

# SCIENCE BRINGS GOOD WAR NEWS

"Air transport, which is employed where advisable for the wounded, irrespective of rank, enables them to receive complete hospital treatment within hours instead of days. Blood transfusion was formerly not practicable until a casualty clearing station or even a base hospital was reached. Now wounded men receive this valuable aid within two to three miles of the fighting line. The new sulfanilamide drugs have enabled a change to be made in the treatment of serious wounds. The new method is to close the wound with a dressing of sulfanilamide powder and vaseline gauze. The patient is then removed to a base hospital, where saline baths controlled for heat and concentrations, are used to float off the dressings from the wounds and give them a complete cleansing. So the use of intravenous injections to produce anaesthesia permits easier, more efficient, and more painless treatment of wounds than ever before. A wounded man who is given an intravenous anaesthetic in a forward area immediately falls into a deep sleep, during which he can be rapidly transported to a casualty station without any awareness of sufferings."—Brigadier Kenrick, Director of Medical Services, Middle East.]

**T**HIS little paragraph is probably, to all relatives of servicemen, and to the Government, too, the best news we have had from the Middle East. For Death swift and complete is the least-used weapon in all war's armoury. Died of Wounds, Died of Sickness, Died of Privation, Died of Famine and Pestilence—this is the mounting order of every long war's epitaphs since history began. Now perhaps the order will be changed.

So far the Germans have made most use of the "stretcher plane." Carrying eight beds horizontally these hospital-ships-of-the-air whisk men direct to Base Hospital within an hour of their wounding and without any of the inevitable damage that the previous four transfers on the way there involved. In the Russian campaigns the "sky trucks" detailed to keep panzer advances supplied never return empty, but always bring back the most dangerous casualties. Blood transfusion right on the scene of battle rests, of course, upon the two discoveries of how to classify "blood-donors" and how to store the plasma indefinitely in portable "blood-banks". And without transfusion not only would removal elsewhere be impossible in many cases, but so would be the almost magical use of the anti-bacterial but blood-thinning "sulfa" drugs.

## Seven Years' Wonder

Sulfanilamide itself is only seven years old. In a paper of 1937 that I have before me a famous doctor is referred to as denying all knowledge of it. But already the sulfanilamide compounds have been extended into effective use against more than a dozen diseases. Sulfanilylguanidine is a specific against both the bacillus of dysentery and that of typhoid fever. Sulfapyridine, effective against that pneumonia which in 1918 swept the armies and carried off one in every four smitten, is carried by British soldiers in their first-aid kits to be self-administered at once after injury. Recoveries that sound miraculous are reported when soluesptasine is injected into cases of

—writes A.M.R. in this article  
for "The Listener"

"camp fever" (meningitis, cerebro-spinal fever) that were "pulseless, hardly breathing, veins collapsed, purpura patches on skin, smelling dead already".

Then there are the toxoids. Unlike the old "anti-toxins," these give immunity for many weeks, and can thus be administered in advance of battle-service. About 80 per cent of the B.E.F. were injected



For the Wounded: Two members of the Army Blood Transfusion Service in England loading a blood-bank to be flown to the battle areas

with tetanus toxoid before going to France, and less than one in 2000 wounded developed tetanus, compared with 16 in 1914-18.

## Leaving it to Nature

And some readers will have heard of the new surgical process called *debridement*. As against the orthodox system of long-continued frequent drainings and dressings for deep wounds, it consists in trimming the flesh to the quick (the patient is, of course, unconscious), scrubbing it with soapy water and antiseptic, packing it in vaseline-soaked gauze, enclosing the whole in rock-like plaster—and leaving Nature to finish the job. Barcelona hospitals, without materials, staff or time to give the usual treatment to Civil War casualties, took over the idea from a forgotten U.S. Army surgeon—and lost only six cases out of 1073. Incidentally, both blood transfusions and dieting will help wounds to heal the faster. The principle is simply



that exemplified in the well-known fact that we convalesce quicker in youth and health than in debility and age.

## Much Depends on Quinine

But wounds are less deadly than disease. Seven times as many men died from the one as from the other in the United States War with Mexico (to quote one of the earliest campaigns for which we have certain figures). In the American Civil War disease killed just twice as many soldiers as battle. And in the Great War, despite all sanitary improvements, it still maintained a lead, even among the U.S. Forces. The "sulfa" drugs being anti-bacterial, are primarily of course directed against the influenza, pneumonia, meningitis, dysentery, typhus, and malaria, which kill more men than guns do. But unfortunately, 'flu being a virus and malaria a "little animal" and not a "little vegetable" (streptococcus), they avail against neither of these. However, there is a dog-distemper vaccine (of all things!), which is being widely used to-day in U.S.A. and Britain against influenza, while the U.S. Public Health Service has set its research team to synthesise some quinine substitute against malaria. They must make it. Empires have fallen for lack of quinine. All tropical and near-tropical life (including that in U.S.A.'s Southern States), as well as all tropical warfare, depends on it. Although Japan, holding the East Indies, controls practically the world's supply at present, that problem will be overcome.

## The Last Weapon

But just as death, wounds and disease do not exhaust the armoury of war, so measures must be taken by all combatant States (yes, and by neutrals, too), against the last weapon—Famine. What famine meant in 1917-20 in Europe only those can know who have themselves endured the "turnip winter," or seen the horror of pot-bellied babies bloated with dropsy or boneless with rickets. Yet U.S. Surgeon-General Parran reported some years ago that the Nazi masses were better fed than the Americans. They were better fed because they had applied science to consumption no less than to production. For starvation is possible in the midst of plenty for nutritional as well as for economic reasons. Bulk foods that satisfy "hollow hunger" or "belly hunger" (the caving-in of the stomach walls), may, for lack of some small but essential element, leave the recipient still suffering the intestinal and glandular disturbances, the loss of weight and appetite, the tender muscles, emotional unbalance, fatigue, fear and indecision that are the much more serious results of "hidden" or tell hunger.