N. I. PIROGOV—FOUNDER OF MILITARY-FIELD SURGERY.

By Academician N. N. Burdenko.

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This great surgeon was born 130 years ago. He wrote important books on surgery. His claim to greatness rests on his three principles of treating wounds:

1. Rest to the wounds—protecting them from further hurt.
2. Immobilization of the wounded part and of the whole limb, including neighbouring joints.
3. Use of anaesthetics, first rectal ether, then general anaesthesia with chloroform.

He appears to have been the first to use plaster-of-Paris bandages which played a large part in the treatment of the wounded at the siege of Sevastopol. His indications for the use of plaster-of-Paris bandages were: Wounds with much destruction of soft tissues, fractures of diaphyses of long bones, wounds of joints.

It is remarkable that this method was not revived till the Great War and it has since been used in the Spanish Civil War and in the Finnish campaign of 1939/40.

"I shall never forget my first arrival in Sebastopol," he said. "The wounded were lying in carts, two or three in each cart, shivering with cold. Dead animals and carrion were everywhere. Birds of prey were hovering about. And in the camp of martyrs rain fell, men and mattresses were soaked through. Men lay in dirty pools of water. Imagine how it was to lie, three to four men together with amputated limbs."

He then applied all his will to alter all this. He demanded:

1. Proper classification of the wounded into five classes from the most seriously injured to the lightest wounded.
2. A good administration.
3. Surgical skill in war shall not be primitive but doubly keen in the sense of greater flexibility, improvisation and inventiveness. No matter how difficult the military conditions, help should be rendered most effectively and completely.

He writes: "I suggest that in war nothing more could be demanded of the administration and surgical staff than that, firstly, in dressing stations, after the sorting of fractures and joint wounds, these should be well-bandaged with plaster-of-Paris, with no pressure on the soft parts, with or without windows, according to circumstances. Secondly, all bleeding should be carefully controlled. Thirdly, the wagons transporting the wounded from the dressing stations to military hospitals should be well spread with hay or straw, the wounded not crowded, and guarded from rain and cold. Fourthly, the transport must be supplied with
medical and police supervision, warm food, water, wine, bandages and medicines. Fifthly, the distance should not be far, and the time not too long, before the transport arrives at its destination."

He set himself to put these ideas into practice. But he had a great number of conflicts with the authorities and the discouraging obduracy of the administration cannot even be imagined. He could not bring about any improvement in the treatment of the wounded, better distribution, or transport. So one can imagine his joy when the Institute of the Sisters of Mercy was founded. This helped him, in a measure, to smooth out the terrible conditions which he found. The first experience of the work of the sisters in conditions of military field surgery was exceptionally favourable, thanks to the choice of the first sisters and the exceptionally talented nurses Kartseva and Bakunina. Other favourable conditions were that the military operations were carried out in the conditions of positional warfare, when it is easy to organize and train cadres of sisters, constantly in touch with the doctors, who worked by their side.

BLACKWATER FEVER.

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History.—In September, 1940, five French soldiers from French Equatorial Africa were landed as survivors of a British warship that had been bombed and sunk. All suffered from the effects of immersion and exposure with minor trauma in some instances. Four developed symptoms suggestive of malaria.

Case 1.—Corporal P. The blood was examined on September 17, 1940, when the parasites of malignant tertian malaria were found—P. falciparum. Appropriate treatment was given and the patient made a clinical recovery.

Case 2.—Private B. A blood count was performed on September 25, when the total red cell count was 2,550,000 per c.mm., and the haemoglobin was 60 per cent. P. falciparum was demonstrated in the blood films. In this case there was some appearance of jaundice but with treatment recovery took place. There were no other symptoms of increased haemolysis.

Case 3.—Serjeant V. The blood was examined on September 27, when no malaria parasites could be found. This examination was repeated on October 3, when P. falciparum was discovered in the blood films. Treatment resulted in clinical recovery.

Case 4.—Serjeant A. On September 20, Serjeant A. (a Eurasian) developed pyrexia with rigors and anuria, and a blood examination carried out on that date showed the presence of P. falciparum. On the same day a blood count showed the total red cells to be 2,500,000 per c.mm., and the haemoglobin to be 70 per cent.

He became rapidly jaundiced, and on September 21, his blood count (red) showed deterioration to 2,050,000 per c.mm. and a blood transfusion was given