SCIENCE NEWS

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A RELIC OF THE BRONZE AGE

A WOOLEN mantle, worn in Sweden when the early Pharaohs still reigned in Egypt, has had its age approximately determined by a curious combination of botanical and geological knowledge, through the researches of Dr. Lennart von Post, of the Museum of National Antiquities at Stockholm. The garment was found buried at a depth of several feet in a peat bed in the district of Vastergotland, carefully folded up and weighted down with three stones, but with nothing about it to indicate how it got there.

Its similarity to Bronze Age garments from Denmark and elsewhere suggested its antiquity. The fact that it had evidently not been buried, but had lain in its hiding place while the moss grew over it to form about five feet of peat, was further evidence of great age. The acid water of the bog had preserved it from decay during the centuries.

Dr. von Post found the key to its age in the pollen grains that were thick in muddy particles clinging to the fabric. Most important among the species represented were oak, linden and elm, with pine, birch and alder, and hazelnut as the principal shrub. Exact counts showed that the proportion of the pollen from the oak-linden-elm-forest was larger than it would be in a Swedish spring-time "pollen rain" of to-day, indicating the existence of a milder climate in the North at the time the mantle was laid away.

Such a mild climate is known from geological evidences to have followed shortly after the disappearance of the last patches of glacial ice in the south of Sweden, at about the time the New Stone Age was giving way to the Age of Bronze in that country. It was followed by a period of severer climate, ushering in the Iron Age. This mild-climate pollen thus determines the former owner of the mantle, who so carefully folded it up and hid it under three stones in a ditch as a man of the Early Bronze Age.

The careful workmanship of the weaver, who made the cloth out of a mixture of fine wool and the hair of game animals, probably deer, is described by Emelie von Walterstorff, and the possible romantic history of the garment, which has a number of dagger-holes jabbed through it, is hinted at by Sune Lundquist. Mr. Lundquist states also that the toga of the Romans was quite similar in shape to these elliptical Bronze Age mantles, though differing in size and manner of wearing. A shorter Roman cloak, the "trabea," worn largely by priests and soldiers, was even more nearly similar.

INFLUENZA AND DOG DISTEMPER

HOPE is expressed by the British Medical Research Council, in its recent annual report, that a solution of the influenza problem may come from research in progress on dog distemper. Since distemper in dogs is very similar to influenza in human beings, it is thought that the right weapons for attack on influenza may be forged by the experimental study of the animal diseases most closely resembling it.

This beam of light into the fog of the influenza proposition is dimmed somewhat, however, by the fact that in four years of research instituted by the Field Distemper Fund, workers have not succeeded in cultivating the causative virus outside the animal body. Ferrets, which are highly susceptible to the disease, can be immunized by a killed or inactivated virus, but this weakened virus gives only temporary immunity to dogs. The susceptibility of individual canines to distemper varies greatly, thus adding to the difficulty of testing the effect of protective vaccination.

In order to make immunization of dogs practical, say medical authorities, a virus of known and constant potency must be obtained, the dosage of which can be accurately standardized. Until the virus can be cultivated outside the animal body the protection afforded is incomplete and uncertain. A practical method can only be reached when the nature of the virus and its laws of behavior have been ascertained more completely. When and if these facts are established, however, they may constitute definite signposts to follow in the still more obscure and dangerous disease afflicting man.

THE PREVALENCE OF COMMON COLDS

THE common cold goes to the head of the list as a cause of lost time. In a survey of absences from work in a big industrial firm over a period of ten years, just completed by statisticians at the U. S. Public Health Service, it was found that colds caused a time loss equivalent to 1.4 days per year for every man on the pay roll, and 2.1 days per annum for every female employee. Colds were directly responsible for 39 per cent. of all the absences among the men and for 31 per cent. among the women.

Diseases of the general type known as respiratory caused approximately half of all the absences, but were not so common among the women as the men. Women, it would appear from these records, are more liable to disablement from nervous disorders and diseases of the throat and tonsils, but their disabling illnesses are shorter on the whole than the men's. This condition in favor of the so-called weaker sex is counterbalanced, however, by the fact that their absences were more numerous, totalling 14 calendar days apiece during the whole ten years, while that of the men reached only 8.9.

A high proportion of illnesses occurred among the younger employees, notably among the women. The statisticians suggest that this circumstance may be in part accounted for by the dropping out of the less healthy. The group representing the ages 30 to 35, they state, seems as a whole to have a greater resistance to colds, tonsilitis and stomach disorders than the younger ages.

THE NATURAL MONUMENTS OF JAPAN

UNIQUE trees and other natural wonders of Japan, once threatened with extinction, are now the objects of special solicitude on the part of the government. An article by Professor M. Miyoshi, of the Imperial University, Tokyo, which will appear in an early issue of *The Journal of Heredity,* tells of the official steps taken to preserve for posterity the natural monuments of Japan.

Among the forests coming under Imperial protection is an especially notable one on the slopes of Fujiyama, the sacred mountain. Other noteworthy trees include a forest of weeping chestnuts, of a variety unknown outside the islands, together with a pendulous-branched variety of a tree called the Cercidiphyllum, not represented by any near relative in the United States. Another protected tree is the Torreya, which is close kin to two American species known by the same name, one in California and one in a small patch of territory in northwestern Florida; these three trees, two American and one Asiatic, are the last relics of what were once world-wide forests of this genus. Other trees, as well as rare and noteworthy smaller plants, are included in the protected list.

One area set aside as a national monument is what might be termed a natural cold-air refrigerator. Near the foot of a volcanic peak is the opening of a lava tunnel, from which a current of cool air constantly blows during warm weather, and in the radius of its influence grow a number of plants usually found high up in the mountains, though this place is only a few hundred feet above the sea.

TEST MACHINERY IN "PADDED CELL"

THE Metropolitan Vickers Electric Company, of Manchester, England, has built a chamber for testing high-speed machinery, which is liable to fly to pieces under the strain. When a piece of such machinery is completed, it is tested in the chamber, which is underground and has walls nine feet six inches in thickness, composed of wood, steel, bags of sand, air cushioning space and reinforced concrete. It is large enough to take "rotors" 14 feet 6 inches in diameter, or shafts 40 feet long. High speed motors turn the machinery under test, which is watched from outside by means of various electrical devices and fast cameras. In addition, by means of a hole bored through a shaft, a special telescope permits actual scrutiny of the interior of a moving part.

The need for such protection is emphasized in a recent issue of the scientific magazine, *Nature,* where it is stated that in a 25,000 horsepower electric generator driven by a water or steam turbine, and running at 3,000 revolutions per minute, the rotating part weighs about 20 tons, and the energy is about the same as that developed in a head-on collision between two railroad trains each carrying fourteen cars and running at 35 miles an hour.

THE SCIENTIFIC INVESTIGATOR

THE scientific man should apply his science to the improvement of himself, according to Dr. William E. Ritter, president of Science Service, in a lecture given on March 23 before the School for Social Research. Dr. Ritter, who spoke on how the scientific investigator uses his mind, stated that the conduct of human beings is about the most important subject for scientific research.

The trained scientist uses his mind as effectively as the opera singer uses his voice, or as effectively as the circus performer handles his body. The scientist, who is often pictured as cold and matter-of-fact, needs imagination as much as the artist does, and would be helpless without it. The scientist, however, is bound by the rules of his game far more rigidly than the artist, because he must check the imagined things against real things more rigorously than the poet or novelist.

"This ability to use the mind for framing imaginary or hypothetical answers to questions, and then to work tirelessly year in and year out, if need be, to prove whether the imaginary answers do or do not correspond to the objective realities in the case is exceedingly far-reaching in its significance for the discovery of truth, and for human welfare."

The investigator must train himself intensively if he is to be a specialist in using his mental processes and his sight, hearing and other senses, and if he is to direct his interests and emotions toward scientific achievement.

ITEMS

WITH official assurance from the Health Administration of the League of Nations that influenza in Europe is subsiding, the population on this side of the Atlantic can breathe a sigh of relief. The United States, thus far in 1927 at any rate, has covered itself with glory where influenza is concerned. The latest figures available at the U. S. Public Health Service indicate that up through March 5 of this year there has been 15 per cent. less influenza in this country than there was during the same period last year. Montana had the best record for the week with no cases at all as opposed to over three hundred for the same week of the preceding year.

WOE to the European corn borer! For $10,000,000 was made available March 14 to carry on extensive warfare for control of this destructive insect. The first actual steps were taken by the government directly following the passage of a bill in the Michigan State Legislature empowering federal and state officers to conduct a clean-up campaign in infested areas. Michigan was the last state to pass necessary legislation provided for by the congress before the congressional appropriation could be expended. "The delay has been serious," says Dr. W. H. Larrimer, of the U. S. Bureau of Entomology. "The money should have been available by February 1, but we hope to be able to get the work done in time." The clean-up campaign is to be conducted in the five states of New York, Indiana, Ohio, Pennsylvania and Michigan. Federal inspection of individual farms in the control area will begin at once and orders will be placed for the special machinery to be used by the federal forces on farms where the clean-up measures have not been satisfactorily carried out by the farmers.