

PUBLIC HEALTH

America's Defense Plans Include Civilian Welfare

Commission to Study War's Effects in Europe Will Give Attention to Bomb Shelters and Water Supplies

AMERICA'S defense preparations now spread out to include protection of little children and their mothers and others of the civilian population against war wounds, war epidemics and other hardships modern warfare brings to civilians as well as the fighting forces.

Evidence of America's determination to safeguard the health and welfare as well as the lives of her women and children in the event of war appears in the make-up of the commission which sailed for Europe on Jan. 18 to study war's effects on civilians.

Simultaneously with the announcement of this commission, the War Department revealed that since last July a committee of distinguished scientists have been cooperating with army engineers who have now built a number of different kinds of bomb shelters which will be tested to determine the types that give best protection.

Providing safe drinking water and milk to civilians when war is in their midst is a very different problem from providing these during peace or even from providing these to an army in the field. English experience with this problem is just one of the many health and medical problems of home defense on which America will get first hand, expert knowledge through Dr. Thomas Parran, Surgeon General of the U. S. Public Health Service. Dr. Parran is one of the four distinguished civilians accompanying Major Eugene W. Ridings in London.

Dr. Martha Eliot, assistant chief of the U. S. Children's Bureau, is going, in place of Miss Katherine Lenroot, as previously announced, to learn how children and their families can best be cared for when war or threat of war forces them to leave their homes for safer shelter. Dr. Eliot has been studying and collecting information on this problem since the days of the civil war in Spain and the early stages of the conflict in China.

Evacuation of civil populations from war-imperilled areas brings problems to agencies such as the Social Security Board. How to make social security ef-

fective even in war will be studied by another member of Major Ridings' commission, Geoffrey May, assistant director of public assistance of the Social Security Board.

The protection and use of transportation and other facilities during war will be studied by Frederick C. Horner, assistant to the chairman of the General Motors Corporation.

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PHARMACY

Drug Manufacturing Called The Offspring of Wars

THE SPREAD of war around most of the world has caused many American scientists much worry over possible shortage of important medicines. Efforts to produce in this country a satisfactory malaria prophylactic, for example, have been intensified because of the danger that the quinine supply from the Dutch East Indies might be cut off. The digitalis used in certain kinds of heart disease is imported, and so is the cod liver oil which saves large numbers of American babies and children from rickets. The situation is not acute so far, and historical precedent suggests that the men and women who make drugs in America will find a way to keep us independent of foreign sources.

"Manufacturing pharmacy in America has been the child of wars," is the timely reminder found in a new *History of Pharmacy* by Dr. Edward Kremers, former professor of pharmaceutical chemistry at the University of Wisconsin, and Dr. George Urdang, honorary member of the American Pharmaceutical Association. (*Reviewed SNL, this issue*).

American manufacturing pharmacy, they state, "was born during the Revolutionary War. It took the decisive step from childhood to manhood after and in consequence of the Civil War, and it became independent from Europe and dominant on the world market after the First World War."

America's first wholesale druggist in the modern sense, apparently, was An-



VITAMIN K DISCOVERER

Tiny babies in danger of bleeding to death in their first short week of life and older persons threatened with fatal bleeding in obstructive jaundice have been dramatically rescued by doses of vitamin K. Here is the man who discovered this anti-bleeding vitamin, Dr. Henrik Dam, associate professor at the University of Copenhagen's Biochemical Institute. Dr. Dam is in the United States visiting colleagues who have done much to bring his discovery to practical, life-saving application.

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drew Craigie, army apothecary during the Revolutionary War, who managed a laboratory in which medicines for military hospitals and the army were prepared. After the war, Craigie entered the wholesale drug business "a century ahead of his time."

After this war also, in 1786, the firm of Christopher, Jr., and Charles Marshall, wholesale and retail druggists in Philadelphia started making ammonium chloride and Glauber's salts on an extensive scale, "being probably the first to produce pharmaceutical chemicals on a large scale in this country."

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PUBLIC HEALTH

Influenza Epidemic May Reach 1929 High Level

THE increased number of influenza cases reported to the U. S. Public Health Service now suggests that the present epidemic may be as big as that of 1929, when 195,939 cases were reported in one week (Jan. 5) at the peak of the epidemic. The 1929 epidemic was the biggest since 1918.

The peak of the present epidemic has not yet been reached but the latest weekly

total of cases reported throughout the nation was 89,828 for the week ending Jan. 11.

The epidemic has reached as far east as New England, where Maine reported 1,345 cases and New Hampshire 1,000, and the Southeast, with 4,200 cases reported in Virginia and 3,686 reported in South Carolina. Health authorities expect the total to be greatly increased when the thickly populated states of New Jersey and New York feel the full force of the epidemic. Pennsylvania does not report influenza in figures, but the health officer states there is an epidemic in the western part of the state and that there are many cases scattered throughout the rest of the state.

On the West Coast the epidemic is dying down, but Texas and Louisiana both reported increases over the previous week's figures. In Texas 33,283 cases were reported and in Louisiana 4,983.

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EVOLUTION

Evolution Under Attack By Nazis in Germany

EVOLUTION is under violent attack in Germany primarily because Darwinian teachings deviate from the Nazi "party line" states Dr. Otto Haas of the American Museum of Natural History. (*Science*, Jan. 10) Dr. Haas cites a German "semi-scientific" publication, entitled *Natur und Kultur*, in which ten different authors make violent attacks upon evolution, especially with regard to the origin of man from apelike ancestors.

Dr. Haas calls particular attention "to a fact most striking to a scientific reader: nowhere are the conclusions derived from the results of research; on the contrary, the former are tested as to whether or not they agree with the national socialist racial theory ('Rassenlehre'). If they do not they have to be rejected. . . . It is no less striking to see that the adversaries of evolution reproach its advocates, alleging that the latter make them politically suspect."

One author, H. Weinert, rejects all these arguments as "pseudoscientific objections against the theory of human descent," but even he apparently tries to bolster up his scientific argument with an appeal to the party line, "asserting that, should the origin of man be questioned, the adversaries of the national socialist 'race hygiene' tendencies should cite the uncertainty of science."

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PSYCHOLOGY

Robot Could Find Own Food And Water, Refill Itself

Automatic Devices Would Signal Switchboard Brain When Robot Tanks Needed Replenishing, or When Full

IF WARFARE of the future becomes mechanized that the actual fighting is done by mechanical gladiators, the super-fuehrer of that fantastic day might build his robot recruits by the recipe prepared by Dr. Clark L. Hull, Yale University psychologist.

Dr. Hull is known among his colleagues for having designed and actually had built a mechanical brain—an electrical machine which can "learn" from experience and (even more human) forget.

Now he goes further and provides scientists with the "blue-prints" telling how a complete robot would have to be built so that he might keep himself "alive" by securing his own food and water.

First such a robot would have to be provided with means for moving about. Inactivity would be fatal.

Two tanks would have to be built into him, one for fuel or food, one for water. These tanks would have to have an attachment for signaling when they were filled to the bursting point and also when their stores were nearing exhaustion.

These signals would have to be connected with outside apparatus for filling the tanks automatically and this connection would have to be completed through a brain, or switchboard.

The outside apparatus, the hose, would have to be able to move about freely like an insect's antenna, exploring until contact with the fuel or water was made. To prevent filling the water tank with gas, or the gas tank with water, the filling mechanism might be activated chemically only by the appropriate substance.

All these ingenious devices in the robot parallel the much more complicated mechanism in the human and animal body for finding, storing and converting into energy the food and other needs for survival, Dr. Hull pointed out. A man earning a living goes through a great deal of trial-and-error activity, much of which turns out to be useless, before he can get actual contact with

the beefsteak and drinks his own "tanks" demand.

When the robot is built so that he can fill his own tanks, he still needs some sort of directional apparatus that will guide him to the source of his nourishment. Dr. Hull's design provides for this with two gadgets which the engineer could easily construct.

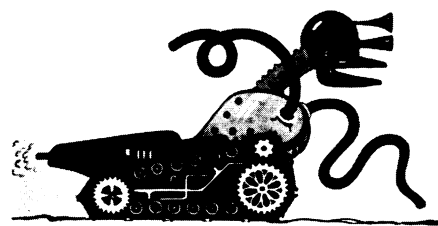
One device will turn the robot around when he needs water until a light over his water supply shines at its brightest on the photoelectric "eyes" in his forehead. He will then be set in motion in the right direction.

The other gadget will turn the robot until a buzzer over the food supply records its loudest in his sound sensitive "ears."

The human body has much more complex apparatus for signaling hungers and other needs and for guiding the individual to their satisfaction, but nevertheless, Dr. Hull concludes, the whole complex human personality may be thought of as a magnificent machine which only the master-Fuehrer who is also a super-scientist might design.

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Sent by the U. S. Fish and Wildlife Service, three boats have been out in Bering Sea to gain practical information for developing an American *crab meat* industry, where Alaska King crab abound.



SELF-SUSTAINING

Dr. Hull's suggestion for a robot that gets its own fuel and water is pictured in a drawing by the artist, Jo Low, prepared under his supervision