

evolution of these colonies to an aggregation of elementary bodies is particularly clearly demonstrable in moist fixed preparations (Schaudinn). Since the monocytes with the virus colonies exhibit changes due to injury, it is reasonable to understand that the disintegration or rupture liberates the elementary bodies which may appear as clusters or clumps or as free particles of relatively uniform size in enormous numbers throughout the exudate. In very resistant cells the colonies of elementary bodies may assume enormous size and fill the entire cytoplasm. Finally it is noteworthy that both free elementary bodies and their progenitors—the cytoplasmic colonies with the large particles—are observed at the time of death in the preparations made from the peritoneal exudate of the infected sparrows.

8217 P

Some Observations Upon Blood Glucose in Epilepsy.

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Pigott¹ has recently reported low blood sugar in epileptic convulsions and regards hypoglycemia as a possible etiological factor. In our series of 25 cases in which 3 or more determinations have been made in each case we do not confirm this view. The blood glucose was determined by the method of Gibson.² Determinations were made before, during and after seizures and in each case the blood glucose was within normal limits (90 to 110 mg. per 100 cc. blood) before convulsions, and rose during the convulsions. The rise of blood sugar was roughly proportional to the severity of the seizure, and after termination of the convulsion the blood sugar returned to normal in two to four hours.

In 4 cases of *status epilepticus* the blood sugar value before seizure

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¹ Pigott, A. W., Read before the Amer. Psychiatric Assoc., Washington, May 14, 1935.

² Gibson, R. B., PROC. SOC. EXP. BIOL. AND MED., 1930, **27**, 480.

was 95.0 to 100.0 mg. per 100 cc. blood. After about one hour of status the values rose to 139.0 to 190 mg. per 100 cc. and after three hours of status the values were 150 to 240 mg. per 100 cc.

In 21 cases having moderate to very severe isolated seizures the blood sugar rose from the average of 92.5 mg. per 100 cc. blood before seizures to 168.0 mg. per 100 cc. during convulsions. In 7 cases the elevation of blood sugar was above 185 mg. per 100 cc. during the height of the convulsions.

In no instance was hypoglycemia found either before or during the convulsions.

8218 P

Synaptic Transmission in the Stellate Ganglion.*

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We have investigated certain aspects of the mechanism of synaptic transmission in a sympathetic ganglion by recording the action potentials in the inferior cardiac nerve of the cat while stimulating the preganglionic fibers to the stellate. This preparation has proved admirable for such a study because the long postganglionic nerve makes possible a careful investigation of the properties of the fibers whose response is used as a measure of the activity of the ganglion.

The form of the action potential in the non-medullated fibers of the inferior cardiac nerve has been determined by recording the impulses in the nerve during direct excitation. It differs from that of medullated nerve in 2 respects which are important to this investigation. Because the conduction velocity is much less (0.4 to 1.1 meters per second) there is a marked spread of the spike potential due to temporal dispersion of impulses in the several fibers. This temporal dispersion and the large positive and negative after potentials which are found in these non-medullated nerves may combine to give the potential wave a complicated form of several crests and troughs. In this we confirm Bishop.¹ Because of these considerations it is necessary to be cautious in the use of the post-

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¹ Bishop, G. H., *J. Cell. and Comp. Physiol.*, 1934, **5**, 151.