tinued. Reproductive deficiency goes with diets short in arginine, nervous disorders with lack of valine, nephritis and hardening of the liver with absence of methionine.

Studies of this kind are going to have great practical significance during the next few years, as war-bred famine presents itself as a problem to be dealt with by the victor nations that have at least some food to spare. Proteins are always the foods most difficult to supply, and the consequences of their lack always the most serious and difficult to deal with.

It is probable that nutritional research will be as much concerned with amino acids during the coming decade as it has been with vitamins in the recent past.

Vegetable proteins are easier to produce in a hurry and in quantity than are proteins of animal origin, but they may not have the good, high-level balance of all needed amino acids as the more expensive meat, eggs and dairy products. However, such protein sources as soybeans, peanuts and other legumes are capable of being enriched by the addition of specific amino acids such as cystine and methionine, together with heat treatment, Dr. D. Breese Jones of the U. S. Department of Agriculture told the meeting.

Heating improves the digestibility of the proteins of most legume seeds, Dr. Jones continued. Some of them, if left to themselves in the raw state, undergo a kind of partial self-digestion, which leaves them less amenable to human assimilation, even though their proportions of valuable amino acids remains high.

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MEDICINE

Sulfamerazine for Shock

Bacteria-destroying drug may be solution to problem of one type of shock in battle casualties, animal experiments indicate.

➤ BACTERIA - DESTROYING sulfa drugs may be the solution to the problem of one type of shock in battle casualties. The joint conclusion, reached by Dr. M. Prinzmetal of Los Angeles and Dr. S. C. Freed and H. E. Kruger of San Francisco appears in a report to *War Medicine*.

Eliminating two of the three major theories of shock causes—that nerves and local loss of body fluid are involved—the experimenters demonstrated that the non-acute or chronic type of shock resulted from blood poisoning by bacteria.

It was found that out of a dozen dogs with crushed muscles—a common injury of the battlefield—all went into shock and nine died within three days.

Plaster casts were put on injured limbs to prevent the local accumulation of fluid, blamed by many as the cause for shock. Nevertheless, 11 out of 16 dogs died of shock, and the scientists are forced to abandon the theory that this factor is an active cause of shock.

Proof that shock stems from the activity of bacteria was demonstrated when no shock resulted in cases where the muscle had been removed within 17 hours after injury had been incurred.

Microscopic examination of crushed muscle revealed the presence of many types of bacteria. It is the opinion of the experimenters that some of the organisms may be the normal inhabitants of tissues, which are of little importance under ordinary circumstances, but grow profusely in damaged muscle.

"Amazing," the scientists state, is the observation that no deaths or symptoms of shock resulted when dogs with crushed muscles were given doses of the bacteria-killing drug, sulfamerazine, locally, intravenously, or by mouth. "If bacteria are not present the toxic factor is not formed and shock does not result," the California experimenters conclude.

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PUBLIC HEALTH

Hay Fever Sufferers Should Start Treatments

➤ THE SNEEZING and sniffling of spring cold victims should remind hay fever sufferers that their season of nasal misery is not far off and that it is time to see the doctor about preventive treatments.

The hay feverite's suffering is due to his supersensitiveness to the pollens of certain plants or trees. There are all-year-round hay feverites, too, but their trouble is generally due to some other substance such as feathers, horse dander, house dust or the like.

Pollen victims are usually treated by a process of desensitization. First, the physician makes careful tests to determine just which pollen or pollens cause the trouble. Then the patient is given a tiny dose of the offending substance and at regular intervals thereafter increasingly large doses until he is able to tolerate the large amounts of pollen blown on spring and summer breezes. Details of the treatment, of course, must be planned by the physician who will also give advice on general health measures and will prescribe drops for nose and eyes if necessary.

Densitization treatment can be given during the hay fever season, but is said to be more comfortable and about 20% more efficient if given before the hay fever season starts. A patient whose symptoms usually begin about May 20 is generally advised to start treatment March 1, and others are advised to start correspondingly two months before their particular season. The hay fever season, of course, is the time when the patient's particular offending pollen is in the air.

Hay fever treatment is important not only for relieving the misery of this ailment but for preventing the asthma that develops in more than half the cases. Careful specific treatment over a period of one to four years will, according to one authority, give from one-third to one-half the victims permanent tolerance to the offending pollens—in other words, a cure. For most patients, even if cure is not possible, symptoms can be controlled so that the patients can live in fair comfort and attend to their business or household duties.

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