species only. Kepinow used two kinds of pituitary material, an extract prepared by himself, and the commercial preparation "Pituitrin" made by Parke Davis and Co. Kepinow states that both preparations gave similar effects. Our experiments were made with "Pituitrin" only.

Since the results are negative they may be reported very briefly. The procedure was to determine the effects of injections of given quantities of "adrenalin" and of nicotin, selected to give a moderate rise of blood pressure. About 1 c.c. of adrenalin, 1 : 100,000, and 1 c.c. of nicotin 1 : 4,000 are suitable for medium-sized dogs. Having determined the reactions to these drugs, pituitrin was injected by vein in quantity to give a slight rise of pressure, *e. g.*, .05 c.c. At various intervals from one half to several minutes after this injection, the adrenalin and nicotin injections were repeated. In no case was a significant change of reaction noted. In most of the animals the vagi were cut, but this procedure made no apparent difference in results.

In view of the restricted value of negative results some hesitancy is felt in offering them for publication. In further consideration, however, of the vast number of unjustified generalizations in the literature of internal secretion they are offered for what they may be worth.

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The production of atrioventricular rhythm in man after the administration of atropin. (Preliminary Communication.)

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During the past year two patients with cardiac complaints were given repeated injections of 1 mg. atropin sulphate and on each occasion atrioventricular rhythm was observed. This usually appeared in from eight to ten minutes after the drug was given, it persisted for only a few minutes, and disappeared before the maximum effect of the drug was reached.

In order to determine whether this tendency to A–V rhythm was peculiar to these patients or whether it exists normally, a

series of experiments on normal individuals was carried out. Eighteen subjects, all under twenty-eight years of age and all with apparently normal hearts, were given hypodermic injections of 1 mg. of atropin. The effect of deep breathing and of ocular pressure upon the cardiac mechanism was studied both before and during the atropin action. Before the injection, A–V rhythm was not produced in any of the subjects tested. Between eight and fifteen minutes after the injection, however, A–V rhythm could be produced by ocular pressure or deep respiration in the majority of the subjects. After the atropin effect had reached its height A–V rhythm could no longer be produced.

Three types of A–V rhythm were observed. In the first, which occurred most frequently, the P–R interval was reduced and P was inverted; in the second, the P–R interval was zero; while in the third there was an R–P interval. The last was observed in only two subjects. These differences evidently depended upon the level of the pacemaker in the junctional tissues.

These observations may be explained on the assumption that atropin releases the A–V tissues from vagus control somewhat before it releases the sinus node. At this time stimulation of the vagus slows the sinus rhythm without a correspondingly great effect upon the inherent rhythms of the lower centers. The latter therefore tend to usurp the pacemaking functions of the heart. After full atropin action on the other hand, both the sinus and the lower centers are released and the more rapid sinus rate controls the cardiac rhythm. Before atropin vagus stimulation probably slows the inherent rhythms of the lower centers as well as that of the sinus so that the former do not ordinarily escape.