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On the action of the infundibular portion of the hypophysis upon vasodilators.

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By the investigations of Oliver and Schäfer, Howell and others, it has been established that by intravenous injections of an extract of the infundibular portion of the hypophysis a rise of blood pressure is produced, which, however is usually not as strong as the one produced by an injection of adrenalin. It is now generally assumed that, like adrenalin, the rise is produced by a stimulation of the constricting mechanism. On the basis of the hypothesis, that the hypophysis may raise the blood pressure not by a stimulation of the constricting, but by a *depression of the vasodilating mechanism*, we studied the effect of stimulation of the depressor nerve in rabbits soon after an intravenous injection of an extract of the hypophysis. We used for this purpose the pituitrin of Parke, Davis & Co., which is made up from the infundibular portion of the hypophysis. In some of the experiments the pituitrin was heated for the purpose of driving off the chloretone. In some of the experiments both vagi were cut to eliminate the inhibitory action through these nerves.

We may state briefly that in every experiment the irritability of the depressor nerve was either abolished or considerably reduced for a few minutes after the injection of the pituitrin. This was definite even before the rise which follows the injection began to develop and also during an insignificant rise. The larger the injected dose of pituitrin, the longer did the reduction of the irritability of the depressor nerve last. In 12 or 16 minutes, however, the irritability, as a rule, returned to normal. On repeating the injections, the reducing effect upon the irritability of the depressor became less and less pronounced.

We may recall here the fact, observed by Oliver and Schäfer and others, that during the rise of blood pressure from adrenalin, stimulation of the depressor nerve is ineffective. But this applies

only to the strong rise which sets in, as is known, immediately after injection of that substance. With the onset of the descent of pressure the depressor action of the depressor nerve becomes more and more effective. Here the inefficiency of the stimulation of the depressor may be due merely to the inability of the depressor nerve to overcome the high pressure. It is different, however, with the action of the hypophysis. Here the rise of blood pressure develops as a rule, gradually and sometimes it is even preceded by a fall. Furthermore in some instances the rise is comparatively insignificant. Nevertheless in all these conditions there is definite evidence of a striking reduction of the irritability of the depressor. We are therefore, for the present, inclined to look upon the discovered reduction of the irritability of the depressor nerve as a confirmation of our hypothesis that the infundibular portion of the hypophysis reduces the irritability of vasodilators. We may mention that studies upon the vasomotor effects of stimulations of the central end of the vagus nerve in dogs, which we shall not discuss here in detail, seem to furnish a further confirmation of this view. As to the locality where the hypophysis develops its action, whether upon the central or peripheral mechanisms or upon both, we shall not discuss at present.

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On the reduction of toxicity of strychnin by the simultaneous administration of large quantities of fluid.

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In the course of some experiments on adrenalin glycosuria in which the simultaneous injection of blood, serum or lymph with adrenalin was studied, it became manifest that the significance of the factor of dilution had to be previously established. It was thought that the study of the effect of dilution upon strychnin poisoning would throw some light upon this. The definite and instructive results which were obtained will be stated here very briefly.