

Surgeons and the Trenches

By WILLIAM H. DEARDEN

THE doctors are drawing a vivid, real picture of the European war. Their reports from the front are not forbidden. Cold censors who destroy the simple post card story of the soldier son to his mother are stamping "Approved" on the technical and often narrative letters from the surgeons just behind the fighting lines. They may not name places, but they may tell what war is. War surgery is new to the vast majority of the doctors now overwhelmed with it; the exchange of facts, suggestions for treatment, warnings and experiences is a military necessity, for the doctors must be fully equipped to heal the wounded as quickly as possible and send them back to the fighting line.



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So the doctors are writing, talking and publishing freely. Every medical journal of Europe is crowded with war facts and experiences. The great scientific and medical societies which still attempt to meet are given over largely to the medical problems. Their accounts have the added value of being trustworthy and even rigidly accurate, a unique quality in this war.

Out of their stories comes a composite picture of all the newly discovered horrors of war. Not a detail is missing; some doctor has sent in his story from every corner of the fighting territory, from the trenches, the field hospitals, the clearing hospitals, the hospital rains.

This is a dirty war. Gaseous gangrene, lockjaw, blood poisoning, all dirt diseases, and the great dreads of all the armies fighting in France and Belgium. "Send us scrubmen, soap and brushes" is the appeal of Dr. R. P. Rowlands, a British surgeon, from the north of France.

Col. G. H. Makins of the Royal Army medical corps sighs for the clean dust of the veldt, which the British soldier cursed so in the Boer War.

An English doctor stationed in the trenches at a point near the border of Belgium and France suggests the whole story in an incident of his duty. The British troops had "dug themselves in" and for four to six weeks every officer and man of this command had been living in the ditches. Mud had caked them all, had worked into their clothing and underclothing. Not even the officers had been given a chance to remove their clothing once. Vermin flourished.

The doctor discovered a deserted Bel-

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gian factory in workable order back of the firing line, and obtained permission to turn it into a bath house. Steam was readily obtained and big vats were turned into hot-water tubs, each ample for several men at once. The soldiers were sent back from the trenches a squad at a time to enjoy the luxury of soap and water.

But trouble came when the first squad climbed into the vats. Their underclothing which they removed was in such a condition from dirt, rot and vermin that it could not possibly be put on again. Bathing operations had to be suspended until a supply of underclothing had been obtained, in order that every man who bathed might dress again.

Since cold weather set in, men in the trenches have been given occasional relief, in all the armies, perhaps averaging a day per week. As evidence however that the dirt still continues is the report that gasoline is being delivered to troops, for killing body vermin in the trenches. One Germany army joke has been that every company of men attacking Russian trenches must have two men in the front ranks to scatter insect powder.

Even with all this dirt, disease has been comparatively slight. Typhoid and dysentery have had few victims among the French, Germans and English, although typhoid has appeared among the Belgian troops. Typhoid inoculation, which drove this disease out of the American army, is used quite generally, though one-third of all the armies has not yet been inoculated. Cholera has been threatening on the eastern front, so the Kaiser Wilhelm Academy in Berlin is shipping cholera vaccine to Poland.

But this dirt, only an inconvenience to the healthy, is a devilish scourge to the wounded. Almost without exception wounds are "septic," which may be translated as putrifying. Bullet wounds are least so, shell wounds most. Hand



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grenade wounds, a development of the last few weeks, also are bad.

The bullet that goes clean through the flesh is not of course making the septic wounds of earlier wars. Its high speed seems to kill the organism by heat. Col. Makins has told of actual burns of the skin, caused by a bullet which rolled around under a man's clothing, after it had passed through his leg.

But the trouble is that these wounds are in small proportion, less than one-quarter of all wounds. The popular impression that wounds in modern warfare are not horrible applies to only a few. The contrary is the rule. Even bullet wounds make many horrible tears, burstings and smashes. Dr. Erwin Payr, the eminent professor of surgery in Leipsig, now surgeon-in-chief of a German hospital in France, reports that very frequently as many as 40 bone bits are counted in the X-ray pictures. Since the fighting has been closer in trenches, often only 100 yards apart, the modern bullets have been making horrible muscle-tearing wounds, a condition not anticipated.

Worse yet, the majority of wounds in this war are from the more inhumane shrapnel and shell. Ninety per cent of all the wounds treated at the great French base hospital of Chambery in the first three months of the war were from shrapnel and shell, and more than half still are. Shells are steel casings filled with explosives which scatter bits of steel in every direction. Shrapnel are metal jackets containing explosives and a quantity of bullets about the size of marbles. Great, ugly, dirty wounds are their product.

Worst of all, this war has developed two other wholly unexpected horrors in these shell and shrapnel wounds, lock-jaw and gaseous gangrene. French, German, British and Belgian doctors alike have been appalled by the lockjaw. The cause generally ascribed is the fact that the fighting has been over ground long tilled and so apt to be impregnated from manure with the organisms of tetanus or lockjaw.

What happens to the wounded man may be illustrated by a typical case. Napoleon Grenier, private in the —regiment of French infantry, is hit by a shell fragment, in the trenches near Rheims. His thigh is badly torn, but he is lucky. If he had been hit in the open out between the firing lines, he might never have been rescued.

He tries to get out the first aid packet from his inside pocket, but his comrades get it out for him. One opens the packet, and another swabs the wound with iodine from a little glass tube and the first then roughly dresses it with absorbent cotton and bandages.

Until night he lies in the trench, for then communication opens with the rear. After dark he is carried by comrades to an ambulance or more likely to a food cart, and in that he is transported to the field hospital, perhaps two miles away. Again he is lucky, for the army has been in the trenches several weeks, and the field hospital with all its connections is running smoothly.

That night in the field hospital the

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doctors give him first an injection of tetanus anti-toxin and then dress the wound. They decide he can be sent home for treatment. If he had been terribly wounded, he might have had to remain in the field hospital, or at least not far in the rear from there.

About dawn he is carried by motor to the clearing hospital. The clearing hospital is largely a development of this war, established to meet actual conditions, and as the name implies is a distributing station. Quite likely it is located in a railroad station five miles to the rear. There the doctors decide he can stand a railroad trip, and he is ordered to Bordeaux.

Now comes the worst of his whole experience, the railroad trip to Bordeaux. Magnificent hospital trains had been provided before the war and many have been equipped since, but it is the freight train which still bears most of the wounded from the front, the same trains which brought up men, horses and food. For a day and a night he suffers terribly. It is not uncommon for wounded to die on these trips, but the placing of an attendant in each car has been an enormous relief these last three months.

At Bordeaux Napoleon's worst troubles are over. In a motor ambulance he is carried to a suburban village, where the casino has been converted into a hospital of 500 beds. The doctors are the old practitioners of the village for the young ones are at the front. Here too is a noted member of the Academie de Medecine, in charge of serious operations. Here Napoleon remains until he is ready to return to the front.

Practically all the noted men of medicine of Europe are in charge of such hospitals. Dr. Alexis Carrel of the Rockefeller Institute of New York is in charge of a German hospital, among his enemies in Belgium.

The British soldier, wounded on the Yser, goes through the same procedure, passing through Boulogne to England, and the Belgian wounded by way of Dunkirk and Calais go to friendly hands in Great Britain.

The German soldier wounded near Rheims, tagged to show that his wound is such that he can be transported but cannot walk, has the best chance of a decent trip to the home hospital.

All the medical reports agree that the Servian wounded have suffered the worst, from lack of doctors, nurses and supplies, but the whole campaign in the east has been more merciless on the wounded than the fighting in France.

From the base hospitals at least 80 per cent of the wounded are sent sooner or later back to the firing lines, while only about 4 or 5 per cent die. It must be remembered, however, that the deaths among wounded at the front, due to inability to rescue or to help them, are far above the average of other wars.

The doctors themselves are suffering more than ever before. More than 125 German doctors have now been killed, out of a force of 9000 at the front. In the Franco-Prussian War out of 4062 doctors in the German forces only 11

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(1916 image added)

were killed. London *Lancet* is recording an average of two to three British doctors a week, killed in Flanders, besides great numbers wounded and missing.

How many soldiers have thus far been wounded no man can tell, but guesses of a million are not absurd. A British doctor last fall reported 40,000 French wounded in the neighborhood of Bordeaux. A German doctor has predicted that half of all the troops will be wounded before the war is over, at the rate already established.

