SCIENCE NEWS

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ADDRESS OF THE PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION

A THREE-POINT program to insure enough doctors for the nation's military and civilian needs and to avoid any bottleneck in the production of doctors and a stern warning to nurses that they are losing their place in the community was presented by Dr. Frank H. Lahey, of Boston, president of the American Medical Association, at the opening general meeting at Cleveland.

Point 1 in his program: Medical students and interns should not only not be drafted for army service but, as in England now, should not even be permitted to volunteer.

Point 2: Those definitely committed to the study of medicine and already in the premedical preparation period should not be drafted but permitted to continue through the medical course.

Point 3: Development of a quota system for selection of doctors for military medical service, such as has already been worked out in England.

"There has already been a greater number of volunteers from the South than from the North," Dr. Lahey pointed out in connection with this idea, "and there will probably be areas where, as a result of greater volunteering, the number of doctors available for the community will be too limited. Should the present situation become even more urgent than it is, it is conceivable that many hardships may be worked in communities."

The warning to nurses: Nurses may "educate and legislate themselves out of the important place they have held in medicine and in the community" if the present trend away from service to the patients and toward higher and higher standards of requirements for entrance and graduation in nursing is not checked.

"It is really no exaggeration," Dr. Lahey declared, "to say that, with many of the personal attentions to patients delegated to ward maids, the real art of nursing can be lost to the nursing profession."

The shortage of trained, registered nurses, increased by military demands, and the relatively high cost of nursing for patients suggests that practical nurses will have to be used to break the impending bottleneck.—JANE STAFFORD.

THE VIRUS OF INFANTILE PARALYSIS

THE virus of infantile paralysis enters the body through the mouth, not through the nose as has long been believed, Dr. Albert Sabin, of the University of Cincinnati, stated at the meeting of the American Medical Association.

If this "working hypothesis," as Dr. Sabin cautiously terms it until further studies prove or disprove it, is correct, conquest of this dreaded malady may be greatly speeded. While Dr. Sabin said nothing about practical results of his findings, any one who knows the history of disease-fighting knows that far greater strides have been made in conquering disease such as typhoid fever, whose germs enter the body through the mouth, than diseases such as the common cold, which enter through the nose. Infantile paralysis fighters, unfortunately, have seen so many promises of early conquest of the disease, such as the nasal spray blockade and vaccinations, fail, that they are naturally hesitant about expecting too much now.

Dr. Sabin's picture of what happens in infantile paralysis is, briefly, as follows: The virus enters the body by way of the mouth and establishes itself in the alimentary tract, where it multiplies, probably in the walls of the small intestine and the pharynx. It invades the nervous system by two pathways, one leading to the brain by way of the cranial nerves which supply the upper part of the tract or by way of the parasympathetic nerves from the lower alimentary tract, and the other pathway leading into the spinal cord by way of nerve fibers from the intestines. If the greater attack is along the first pathway, the illness will be of the serious bulbar type which affects the breathing muscles. If the attack is along the second pathway, the primary paralysis would be in the extremities.

In the non-paralytic and sometimes unsuspected cases, the virus is either limited in some way to the alimentary tract or an equilibrium is reached between the body and the virus before enough nerve cells have been destroyed to interfere with function and cause paralysis.—JANE STAFFORD.

SULFAGUANIDINE

SULFAGUANIDINE, the new sulfa drug that is proving a potent and swift remedy for bacillary dysentery and a life-saving aid in operations on the lower alimentary tract, now will be available to physicians generally.

Sulfaguanidine was developed by Professor E. K. Marshall, of the Johns Hopkins Medical School, in a search for a better sulfa drug than those already available for fighting pneumonia and streptococcus infections. The peculiar property of sulfaguanidine of remaining largely in the lower alimentary canal when given by mouth, instead of being rapidly absorbed by the blood, led to its extensive trial as a remedy for infections of this part of the body, such as bacillary dysentery.

Infections with other germs in this part of the body are a great and heretofore unavoidable hazard in operations for the removal of cancer or correction of other serious disorders of the lower alimentary canal. Shortly after the discovery of the action of sulfaguanidine, therefore, Dr. Warfield M. Firor, acting chief surgeon of the Johns Hopkins Hospital and acting professor of surgery at the Johns Hopkins Medical School, tried it as a weapon against infection in such operations. Remarkable success with the use of the drug before and after such operations has now been reported.

Sulfaguanidine is made by the Calco Chemical Division of the American Cyanamid Company and will be made available to the medical profession through Lederle Laboratories, Incorporated.

MALNUTRITION

WAR is declared against malnutrition among the less well-off portion of the American population low-income families as well as those on relief in recommendations that have come from the National Nutrition Conference for Defense.

No reduction in relief allowances under the emergency conditions is an important point. It is argued that a scarcity of consumer goods that threatens to drive down the real income through price advances warrants putting unemployed to work to make more consumer goods.

Employment of Negroes and other minority groups, no taxes on incomes insufficient to provide an adequate family diet, coverage of domestic and agricultural workers under social security are among the other recommendations.

Soybean, peanut and milk products that are low in cost and nutritious would be encouraged. Milk would be made cheaper and no skim milk would be wasted. Taxes that discriminate against margarine are protested.

Technically trained producers and students would be given selective service deferment in accordance with another recommendation.

Better feeding of defense workers is another recommendation, since added meals during the work period have been found to increase efficiency, reduce accidents and decrease absences.

Need for the training of cooks and other members of food staffs in restaurants, institutions, etc., was stressed.

There will be state, county, city and local nutrition conferences and committees if several recommendations are carried out.

The suggestions and reports of the nine sections of the conference that will go to President Roosevelt as the results of the three-day conference cover more than 12,000 words.—WATSON DAVIS.

THE WHEAT CROP

MOUNTAINS of wheat, bushels in absolutely astronomic number, are heaped up in America's grain elevators and storage bins, as another huge new harvest awaits the reapers, with heads already well filled at the southwestern end of the Wheat Belt. This unprecedented accumulation of basic foodstuff is one of the country's severest economic problems, and in any but an abnormal time would be an unmitigated headache.

As it is, however, there are some redeeming features about this glut of grain, so huge that all the mouths in the country could not eat it up in less than three years, even if not another bushel were added. At least, that is how Vice-president Wallace, who as Secretary of Agriculture struggled for eight years with the problem, feels about it. When I saw him briefly, a day or two ago, he had this to say:

"In times like these, it gives us a comfortable feeling to know that the new wheat crop, plus the carry-over, will provide us with the largest supplies in history. While we also have a very large carry-over of corn, there is always a possibility that unusually dry weather in July and August may damage the growing crop, and in case of need surplus wheat can be substituted for corn in the animal diet. The proteins of the two grains supplement each other."

The potential economic headache in the wheat surplus lies in the fact that without Government support this enormous mass of grain would force prices down to levels ruinous to farmers. The new bill just enacted by the Congress and signed by the President, which supports the price by loans on wheat produced under AAA contract terms to the extent of 85 per cent. of "parity," is intended to keep the farmer's purchasing power abreast of the city man's.

Criticism has been leveled at this advance in the Government loan rate on wheat, and even some of the staunchest supporters of the AAA system have had twinges of doubt as to whether the increase should have been as great. Advocates of the new act, however, state that the expected rise, from about $1 to about $1.14 a bushel, can legitimately be held responsible for a cost increase of less than a quarter of a cent per pound loaf of bread. If the price of bread goes up more than that, they claim, the rest of the boost must be looked for elsewhere—in the pay envelopes of labor, or in the profits of the processor, or in that vague category styled "general overhead."

However, regardless of controversy over the price of wheat, the quantities of wheat now in sight are simply overwhelming. The carry-over, as of July 1 of this year, is estimated at 400 million bushels—more than twice what it was three years ago. To this will be added the crop now nodding toward harvest, which is expected to roll up to as much as 850 million bushels. Thus, on July 1 there will be in this country about one and a quarter billion bushels of wheat.

Nor is that all. Canada has a much larger carry-over than we have; it amounts to 565 million bushels. Argentina has a 160 million bushel carry-over, and Australia 73 million bushels. Add in the American carry-over and you have a total of nearly one and one fifth billion bushels of wheat now on hand in these four major exporting countries alone.

The current crop now growing in Canada, and next season's crop being seeded in Southern Hemisphere wheatfields, are not included. Omitted also are the Old World wheat harvests, which because of war conditions are both unknown and uncertain quantities.

The very climate itself has conspired to increase the golden flood pouring through the grain chutes. Fall-sown wheat came through the winter in good shape, and despite drought in the East this spring has matured a good crop. All up and down the Plains region, where a few years ago drought and dust storms blasted the crop, there have been heavy snows followed by abundant rains, so that spring wheat in the Northwest and fall wheat in the Southwest are in championship condition.

Where to put it all is one of the things that is giving gray hairs to farmers, wheat buyers, millers and Government officials. If all storage space still unused is filled up, and grain is stored in bags in old warehouses hastily made weather-tight, and wheat poured into bins vacated by some of the corn now being rapidly turned into pork and milk and eggs for our own defense workers and for

shipment to Britain, it may turn the trick. But it isn't certain yet that Western farmers will not have to do what Canadian wheat growers did last year—just pile it up in enormous hills out of doors, for sheer lack of enclosed storage space. Canada, by the way, is drastically reducing wheat acreage this year by one fourth, despite the war. Times have certainly changed since 1917!

This enormous reserve of unused wheat, which will keep in good condition for several years if properly sheltered, will stand America and the world in good stead if the war should end in a general collapse of Nazi-dominated Europe, crumbling into starvation-scourged anarchy. Then wheat-crammed ships can rush to the unblockaded ports, bringing to the peoples of the Old World the one best medicine for the malady called despair. Food was sloganed to win the last war. This time, food can win the peace.—FRANK THONE.

THE FOOD SURPLUS

FOOD may be the weapon used by defense officials to build up the quantity as well as the quality of the defenders of democracy.

Without some prompt action, America must face the foe of slow national suicide through dropping birth rates. But the mountains of wheat, floods of milk, and carloads of golden fruit, now a food surplus, may provide rescue from this mass self-destruction.

Several plans have been proposed for using food to increase the size of families on the theory that parents sure of food for them will have more children. The American Youth Commission suggests extending the food stamp plan so that food surpluses could be distributed to families with three or more children and with incomes below $1,500 a year. Another plan, considered by the recent National Nutrition Conference, would give the food to all families making only $1,000 a year or less, whether they have children or not. This proposal would extend the food stamp plan, now available only to families on relief, to others on a similar income level who are self-supporting. This plan, not directly aimed at increasing the birth rate, might nevertheless have such an effect by aiding low-income families to feed their children properly.

Still another plan might be adopted—one which was tried successfully in Sweden before the war. This would give the food to families with children regardless of their income. Advocates of this food-for-children plan base their proposal on the view that children are an asset to the nation. As such, they must be fed. Parents of large families should not be required to submit to investigation and prove that their incomes are inadequate and that they are "worthy," or otherwise be pauperized or humiliated. The food stamps thus become an honor to parents bringing up future citizens. They are not the badge of charity or relief.

Impetus for pushing consideration of these plans for using America's food surpluses to build up population comes in recently announced statistics of our population. If present trends continue, America faces a drop in population. Our population growth has declined from an average of about 1,700,000 a year during the 1920's to less than 900,000 a year during the 1930's, it is pointed out by Dr. O. E. Baker, U. S. Department of Agriculture population analyst. Since about 1932, we have not had enough births to maintain permanently the number of people we now have. The population will probably reach its crest in about twenty years. And that is just the time that elapsed between the first World War and the present time.—MARJORIE VAN DE WATER.

SUN SPOTS AND MAGNETIC DISTURBANCES

LIGHT beams take only eight minutes to reach us from the sun, and high speed atomic bullets cross the 92,900,000 miles intervening in a matter of hours. In addition, there may also be some strange kind of corpuscles shot out from solar disturbances which crawl along at the snail-like pace (astronomically speaking) of as little as 15 miles a second, and take weeks or months to make the trip.

This theory is proposed by Dr. Clifford N. Anderson, of the Bell Telephone Laboratories, in a report to the Institute of Radio Engineers. It would explain the difficulties often encountered in trying to connect aurorae and magnetic disturbances on the earth with sun-spots. There seems little doubt that they are closely related, yet quite often there are spots, and no terrestrial effects. Or else a magnetic storm may occur, and no spot be apparent.

Studying records back to 1921, Dr. Anderson finds a number of cases where large spots were followed at periods ranging up to 90 days by marked disturbances, without any other particular solar activity that might have been responsible in the interval. From this he suggests that the solar particles responsible for the earthly effects do not travel at constant speed, as has been supposed, but may have velocities ranging from 12 to 1,200 miles per second.

"This indicates," he states, "the difficulty of trying to forecast occurrences of individual terrestrial disturbances."—JAMES STOKLEY.

ITEMS

DROUGHT in the East and Southeast is becoming an increasingly serious problem, as late spring merges into early summer and temperatures, until now abnormally low, tend toward higher levels. Reports collected by the U. S. Weather Bureau indicate that grain crops in the Middle Atlantic States are heading up on short straw, with prospects of reduced yields. Fortunately, however, the principal wheat areas from the upper Ohio Valley westward have had at least the necessary minimum rainfall to make a good crop, and west of the Mississippi the moisture condition is better than it has been for years. In the Corn Belt, planting is going ahead rapidly, with most of the seeding already done and the crop sprouting well. Iowa reports corn planting to be eight days ahead of average. Progress of the cotton crop is reported as uneven, with rain badly needed in the eastern half of the Gulf States, and nights a bit too cool for good growth. Conditions are much better in the Texas-Oklahoma cotton region.