shock alone. The blood pressure could be reduced to a certain degree, lower than which by trauma alone it was not possible to reduce it.

Extending our experiments, we found that manipulating the spinal cord and injecting cocaine into the subarachnoid space, which ordinarily causes a marked fall in blood pressure, produced either a rise or no material effect.

Still further pushing our observations, we destroyed the upper cervical cord and finally the medulla, after which by maintaining artificial respiration the circulation still went on. We then made the supreme test of decapitating such over-transfused animal and found that the blood pressure was still evenly sustained with no aid beyond artificial respiration. Even when respirations were not given the height of the pressure was not changed. One animal lived for over three hours by merely keeping up artificial respiration. This circulatory state is readily understood by considering for a moment the physiology of the heart beat. The heart may be removed and kept on ice for a day or two, then if oxygenated defibrinated blood under a pressure of from 80 to 100 m.m. mercury be made to circulate through the coronary vessels it will beat again and continue beating for a number of hours. Even a coronary pressure raised to that height by metallic mercury will for a moment cause the inauguration of the heart-beat. In the overtransfused animal the vascular system is so filled with blood that its elasticity is utilized to create a resistance against which the heart may beat, resulting in a pressure of from 80 to 140 mm. mercury in the aorta, hence in the coronary. There is no reason, then, why the heart should stop beating so long as this coronary pressure is maintained, and this may be maintained so long as the elasticity of the vessels gives this resistance, the casual loss of the head to the contrary notwithstanding.

Only summaries of the groups of clinical cases will be given.

Clinical. 1. Pernicious Anæmia. In two cases of extreme pernicious anæmia, transfusion was followed by a temporary improvement, but almost immediately subsequent to the transfusion there was a rapid hæmolysis of the blood transferred. This, it has seemed to me, might be of special interest to the internist as bearing upon the etiology of the disease. In these cases there was no evidence that the course of the disease was modified.

2. Leukæmia. A case of spleno-myelogenous leukæmia that had resisted a carefully planned and well executed medical course, including the x-ray, was first bled, then transfused. Though there was temporarily a marked gain in vitality as manifested by an improved well-being, and increased appetite and strength, the blood picture showed no change. There was no evidence that the natural course of the disease was modified.