

tedious, and in these the nervous phenomena occurred in a manner most marked, when contrasted with those cases which I had treated upon general principles. Now, it is also said of bleeding that it cuts short the disease if employed in the congestive stage. To this I can say, it may sometimes; it does not always. In case third I employed it in the congestive stage, with the result narrated. The pneumonia went on. Still in the case of a strong, full-blooded young man, seen early, and having marked dyspnoea, with the blueness of the face and a turgid condition of the venous system; with a small pulse and laboured action of the heart, showing that the right ventricle was distended and, in the left, scarcely any blood upon which to contract, I cannot but think that the lancet should be used. But how much blood will you take? Some say eight, some say ten, some twenty, some thirty, thirty-five or forty ounces of blood at once. I consider this a point of the greatest importance. I believe that in pneumonia an exception must be made to the general rules laid down with reference to blood-letting.

The average amount of blood in an ordinary man is eighteen pounds; in a full-blooded man of good size we might approximate the amount at twenty pounds. In an extensive pneumonia of one lung you will have four or five pounds of blood, or of material from the blood, thrown out as exudation; in double pneumonia nearly double that amount, viz., eight or ten pounds, leaving in a full-blooded man fifteen or sixteen in single, and ten or twelve pounds in double pneumonia. Now, this fifteen or sixteen pounds of blood in a single pneumonia is not only very much less than what is necessary to carry on the work of the economy, but it is also much deteriorated by the products of inflammation on the one hand, and by defective aeration on the other. Now, what must be the result if you take one and a-half, two, or two and a-half pounds of blood from the veins of a man when it has already been so fearfully drawn upon? The brain, we are told, requires one-seventh of the blood, viz., something over two and a-half pounds. Taking the amount in exudation and making a little calculation, you will find that you have a reduced blood supply to the brain of nearly one-half. Now, you will find, if you do this, the nervous symptoms, which may have been

mild before the bleeding, will become pronounced in a short time after the bleeding. Take a man in full health and bleed him to the extent of seven pounds—few of us would care to do it—and yet that man is able to reproduce the lost blood in a short time, because his powers of assimilation and absorption are unimpaired; but the man who suffers from pneumonia is in no such condition, the whole system is profoundly disturbed, and the blood-producing powers almost at zero; and yet there are some who would not hesitate to take two or two and a-half pounds of blood. Now, if this is a strong case in single pneumonia, what must it be in double pneumonia?

Here you have eight or ten pounds of exudation taken from the blood, ten or twelve pounds left in the body—say you have twelve pounds left in the body. You take away two more; you have ten left—just half the blood, and loaded with the products of inflammation and very improperly aerated. It does appear to me that a physician should be sure of his case before he would adopt such heroic measures. Bad as is the mortality of double pneumonia under the cautious, conservative, and I believe, judicious treatment of late years, I am persuaded that it would be woefully increased by such a measure. Even in the case which I have drawn as being one in which it would be appropriate to use the lancet, the quantity taken should not be large: not above eight or ten ounces, or, at the outside, twelve ounces. In the cases in which I adopted it I believe I withdrew too much. I am led to this conclusion by the very marked nervous prostration and tedious convalescence which followed the measure. Another point: When should you bleed in pneumonia? In the congestive stage. It is then that the right side of the heart is loaded; it is then, if at all, that you may hope to cut short the disease; it is then that you may hope to lessen its severity. If you wait till exudation is completed and then bleed, you only further debilitate a patient already sufficiently debilitated, and narrow his chances of recovery.

AN ADDRESS READ BEFORE TRINITY
COLLEGE MEDICAL SOCIETY.

BY G. A. BINGHAM, M.D., TORONTO.

Demonstrator of Anatomy.

MR. PRESIDENT,—When informed that your committee had honored me by appointing me to