

- b) the distinction between acts subject to the law of war and crimes against innocent parties, such as air piracy, the taking of hostages and breaches of diplomatic immunity, which are acts proving their authors to be unworthy of combatant or political refugee status;
- 4) the promotion among the world population of better knowledge of and respect for the rules of humanitarian law, through the most advanced media made available by modern technology, and particularly by computer storage of a) national and international rules on the law of war and the penalties for breaches thereof and b) national and international sentences penalizing the culprits of such breaches;
- 5) the resumption of studies of projects which, consistent with the provisions of the European Convention on consular functions, are designed to strengthen respect for international humanitarian law;
- 6) the study of ways and means of granting legal assistance to persons deprived of the consular protection of their country.

MILITARY MEDICINE

In World Health,¹ Dr. Bouissou, a French Navy physician, describes how military medicine, born on the battlefield, has contributed to the development of science. We give below some passages from his article which refers to the work of the Red Cross and of the army medical services under the sign of the Red Cross, Red Crescent and Red Lion and Sun.

The wars of the late nineteenth century were characterized by the unpreparedness, lack of foresight and disorganization of medical services, but some military surgeons nevertheless deserve to be remembered. For instance, the German surgeon Friedrich von Esmarch was ahead of everybody else in applying antisepsis; the Russian surgeon Nikolai Pirogoff was one of the first to use anaesthesia with ether on the battlefield.

¹ The magazine of the World Health Organization, May 1970.

Japanese medicine made definite progress during the Russo-Japanese war of 1905, the first modern war where use was made of both projectiles with high initial velocity and new explosives. The Japanese used simple, quick and effective methods of evacuating and treating the wounded, whom they looked after with the greatest care. Results were excellent, and Japanese military medicine proved its high quality.

The First World War, 1914-18, started with makeshift surgery; the experience of previous generations seemed to have been forgotten. Percy, Larrey and Ambroise Paré were by that time no more than shadowy figures of the past and the wounded were no longer operated on immediately. Men were just given bandages and dressings, and then evacuated. As a result, infections like tetanus and gangrene thrived and the mortality rate soared.

The surgeons soon saw the error of their ways and went back to safer methods including on-the-spot operations. Wounds were incised and cleaned, and projectiles removed. War surgery thus entered a new era; speed and incision once again became the golden rules. Like all wars, the First World War made its contribution to progress. Techniques of operation made great strides and, with the innumerable mass of wounded, problems of organization in health services were faced and solved. But we should note that the military surgeons of past ages, those specialists of army camp and battlefield, were no more. As a specialized profession they had disappeared. Full-scale national mobilization simply made military doctors out of civilian doctors. This was a general phenomenon in Europe.

Looking back over history we can see that in most nations organized first aid and health services were instituted relatively recently. The creation of an effective system for bringing help to the wounded dates from the end of the sixteenth century in Europe. Although it is usual to credit France with setting up the first serious military first-aid organization, at the instigation of Sully in 1597, in fact the Spanish monarchy was the first to do so. By the end of Charles V's reign, an extraordinary medical service had been set up; Spain even had a hospital ship.

Thus in the seventeenth century France and Spain were in the lead. They had their military hospitals and ambulances, while the Austrians, Danes, Swedes and Prussians still treated the wounded

and the sick in their tents and barracks. The number one problem, however, was still the same: how to evacuate and transport the wounded. Still no real answer had been found and the army suffered from an acute penury of sanitary resources. First aid to the wounded at that time would be a good subject for a horror story. The words of a Renaissance soldier were still true: "The best bed a wounded man can hope for is some good ditch into which he is thrown by a volley of arquebus fire."

Wars followed wars; manners became more refined; but interest in a military medical service remained minimal. The Crimean War was a health disaster which brought into prominence the calm patience and active charity of Florence Nightingale and her fellow nurses. On her return to London in 1860, she founded the first known school of nursing.

But the situation was revealed at its worst during the Italian Campaign. At the Battle of Solferino in 1859 there was almost a total lack of first aid for the injured (two doctors for 6,000 wounded). Henry Dunant was a Swiss tourist who happened to witness the battle; he was wounded himself due to the zeal to which he was driven by pity. Afterwards he gave an account of the battle in a book in which realism and pathos are mingled with the greatest level-headedness. Dunant suggested that first aid associations should be set up and that doctors, nurses and hospitals should be granted neutrality in time of war. Out of this generous movement came the International Red Cross, the Geneva Convention of 1864 and The Hague Convention of 1907. These international conventions represented an important step forward: the social phenomenon of war was acknowledging a new rule for the sick and wounded.

We shall do no more than recall the immense advances achieved during the Second World War: the accomplishments are so varied that the observer is overwhelmed with surprise and admiration. Everywhere, techniques were brought to perfection, operating techniques as well as evacuation techniques. To mention only a few, progress was made in the treatment of burns, multiple injuries and shock, which affected non-combatants as well as combatants.

The effective use of anaesthesia, reanimation and antibiotic therapy greatly improved surgery. The wounded man was picked up, bandaged, treated, evacuated from the front and operated on

with maximum speed and efficiency. The unbroken line of medical treatment operated with the greatest success, and it should not be forgotten that battlefield conditions were very hazardous. The military medical service and surgery had become morale-boosters for the wounded. Statistics show their success: never had there been such low mortality among the wounded and sick. . .

. . . It was much more usual for such doctors to have to treat pestilential diseases which raged through armies, rather than to experiment. Stern measures to wipe out camp-fever (the old name for typhus) and the enforcement of sanitary rules to stamp out other fevers (malaria)—these were the tasks which fell to any military doctor, making him an epidemiologist or hygienist whether he liked it or not.

Epidemics have on occasion decided the outcome of battles and the destiny of nations; often, in fact, they have determined the course of history. For they went before armies and followed them, decimating the troops and sometimes bringing down empires. This necessarily conjures up the thought of how immense the list must have been of those who succumbed to epidemics as campaigning armies grew in size; in the dismal inventory of disease, the big killers stand out: typhus, plague, cholera, dysentery. More recently, colonial expeditions added their contribution: malaria and yellow fever have their own long lists of victims.

Army doctors played an outstanding part in nineteenth century discoveries about tropical diseases.

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. . . Hygiene, a close relative of epidemiology, aims not only at preserving health but also at improving it. All problems concerning man's relations with his environment, whether the influences involved are physical, biological or social, come under the heading of hygiene. The purpose of hygiene is to allow man to live in healthy relationship with his environment. Air, weather, soil, waste, bodily cleanliness, disinfection, disinsection and nutrition are the widely-differing concerns of the hygienist.

Until the 18th century, these concerns were badly defined. The health of the soldier was only of limited interest. Then British and French medical officers changed the face of military hygiene.

Sir John Pringle, chief of the British Army Medical Corps, laid down strict standards of good military hygiene. He insisted on the airing and ventilation of hospital rooms, prisons, barracks and ships, in fact of all confined spaces. He was a pioneer in his campaign for antiseptics, and even ahead of his time when in 1743 he proposed that the wounded and the hospitals should be treated as neutral during battle, an idea which Henry Dunant took up again in the nineteenth century. . . .

. . . We have chosen the eighteenth century because it was epoch-making in the development of military hygiene. The early twentieth century marked a new epoch for preventive medicine, because of the use of vaccinations. This opened up new fields in hygiene and epidemiology, and here the masters of military medicine, right from the start, played a role that is acknowledged to have been of historic importance. . . .

. . . Prevention has become the golden rule of modern medicine and health relies increasingly on a number of fields with wider scope than purely curative medicine. Ways of dealing with the community's health as a whole are being sought. Many doctors have become hygienists. Here the military doctor can claim some seniority; over the ages he was a pathfinder and innovator in this field. In less than a century, millions of human lives have been spared by vaccinations developed by investigators in uniform. It is also fair to say that surgery has greatly benefited from the experience gained, perhaps not on the field of battle, but at least in military hospitals.

A new tendency being encouraged is the use of military medicine to further health in times of peace; for example, in Mexico, Indonesia, India, Pakistan and Iran, among other countries, military doctors have made important contributions to national campaigns aimed at eradicating malaria and smallpox.
