SCIENCE NEWS

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FEDERAL PENSIONS AND HONORS FOR YELLOW FEVER WORK

THE House bill providing pensions of $125 per month for army officers and enlisted men, or their widows or heirs, who took part in the yellow fever investigations carried on by army doctors in Cuba in 1900 has been passed by the Senate.

There are fourteen of these men, twelve of whom were privates. A pension for Mrs. Walter Reed, wife of Major Reed, who was in charge of the yellow fever work in Cuba, was provided years ago, but recent efforts to increase this amount above its present amount of $150 per month failed in the House, the chairman of the Pensions Committee there maintaining that such pensions must be held down within "reasonable limits." The bill as passed does more than make certain pensions of $125 per month for each of the men concerned.

It provides that the Secretary of War shall publish their names annually in the Army Register as a roll of honor, and that each of the men or their heirs shall be presented with a gold medal. The Secretary of the Treasury is to decide upon the design of these medals and $5,000 is to be appropriated for making them.

The names to be carried on the roll of honor are: Walter Reed, James Carroll, Jesse W. Lazear, Aristides Agramonte, James A. Andrus, John R. Bullard, A. W. Covington, William H. Dean, Wallace W. Forbes, Levi E. Folk, Paul Hamann, James F. Hanberry, Warren G. Jernegan, John R. Kissinger, John J. Moran, William Olsen, Charles G. Sonntag, Clyde L. West, Dr. R. P. Cooke, Thomas M. England, James Hildebrand and Edward Weatherwalks.

Senator David Reed, Republican, of Pennsylvania, Chairman of the Senate Military Affairs Committee, in explaining the bill to the Senate, where it passed with no opposition, said:

"Back in October, 1900, Dr. Walter Reed took his yellow fever experiment crew to Cuba and did one of the greatest things that had ever been done up to that time in the history of preventive medicine. He found that all existing theories for the cause of yellow fever were wrong, and he proved that it was due to the bite of an infectious mosquito of a particular variety.

"He could not have proved that fact had it not been for the heroic assistance of about 25 men in his detachment who underwent the most terrible experiments in order to prove that yellow fever was not contagious but was contracted only in this one way.

"Some of these men put on the underclothing and night clothing of persons who had died of yellow fever, and for a month slept in the stained and almost indescribable bed clothing of patients who had died of yellow fever.

"Probably no finer heroism for the benefit of humanity had ever occurred in the history of the world. Others of these men, after the theory of mosquito inoculation had been proved to be probable, exposed themselves to the bite of infectious mosquitoes and when at first they did not fall ill of yellow fever they exposed themselves again and again until they did get it."

Mrs. Mary Goldberger, widow of Dr. Joseph Goldberger, late of the U. S. Public Health Service, is now assured of a pension of $125 per month. The House omnibus pension bill was passed by the Senate during the morning hours on Tuesday of last week, and the Goldberger pension was one of the items in this bill.

TULAREMIA IN SIBERIA

TULAREMIA, one of the new diseases which until now has been apparently limited to this country, has just appeared in Siberia. A short time ago it was recognized for the first time in Japan. Now a specimen of blood serum from a guinea-pig was recently received by the Hygienic Laboratory in Washington with a request to examine it for tularemia. The examination was made and showed that the blood came from an animal infected with the disease.

The specimen had been sent from the Sanitary and Bacteriological Institute of Sverdlovsk (Ekaterinburg) in the Ural region of Asiatic Russia.

Tularemia was recognized in this country only during recent years. It made its appearance first in the West. Hunters and others who handled rabbits were suffering from a strange new illness. Dr. Alec Francis, of the U. S. Public Health Service, discovered that the disease was caused by an organism found in rabbits or other rodents which transferred it to men by their bites. Also, merely handling the infected animals, as in the case of butchers dressing rabbits, was a source of infection.

Until the report of a case in Japan a few months ago the disease had not occurred, or at least had not been recognized, outside of the United States. Dr. Francis, who has done all the pioneer work on tularemia and is an authority on the subject, thought the disease was traveling from West to East. The New England states have not had any cases so far and it has only very recently appeared in New York State. Whether it has jumped clear over to Siberia in its eastward course or whether it has always been there, though unrecognized, is a question.

A single chance remark, dropped by Leon Trotsky in one of his articles now being printed in a number of American newspapers, has given a hint to American public health authorities of the possibility of a wide-spread and severe epidemic of tularemia, or "rabbit fever," in European Russia. Speaking of the desolation of the countryside near Kursk, where the train bearing him into exile was held up for a number of days, Trotsky said, "Crows and ravens came in flocks to feast. There were no hares, because all had died of a terrible epidemic during the winter."

THE BEAVER IN EUROPE

BEAVERS, once almost wiped out in the United States but now becoming reestablished through wise protective measures, are now the objects of similar care in certain of the countries of northern Europe, according to Dr. Theodor G. Ahrens, a well-known naturalist residing in Berlin.

There is a "beaver oasis" between Torgau and Magdeburg on the Elbe. Before the war there were 188 animals in it, but during hostilities it suffered from the inroads of poachers. Now, however, it is returning to normalcy, and it is estimated that there are 150 animals in the colony. In Prussia and Anhalt there is a permanent closed season on beaver. The willows around their streams are not cut, and new ones are planted for their benefit. Human beings are kept out of their preserves as far as possible.

The beaver is receiving protection in Russia also, though during the war and the early days of the revolution the animals here were badly persecuted and the morale of the survivors shaken, making them very restless and prone to migrate. It is hoped that through strict protective measures and the creation of reserves the beaver may increase and again become game animals.

However, by far the greater number of European beaver lives in Norway; the total has been estimated variously as 10,000 to 14,000. Since 1926 beavers have enjoyed a permanent closed season, except that at the discretion of the Minister of Agriculture a few may be captured from time to time in certain designated districts. The present flourishing state of the beaver in Norway has been built up since 1899, when only a few of the animals were left alive. Norway even has beaver to spare for her neighbors, and Sweden expects to colonize her national parks from Norwegian stock.

TELEVISION BROADCASTERS

DESPITE its recent hearing on television broadcasting, in which optimistic opinions were expressed as to the present possibilities of this form of radio, the Federal Radio Commission is not yet convinced that it can render real service comparable with sound broadcasting. In granting the licenses to eleven of some fifty applicants to take part in television broadcasting, the commission has taken steps to insure that such activity shall be purely experimental.

The licenses are only issued for a period of six months, at the end of which time they will be automatically revoked. The broadcasters will have to make monthly reports of their activity, what scientific work they have done to advance the art, the exact times that they were on the air and the power used. Failure to perform any significant experimental work will be considered as grounds for cancellation of the license, as the commission wishes to prevent any one from broadcasting television primarily for the purpose of selling television receivers.

Four bands are allocated for radiovision, or "visual broadcasting," as the commission calls it, including still pictures, radiomovies and scenes of living actors. These are from 2,000 to 2,100 and 2,100 to 2,200 kilocycles (approximately 136 meters to 150 meters) and 2,750 to 2,850 and 2,850 to 2,950 kilocycles (approximately 102 to 109 meters). No station may use a band wider than 100 kilocycles, which is ten times the width of the ordinary broadcast band and ample for satisfactory television reproduction, according to engineers. A band of 2,200 to 2,300 kilocycles is also reserved for radiovision, and will be assigned in the future with the provision that no interference is caused thereby with Canadian stations, which use the same band for other purposes.

Among the licenses granted were three to the Radio Corporation of America, in New York and New Jersey; two to the Jenkins Laboratory in Washington; one to the associated Jenkins Television Corporation of Jersey City; four to the Westinghouse Electric and Manufacturing Co., for stations at East Pittsburgh and Springfield, Mass., and two to the General Electric Co., for stations at Schenectady, N. Y., and Oakland, California.

Fifteen applications are still pending, and hearings will be held to determine "whether or not public interest, convenience or necessity would be fulfilled by granting of their applications." Three applications, those of the Shepard-Norwell Co., Boston; Frank L. Carter, Long Island City, N. Y., and Boyd Phelps, Jamaica, N. Y., have been denied.

No television broadcasting will be allowed on any frequency in the broadcast band, except between 1 and 6 A. M.

DAYLIGHT FLIGHT TO PANAMA

THE Panama Canal Zone will be less than a day's journey from the United States after March 10, if a dawn-to-dusk test flight now being planned by the Army Air Corps is successful. The first model of the new P–12, hailed as the fastest of pursuit planes, will be piloted in this hop by Captain Ira C. Eaker, pilot of the *Question Mark* in its record-breaking endurance flight. It will be named the *Pan-American.*

Brownsville, Texas, and France Field, C. Z., will be the terminals of the flight. Captain Eaker will leave Texas in the early morning, make brief stops at Tampico and Minatitlan, Mexico; Guatemala City, Guatemala; Managua, Nicaragua, and David, Republic of Panama, to take on fuel. Refuelling in air will not be attempted because none of the refuelling ships is fast enough to keep up with the swift pursuit plane. If successful, he will try another dawn-to-dusk flight back to Brownsville.

The *Pan-American* will be quite different from the huge three-motored *Question Mark* in which Captain Eaker became famous. The wing spread of the new plane is only 23 feet and from tip to tail it measures less than seven yards. Its 450-horsepower engine has nine cylinders, air cooled and equipped with a super-charger to permit efficient operation in crossing the two-mile-high mountains near Guatemala City. Its power represents more than the combined power of the three engines on the *Question Mark.*

In order to save time in refuelling, the side of the cockpit is equipped with a 20-foot hose connected with a hand pump. This will be connected directly to the

drums of gasoline and pumped into the fuel tanks at a much faster rate than its possible by pouring into funnels. The fuel used will be one quarter benzol and three quarters aviation gasoline. The tanks will carry 120 gallons, which will be consumed at the rate of 35 gallons an hour. Thus cruising speed of the plane is from 150 to 155 miles an hour, with a maximum of 188 miles an hour. Captain Eaker does not expect to push it to full speed.

ITEMS

THE committee recently appointed by Surgeon-General H. S. Cumming of the U. S. Public Health Service to study the problem of radium poisoning occurring in New Jersey factories has just met in Washington to consider plans for beginning the study. All details of method and procedure were discussed and decided upon. According to present plans the study will be finished about July 1. Radium poisoning occurred among employees of luminous watch dial factories in New Jersey, causing illness and death in some cases. While the poisoning cases occurred among the girls engaged in painting the dials, all employees were found to be exposed to radium in varying degree.

THE Tribunal of the Seine has been requested to place a ban on the sale of peyote, a drug obtained from the Mexican cactus known by the same name to the Indians, but labeled *Echinocactus willamsii* by botanists. This species of cactus, scarcely larger than a man's hand, is cultivated in the mountains inhabited by the Huichoiz Indians and until recently was scarcely known to drug peddlers. Jaded Paris rivals the Orient in its craving for drugs and two Bordeaux merchants began the exploitation of peyote as a new thrill. The novelty of it, its sacred character to the Indians, the apparent lack of after-effects and the fact that doctors consider it as non-habit forming, created a brisk trade. It produces a state of ecstasy unequaled to any other known drug in intensity and differs from them in that it creates a kind of visual intoxication which the Indians call miraculous. In his delirium the subject "sees visions." They are invariably pleasant deceptions, but a bitter one awaits the Bordeaux merchants if the Tribunal of the Seine accepts the plea of Doctors Rouhier and Perrot to have the public sale of peyote outlawed. The sale of the drug has already been forbidden in the United States and Germany.

NARCOSAN, alleged cure for drug addiction put forward more than two years ago, has been tried and found wanting by the Mayor's Committee of New York on drug addiction. Studies of the narcosan treatment have been conducted at the Bellevue Hospital in New York since May, 1928. "The results reported here show clearly that narcosan has no merit as a specific treatment of drug addiction," announced the committee in a communication to *The Journal of the American Medical Association.* The narcosan treatment was given to 68 patients, addicts to morphine and heroin. The conclusions as to the merit of this and other treatments were based on the number and intensity of the withdrawal symptoms. The occurrence and relative intensity of seven most characteristic symptoms noted when drug addicts are deprived of the drug were studied in 100 control cases. This furnished a basis for comparison with the various specific treatments, of which narcosan was one. Clear-cut results were obtained. In the narcosan-treated group greater occurrence and intensity of all seven symptoms were observed.

THE droughty fields of Russian Armenia may have their crops increased by water from Lake Sewang, a great body of water with a surface area of 464 square miles. It has often been proposed to use this water for irrigation, but the authorities have always hesitated to take action, because of the general impression that the lake was of volcanic origin and comparatively shallow, and hence that its water resources were relatively limited. Recently, however, a special commission of the Russian Academy of Sciences has made a careful examination of the geology of the lake, and has discovered that it occupies a natural deep rock basin, similar to that in which Lake Superior lies. Its average depth is over 300 feet, and since it receives not only numerous surface streams but also the discharge of large subterranean rivers, it is believed that it contains so much water that the removal of a part for irrigation will not seriously affect its level.

MAGNETISM, working silently without injuring metal, is a testing tool coming more and more into industrial and research use, according to the statement made before the meeting of the American Institute of Electrical Engineers, by Raymond L. Sanford, chief of the magnetic section of the U. S. Bureau of Standards. Case-hardened chain, heat-treated forgings and steam turbine bucket wheels are among the products now given a routine magnetic analysis to detect flaws and insure quality. In exploring the qualities produced by new steel treatments, in determining the changes that take place during the cooling or heating of a ferrous alloy, magnetic analysis is used by scientists investigating the properties of materials. Inspection of welds is facilitated by magnetic methods. Since welding is coming into larger industrial use, the magnetic test will facilitate the control of this modern method of joining metals together.

THE MENLO PARK MASTODON

A NOTICE of my paper on this subject in "Science News" for February 1, 1929, contains a serious misunderstanding. It represents me as supposing that the mastodon bones and also a human skull previously found in similar geologic relations may be as old as Miocene or Pliocene. On the contrary my paper states "Physiographic evidence indicates that the entire deposit is of Recent or late Pleistocene age," and again "The occurrence of the skeleton in the unconsolidated and entirely undeformed strata of the alluvial plain indicates strongly that the age is probably not greater than late Pleistocene." These two statements should be sufficiently clear and emphatic.

ELIOT BLACKWELDER