

SCIENTIFIC PROCEEDINGS.

ABSTRACTS OF COMMUNICATIONS.

Fifty-first meeting.

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President Ewing in the chair.

16 (712)

The effect of strychnin in cardiecomized frogs with destroyed lymph hearts; a demonstration.

By S. J. MELTZER.

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In several communications we have reported that the injection of solutions of strychnin, morphin or acid fuchsin in cardiecomized frogs is liable to bring on convulsions of these animals. The lymph hearts continue to beat for a while after the cardieotomy. But since the lymph hearts assist the circulation only by emptying their contents into veins, it seemed to be evident that the removal of the blood heart eliminates also the circulatory function of the lymph hearts. I have therefore assumed that the above mentioned alkaloids reach the central nervous system by way of the lymph spaces, which are connected throughout the body, and which are capable of serving as a path for distribution by means of a peripheral mechanism. In a recent paper by Abel (*Jour. of Pharmacology*, III, 581, 1912) in which our facts were confirmed and in which it was admitted that the activity of the posterior lymph hearts can not come into consideration, the statement was made that "the appearance of convulsions in the experiments of Meltzer and his pupils with acid fuchsin, morphin and strychnin depends entirely on the integrity of the anterior lymph hearts." This statement is supported by a report of experiments in which, after destruction of

the anterior lymph hearts, in addition to cardieotomy the alkaloids under discussion did not bring on any convulsions. I shall not enter here into a discussion of the entire subject. I merely wish to let you witness some indisputable facts. You see here a series of frogs from whom the thoraco-abdominal viscera have been removed, and in addition, the lymph hearts were destroyed by cauterization. All these animals were injected about an hour ago with strychnin; the injections were made in some animals into the dorsal lymph sac and in others into the femoral sacs of both thighs. You see that they respond to a tap with a tetanus. This shows definitely that the injected strychnin reached the central nervous system of these completely eviscerated frogs without the help of the anterior lymph hearts. But you see also that the trays holding the frogs are kept over ice. This is done because at the room temperature, I could not be sure of the success of my demonstration. It is possible that Abel's observations were made in May, when such experiments are apt to fail.

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Pulmonary lesions by intra-bronchial insufflation of cultures of *B. megatherium*. With a demonstration.

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The production of experimental pneumonia in dogs by means of intra-bronchial insufflation of bacterial cultures has now been carried out in several series of investigations. In the first series Lamar and Meltzer produced lobar pneumonia by insufflation of cultures of a virulent pneumococcus. In a second series we produced lobular pneumonia by insufflation of a virulent streptococcus and of the influenza bacillus. Besides the differences in the gross appearances of the lesions both pneumonias offered the following distinguishing points: In the lobar pneumonia of the virulent pneumococcus there was a mortality of about 16 per cent.; even in the non-fatal cases there was bacteremia present in the first twenty-four hours; the exudate was rich in fibrin and the framework of the lungs was invariably free from leucocytic