ASTRONOMY

Great Meteor Seen—Half Moon's Diameter

AN EXCEPTIONALLY large and brilliant meteor, so bright that it was clearly visible against the setting sun, was reported to Harvard Observatory by Prof. William R. Ransom, Tufts College mathematician and amateur astronomer.

It was sighted Tuesday, October 22, at 5:10 p. m. in practically broad daylight, almost due west and travelling vertically. It appeared fairly high in the sky, traveled on a path about thirty degrees long, and disappeared about twenty degrees above the horizon. Its head was about half as wide as the full moon. It had a sizeable tail and was brilliant bluish-white in color. Several other similar reports were made to the Harvard astronomers. The meteor was also seen from New York City.

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AVIATION

New Instrument Checks Pilot's "Blind Spots"

SAFER airplane landings are expected to result from a new instrument developed by the National Advisory Committee for Aeronautics which makes possible, for the first time, an accurate plotting of the "blind spots" in a pilot's line of vision.

Blind spots are those regions where the body of an airplane, its engine or wings obstruct the view so that the pilot must make his landings, in part, by instinctive "feel" of his plane rather than by actual sight. Blind spots, too, are the menace of military airplanes in wartime, for enemy aviators can sneak up in a blind spot zone and attack almost before the victim plane realizes anyone is near.

The new apparatus which charts blind spots is the invention of Melvin N. Gough of the N. A. C. A.'s staff at Langley Field, Va. Its name is the visiometer.

Place one in the cockpit of a plane at the spot where the pilot's head comes in actual flight and the device measures accurately the exact parts of the plane which obstruct vision. Plotting the data thus obtained on graph paper enables scientists to obtain a plane projection of the three-dimensional field of view. The result is comparable, in its way, to the Mercator projection of the three-dimensional earth on a wall map for the classroom.

Easily portable and adjustable, the new N. A. C. A. visiometer can take its readings in the "flight" position of the pilot or in his "landing" position. During the latter the pilot's seat is elevated and his head comes up from behind the windshield. In this position the field of view is considerably improved.

In military craft the problem is especially important. During the World War many pilots cut away part of the fabric of their planes to eliminate such blind spots and obtained good success (which for them meant longer life), even though the performance of their planes was sometimes reduced.

By using the new visiometer and finding blind spots while the plane is sitting in its hanger, improvements in military craft are also expected. During the war such findings were military secrets and carefully guarded.

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SURGERY

Honey, Ancient Dressing For Wounds, Rediscovered

HONEY as a dressing for wounds was popular at one time in the Middle Ages. Still earlier, during the Roman Empire, it enjoyed a certain vogue; and Pliny refers in a certain passage to fish fat and honey as making a good ointment for wounds. It may well be that the fish fat he refers to was codliver oil.

Now honey has been re-discovered as a remarkably effective ointment. In a Red Cross hospital in Hamburg, Germany, tests have been carried out with honey during the past half year, and it has been found that even contaminated wounds quickly become cleaner under its influence. But though it cleans a wound, it does not seem to make it heal more quickly than before. As codliver oil promotes rapid healing, it has been combined with honey in an ointment so as to achieve the double purpose of cleansing and healing.

So in this respect we are back again in the days of Pliny, after many a digression and much circumspection.

How does honey act? Does it cause beneficial fermentation? And which of its many component parts is most potent: its sugar, mineral salts, plant acids, higher alcohols or some ferment? Doubtless the Germans, with their methodical instincts, will isolate each of the component elements of honey, and will try each in turn on a number of cases of varicose ulcers, wounds, etc. Pending conclusive findings from these future experiments, tests with whole honey will be continued.

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IN SCIENC

ETHNOLOGY

Flathead Indians Gain First Tribe Constitution

INDIAN history has been made. Aged Flathead chiefs in colorful regalia of feathers and buckskin gravely watched Secretary of Interior Harold Ickes sign an important document. While news cameras flashed and clicked, the Government of the United States presented to the Flathead Tribe of Montana the first tribe constitution approved under the Indians' new deal.

The document, prepared mainly by the tribe itself and accepted by popular vote five to one, gives the Flathead Indians the legal machinery for organizing their own group and taking over a large measure of power over their own affairs. All Indian tribes who accept the provisions of the Indian Reorganization Act, passed by the last Congress, may work out their own constitutions, and a number of tribes have been actively engaged in this task.

The historic document was accepted by Martin Charlo, 75-year-old Flathead chief, who replied in his native tongue to Secretary Ickes' words of welcome. As on other historic occasions between Indian chiefs and white men, an interpreter echoed each speech in the alternative tongue.

Once adopted, a tribal corporation cannot be abolished by any Indian Commissioner or Secretary of Interior, it has been pointed out. Only by Act of Congress can such an organization of Indians be abolished.

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PHOTOGRAPHY

Mechanics is Portrayed In Photo-Mural by Students

See Front Cover

THE photographer has found beauty in a machine shop in the illustration shown on the front cover of this week's SCIENCE NEWS LETTER.

The photograph is part of a photo-mural made entirely, from negative to final panel, by members of the Experiments' Club of the DeWitt Clinton High School, New York City. This panel represents "Mechanics."

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E FIELDS

BOTANY

Wicked Ethiopian "Weapon" Comes From America

AMERICAN barbed-wire manufacturers are said to be refusing orders from the belligerent powers in Africa. But something from America, almost as wicked, was at the front long before Romans and Ethiops began taking pot-shots and spear-jabs at each other.

Cactus is figuring in news pictures from the Ethiopian war zone. Machine-gun nests are shown flanked or half-camouflaged by huge plants of flat-jointed prickly pear bristling with spines—menacing alike to Italian uniforms and Ethiopian chammas, not to mention the legs and arms beneath them.

All true species of cactus are of American origin. The prickly plants were unknown in the Old World before the voyages of Columbus. But once cacti were introduced from Mexico and South America they became established all around the Mediterranean shores in amazingly quick time, and from there they spread throughout the dry lowlands of northeast Africa and southeast Asia, until now they seem normal, native parts of the landscape.

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MEDICINE

Expectant Mothers Should Be Given Diet in Detail

DETAILS of the diet to be followed by expectant mothers, in order to safeguard their own and their child's health, were presented by Dr. Leighton C. Conn, professor of gynecology and obstetrics at the University of Alberta Medical School, Edmonton, Canada, at the meeting of the American College of Surgeons.

Dr. Conn, in presenting the dietary details, told his colleagues that physicians generally are too apt to take for granted the patient's knowledge of adequate diet. In spite of the fact that the public of the United States and Canada are "diet conscious," many people, especially expectant mothers, do not eat the right things in the right quantities.

It is not enough to tell the expectant mother "to be careful of her diet," Dr. Conn declared. She must be told explicitly what to eat, with due regard for individual idiosyncrasies.

As a basic framework on which to build such a diet, Dr. Conn suggested a daily allowance of one quart of milk supplemented twice a week by cheese; two cups of vegetables, one fresh when possible; one cup of fruit, including citrus fruits or canned tomatoes three days of the week; one cup of whole cooked cereal supplemented two or three days a month by uncooked grain germ; and one medium sized serving of meat, fish, fowl or eggs, with the addition of liver once each week.

After allowing for any food sensitivities of the individual, the remainder of the diet should be made up of bread, potatoes, macaroni, crackers, rice, cakes, sugar, jelly, jam, syrup, cream, butter and salad oils as dictated by the appetite and the necessity of regulating the increase of weight to about fourteen per cent. of normal weight.

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ORNITHOLOGY

Radio-Like Waves Guide Homing Pigeons, Is Theory

WHAT mysterious force draws a homing pigeon back to his home base as if he were tied to it with a rubber band?

Recent suggestions that every point of the earth's surface emanates specific radiations such as the waves sent out from a radio station and that birds react to these "home rays" are worth considering, Dr. Ernest E. Mayr of the American Museum of Natural History, New York, told members of the American Ornithologists' Union.

"While this is an attractive theory, and fully as plausible as any yet suggested, so far nobody has proved the existence of these waves nor has the receiving organ been found in the body of the bird," he said.

"Certain aspects of homing, however, lend some strength to the idea. Atmospheric disturbances seem very detrimental to pigeon races, and the racing of pigeons on certain courses, especially over mountain country, is much less successful than on other routes.

"Because pigeons have been shown to have an excellent homing ability in fog when there are no adverse atmospheric conditions, the electrical disturbances in the air, rather than reduced visibility, seem to be the cause of failure of many flights.

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EVOLUTION

Darwin Monument Erected On Galapagos Islands

DARWIN, establisher of evolution as a world-accepted scientific doctrine, has been memorialized by the erection of a monument in one of the loneliest places on earth—the Galapagos islands, where 100 years ago this autumn the germinal idea of evolution first occurred to him. A party of scientists, after a sojourn in Ecuador, went to the islands under the leadership of Dr. Wolfgang von Hagen. They took with them three stonemasons, who erected a pedestal of native basalt. On this they set up a bust of the famous English naturalist.

It was in the autumn of 1835 that Darwin, then a "cub" naturalist just out of college, landed on these uninhabited islands in the Pacific, south of Panama and west of Ecuador. He was serving as junior scientific member with an expedition on the British naval vessel "Beagle." He had observed the remarkable similarities underlying differences in animals and plants in the lands already visited, largely in South America. On the Galapagos, where the party stopped during September and October, the weird and unique fauna, with enormous tortoises, swimming lizards and the only penguins living north of the Equator, he had his great inspiration, which after many years he published in his old age, to revolutionize biological science and loose the philosophico-religious conflict that has not yet died down.

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ENGINEERING

Four Lane Highways Are Indicted as Death Traps

FOUR-LANE roads are active death traps and at least two states are taking steps to eliminate them.

Accident frequency records on Indiana's four-lane road that skirts Lake Michigan has caused that state to announce that it will build no more such wide roads without a dividing parkway. At the same time, New Jersey is planning to split eight miles of the Brunswick pike in the middle and slide two lanes of the concrete pavement far enough to one side to provide for a separating parkway.

"The cost will be $50,000 per mile for eight miles, and this investment is made purely for safety—no more travel space is added," says a report in the *Engineering News-Record* (Sept. 26.)

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