

ARCHAEOLOGY

**Gifts of Wise Men
Featured in Exhibit**

GOLD, frankincense, and myrrh,—Christmas gifts brought by the Wise Men, St. Matthew tells, to the cradle of the Christ Child—are being shown in Philadelphia in the form in which they would naturally have been offered in those days. The exhibit has been arranged by the Academy of Natural Sciences of Philadelphia.

The appearance and value of gold are familiar enough today. But frankincense and myrrh are little more than names to the modern giver of Christmas gifts.

Frankincense is shown as a gum obtained from an East African tree. The gum was sought by the Egyptians for use in religious rites, and was also used as a fourth part of the incense in the Hebrew sanctuary. When burned it had a sweet odor, and in some parts of the East it was used as a medicine.

Myrrh, also a gum, was obtained from a small tree that grows in eastern Africa and in Arabia. As perfume and temple incense, myrrh was greatly esteemed by the ancients. Throughout the Orient it has long been regarded as a sovereign remedy for the relief of pain.

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ZOOLOGY

**Cannibalistic Mouse
Is Farmer's Friend**

AFIERCE mouse, that lives by hunting and often kills and eats other mice, has been studied by Vernon Bailey and Charles C. Sperry of the Biological Survey, U. S. Department of Agriculture. There are several kinds of this hunting mouse, but they all look pretty much alike, and they are all grouped together in the genus *Onychomys*. This formidable-looking Greek name means simply, "a mouse with claws"—though their claws are not much longer than those of other mice.

In the West, where this mouse is common, it is known as the grasshopper mouse, for its chief prey is grasshoppers. In captivity it thrives perfectly well and is apparently contented if it gets plenty of these long-legged insects. But if a mouse of another genus is put into the cage in the evening, there will be only one animal there in the morning—and maybe a few scraps of fur in the corner. *Onychomys* will have killed and eaten his cage-mate.

The appetite of these stubby-tailed little mice is astonishing. The two investigators tell of one that ate another mouse of almost its own size during the night. The next night it ate another, about half its size, and the third night a third mouse, about as big as the first one was. On the fourth morning, in spite of three heavy cannibalistic banquets in succession, it breakfasted on three large grasshoppers and some rolled oats.

Obviously, a mouse of this kind is to be regarded as the farmer's friend instead of as an enemy. A mouse a night, or twenty grasshoppers, which seems to be fair rations for twenty-four hours, represents a really considerable contribution in the way of pest removal.

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ASTRONOMY

**Brilliant Meteor Shower
Seen From Ship at Sea**

AN "immense shower of meteors," or shooting stars, coming as fast as 12 to 15 a minute, was observed in the early morning hours of November 17 from a ship in the Atlantic Ocean near Porto Rico by Second Officer G. T. Bieling, of the American steamer *Annetta*. One was a brilliant fireball, that exploded in a flash so bright that an excellent flashlight photograph could have been taken by its light. This body left a luminous trail visible for 25 minutes afterwards.

In a report of the occurrence to the U. S. Navy's Hydrographic Office, Mr. Bieling said that the display of the meteors lasted from about midnight, eastern standard time, to dawn.

This was the time of the regular November meteor shower, known to astronomers as the Leonids (SCIENCE NEWS LETTER, Nov. 29, Nov. 8, 1930) because they seem to radiate from the constellation of Leo, the lion. Great showers of Leonid meteors were seen in 1799, 1833, and 1866.

Mr. Bieling's report indicates that the Leonid shower this year was even greater than was supposed at the time. It is hardly likely that the maximum shower of Leonids would come as early as 1930, so the great cluster of Leonid meteors is probably approaching the earth's orbit. If this is the case, the next few years should see increasingly greater showers, with a really magnificent one about 1932 or 1933.

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IN SCIENCE

VOLCANOLOGY

**Merapi, Now In Eruption,
Has Long Activity Record**

MERAPI, Javanese volcano whose eruption has been responsible for a number of deaths during recent days, has a long record of activity. During the past century there have been at least 37 eruptions, and less continuous data tell of outbreaks known to Europeans as early as 1678.

Three times in the past Merapi has claimed human victims. In 1822 an eruption killed 20 persons, in 1832 there were 32 deaths, and, in 1904, 12 lost their lives. An eruption in 1849, while not causing any fatalities, was especially destructive to property.

Merapi is one of those volcanoes that tends to build up a plug or stopper of lava in its crater. This confines the energies of its activity, and tends to make them accumulate and finally burst forth explosively.

On Sumatra, another volcano by the same name, Merapi, suddenly burst into activity at the same time, killing a brilliant young German volcanologist, Prof. Werner Borchardt, together with his assistant.

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AQUICULTURE

**Cottonseed Meal
Used As Fish Feed**

ALTHOUGH few fishermen would care to bait their hooks with a string of cottonseeds, it has just been found in the animal nutrition laboratory of Cornell University at Ithaca, N. Y., that cottonseed meal is one of the most satisfactory of the plant products for rearing brook trout.

The meal cannot be fed alone but is mixed in equal parts with dry skim milk and a good fish meal. This dry feed is made into a paste with water and combined with a small amount of raw meat before the fish dietitian casts it to the hungry trout. Among a great many plant foods which have been studied, cottonseed meal excels.

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E FIELDS

MEDICINE

Plant Extract Disguises Bitter Taste of Strychnine

AN extract of a plant called yerba santa or mountain balm was found to be the most effective of several chemicals in disguising the bitter taste of strychnine, Justus C. Ward and James C. Munch of the U. S. Bureau of Biological Survey have reported to the American Pharmaceutical Association. The latter drug, while it is a very strong poison, is used medically in very small amounts, chiefly as a tonic.

Salts and sucrose also masked the taste of the strychnine, but to a less extent than yerba santa. Sodium bicarbonate, on the other hand, increased the bitterness. Taste buds for detecting bitterness are located on the tip as well as on the base and sides of the tongue, the investigators reported.

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MARINE BIOLOGY

Young Oysters Attracted By Bag of Old Shells

IF OYSTERS ever again become as abundant as we'd like to see them, we shall have to thank the Bureau of Fisheries, U. S. Department of Commerce, in large part for the increase. Three Bureau scientists, P. S. Galtsoff, H. F. Prythearch and H. C. McMillin, have just reported their success in finding methods to induce wandering young oysters to settle down and build homes and raise families of their own.

When an infant oyster is hatched from its egg, it is microscopic in size, or nearly so. It is as naked as other infants, having no trace of the solid limestone shell it is later to build about itself. And like many other members of the younger set, it is restless and wants to wander aimlessly. During this period the young oysters are known by the somewhat belittling-sounding name of "spat."

Only after it has had its fling does the young oyster consent to take hold of something solid and settle down to real, dependable oysterhood and grow a

proper shell. It will then use almost anything solid for an anchorage, however, a favorite settling site being the empty shell of a departed oyster.

The three Bureau of Fisheries men fashioned great bags out of coarse chicken wire, filled them with empty oyster shells, and sank them in shallow waters where the oyster spat were thick. They found that these molluscan apartments were attractive to the homeless oysterlings, which took hold in encouraging numbers. Then the wire-netting bags were hauled up on board the boats again and removed to other shallow waters where repopulation with oysters was desirable.

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PLANT PATHOLOGY

New Disease of Onions Conquered in Three Years

YELLOW dwarf, a new virus disease of onions which made its first appearance in the Pleasant Valley, Iowa, onion growing district during the season of 1927, has been brought under control by Dr. I. E. Melhus and W. J. Henderson, both of the plant pathology department of Iowa State College.

The new disease is characterized by a dwarfing of the entire plant and a crinkling, yellowing and drooping of the leaves; it belongs to the filterable virus group of diseases. Yellow dwarf is carried over from season to season in the bulbs, but is not seed or soil borne. It is transmitted from diseased to healthy plants by some unknown agent.

During the season of 1928 there was a monetary loss of \$203,152, due to the yellow dwarf disease. In 1929 the loss was reduced to \$95,663 and for the 1930 season the loss was \$2,895.

This reduction in the amount of loss caused by the yellow dwarf disease was brought about by indexing the onion sets and mother-bulbs and growing them in greenhouse beds. The percentage of infection for each grower's lot of bulbs was indexed. Growers with a high percentage of infected plants were advised to buy sets from neighbors who had disease-free plants. They were further advised to grow their sets in a district free from the infection.

Since yellow dwarf is not carried over from one season to the next in the seeds, it is possible to grow healthy sets from seed from diseased plants, if they are grown in an area that is free from infection, says Dr. Melhus.

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PLANT PATHOLOGY

Paraffin Saves Bananas From Stalk Decay

BANANAS can be saved from one of their most costly types of spoilage by the simple trick of anointing the cut end of the stalk with paraffin. This discovery has been made as the result of a joint research conducted at Cambridge, England, by R. G. Tompkins of the Low Temperature Station and Dr. R. M. Woodman of the School of Agriculture.

One of the most serious causes of spoilage in bananas is rotting which spreads from the cut stalk. Moulds grow where the stalk is cut and cause rot. If the mould growth in the cut stalk could be prevented, this form of spoilage would disappear. The same type of rot is also found in pineapples and melons.

Mr. Tompkins and Dr. Woodman treated the cut stalks of bananas with a number of substances to see whether mould growth could be prevented in this way. Fungicides proved to be practically useless. Borax, copper sulphate, corrosive sublimate, formaldehyde and potassium permanganate, all of which usually destroy fungi, were not able to prevent the rot of bananas.

Excellent results were obtained, however, with substances which block the surface of the cut stalk mechanically. Thus there was no subsequent rotting if the banana ends were dipped in melted paraffin wax. The rotting was also considerably reduced when the banana ends were smeared with vaseline.

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MEDICINE

Malaria Remedies "Tried on the Bird"

THE old injunction, to "try it on the dog first," is modified to "try it on the bird" in present-day malaria laboratories. At the Wellcome Chemical Research Laboratories, London, where remedies for tropical diseases are constantly under investigation, Dr. T. A. Henry and associates are taking advantage of a fact discovered many years ago, that birds as well as men are subject to malaria. So birds are being tried out as experimental animals for proposed new malaria cures, in place of the time-honored guinea-pigs, rabbits and dogs.

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