaft of light streaming through the openings lured the flies upward—into the traps where they could only buzz about in futile attempts to escape until they died of exhaustion.

The traps are reported as being amazingly efficient in field operation.

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PSYCHOLOGY

Personality Is Defined As Effect on Others

THE VAGUE term "personality," which has so many different meanings when used by different persons, is properly defined as that which makes one effective, or gives one influence over others, Dr. Mark A. May, of the Institute of Human Relations, Yale University, said in a report to the Psychological Corporation of New York.

"If an individual is a 'weak sister' in the sense that his presence or absence makes no difference in the behavior of others, then he has a weak personality," Dr. May said, "if on the other hand his presence or absence makes a big difference in the conduct, ideas and attitudes of others, then he has a strong personality."

Dr. May's definition differs from that of many modern psychologists, he explained, because the latter regard personality as the way in which the individual responds to outside influences rather than as the way in which others respond to him.

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ARCHAEOLOGY

Secret Tunnel for Siege Found at Gaza in Palestine

A SECRET tunnel, which enabled the inhabitants of ancient Gaza to emerge from their city when it was besieged by its enemies, has been discovered by the expedition of the British School of Egyptian Archaeology.

The expedition, directed by Sir Flinders Petrie, has identified Tell el Ajjul in southern Palestine as almost certainly being the site of Gaza which figures in Old Testament history.

The tunnel which has been found was dug in the rock for a length of 400 feet and led out of the city. That such a tunnel was built indicates that the city feared heavy sieges and was prepared for them by this secret exit. Out of the tunnel, fighting men could suddenly rush for a night attack on the enemy, or else in desperation the population could use this exit in an attempt to abandon their city secretly.

In this season's excavations at the site, special attention is being given to the remains older than 2000 B.C. in the hope of making new discoveries regarding early events in Palestine.

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ARCHAEOLOGY

Jewelry of Nebuchadnezzar's Courtiers Found at Kish

SLID GOLD ornaments and other articles of jewelry worn by men and women at the court of King Nebuchadnezzar, in the sixth century B. C., have been discovered at Kish by the Field Museum-Oxford University Joint Expedition to Mesopotamia.

Various levels of the ruins of Kish are being explored and are yielding objects from different periods of ancient history, the report states. More than 300 laborers are working under the direction of the staff archaeologists.

Work of opening and exploring Sumerian royal tombs more than 5,500 years old has begun. Remains of several chariots, oxen and harnesses have been found near the tombs.

A palace of the Sassanian period, 226 to 637 A. D. has been uncovered, and various rooms explored. Objects found in the palace ruins include carved stone heads of women, figures of flying angels, friezes of giants and animals, and plaques of lotus and pomegranate.

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