

ation, a profuse hæmorrhage took place, the patient being perfectly blanched and in a condition of syncope. On 11th May, twenty days after the last hæmorrhage, and one month after operation, another severe hæmorrhage took place. The cast was at once removed and the hæmorrhage was found to come from the posterior tibial artery which may have been accidentally punctured during the tenotomy of the tendo-chilles. Or ulceration may have occurred from the great amount of tension that it was subjected to; the vessel was ligatured and the bleeding ceased. The large gaping wound was found to be well filled by organization of the blood clot, and nearly skinned over. In ten days more the wound had entirely healed; he now walks without any support, and only a slight perceptible limp, the result being highly satisfactory.

The somewhat different procedure in this case, from that ordinarily described as Phelps's operation, and the secondary hæmorrhage occurring so long after the operation, I thought might be sufficiently interesting as to afford me an excuse for having read this paper before this Association.

### Selected Articles.

#### CERTAIN ORGANIC EXTRACTS: THEIR PREPARATION AND PHYSIOLOGICAL AND THERAPEUTICAL EFFECTS.

Since the experiments of Brown-Séquard, more than three years ago, observers in various parts of the world have been engaged in similar investigations, not only with the juice of the testicles, but with extracts obtained from other glands of the body. So far, however, as I am aware, no systematic researches have been undertaken along the line of those, the details of which I am about to give, and with which I have been occupied almost continuously since the summer of 1889.

Organic beings possess the power of assimilating from the nutritious matters they absorb the peculiar pabulum which each organ of the body demands for its development and sustenance. The brain, for instance, selects that part which it requires, the heart the material necessary for its growth and preservation, and so on with the liver, the lungs, the muscles, and the various other organs of the body. No mistake is ever committed. The brain never takes liver nutriment, nor the liver brain nutriment; but each selects that which it requires. There are, however, diseased conditions of the various organs in which this power is

lost or impaired, and as a consequence, disturbance of function, or even death itself, is the result.

Now, if we can obtain the peculiar matter that an organ of the body requires and inject it directly into the blood, we do away with the performance of many vital processes which are accomplished only by the expenditure of a large amount of vital force.

Let us suppose a person suffering from an exhausted brain, the result of excessive brain-work. Three hearty meals are eaten every day, but, no matter how judiciously the food may be arranged, the condition continues. Now, if we inject into that person's blood a concentrated extract of the brain of a healthy animal, we supply at once the pabulum which the organ requires. Then, if under this treatment the morbid symptoms disappear, we are justified in concluding that we have successfully aided Nature in doing that which, unassisted, she could not accomplish.

Taking the brain as a type of the process employed—and it is not materially varied with the other organs of the body—it is as follows:

The whole brain of the ox, after being thoroughly washed in water acidulated with boric acid, is cut into small pieces in a mincing machine. To one thousand grammes of this substance placed in a wide-mouthed, glass-stoppered bottle, I add three thousand cubic centimeters of a mixture consisting of one thousand cubic centimeters each of a saturated solution of boric acid in distilled water, pure glycerin, and absolute alcohol. This is allowed to stand in a cool place for at least six months, being well shaken or stirred two or three times a day. At the end of this time it is thrown upon a porous stone filter, through which it percolates very slowly, requiring about two weeks for entirely passing through; the residue remaining upon the filter is then inclosed in several layers of aseptic gauze and subjected to very strong pressure, the exudate being allowed to fall upon the filter and mixed with a sufficient quantity of the filtrate to cover it. When it has entirely filtered it is thoroughly mixed with the first filtrate, and the process is complete.

During the whole of this manipulation the most rigid antiseptic precautions are taken. The vessels and instruments required are kept in boiling water for several minutes, and are then washed with a saturated solution of boric acid. Bacteria do not form in this mixture under any circumstances, but it is necessary to examine it from time to time microscopically in order to see that no foreign bodies have accidentally entered. Occasionally, from causes which I have not determined, the liquid becomes slightly opalescent from the formation of a flocculent precipitate. This is albuminous in its character. It sometimes takes place in a portion of the extract kept under apparently identical conditions with other portions