is not less than in normal rabbits. In fact, it showed rather a tendency to greater resistance after the kidneys had been removed. Thus 100–150 milligrams of caffein per kilo failed to produce symptoms in nephrectomized rabbits. As was shown by the writers elsewhere,[1] 15 omilligrams per kilo injected subcutaneously into normal rabbits are usually toxic. A dose of 200 milligrams per kilo proved fatal to one rabbit, but two others survived with the manifestation of symptoms. It is interesting to recall in this connection that similar results were obtained several years ago by Meltzer and Salant[2] in experiments with strychnin in nephrectomized rabbits.

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A quantitative study of the pupil dilatation caused by adrenalin.

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In the normal rabbit, adrenalin given subcutaneously has no effect on the pupil; if given intravenously in fairly large doses there may be a dilatation lasting less than a minute. S. J. Meltzer and C. M. Auer have shown that after removal of a superior cervical sympathetic ganglion in rabbits, the pupil of the corresponding side dilates maximally upon the administration of adrenalin either subcutaneously, intravenously or by instillation. Their experiments were carried out from the qualitative point of view, that is, fairly large doses of adrenalin were used and a wide, long-lasting dilatation of the pupil on the gangliectomized side resulted.

I have recently made a quantitative study of the effects of intravenous injections of adrenalin on the pupil after removal of a superior cervical ganglion in rabbits. The object was to determine the minimal dose that will give a dilatation, and also the amount and duration of the dilatation produced by larger doses. The doses of adrenalin used per kilo animal, expressed in c.c. of the 1/1,000 commercial adrenalin solution, were 1/50, 1/30, 1/20, 1/10 and 2/10 c.c.

[1] Bull. 148, Bur. of Chemistry.

[2] *Jour. Exp. Med.*, 1901, Vol. 5, p. 643.

The results, stated briefly, are as follows: The average pupil-dilatation in six experiments with 1/50 c.c. of adrenalin per kilo animal was 1.62 mm., with a beginning recovery from dilatation in four minutes, and a complete recovery in ten minutes.

In six experiments with 1/30 c.c. there was an average dilatation of 2.25 mm.; recovery began in eight minutes and was complete in twenty-eight minutes.

In thirteen experiments with 1/20 c.c., there was an average dilatation of 3.61 mm.; recovery began in six minutes and was complete in thirty-seven minutes.

In eight experiments with 1/10 c.c., there was an average dilatation of 3.87 mm.; recovery began in ten minutes and was complete in forty-nine minutes.

Finally, in eight experiments the dosage was 2/10 c.c. Here the average dilatation was 4.25 mm.; recovery began in twenty-five minutes, and was practically complete in an average of one hundred and eight minutes.

In other words, 1/50 c.c. of adrenalin per kilo animal was practically the minimum amount that could be relied upon to give a definite dilatation; as the dosage of adrenalin was increased, the dilatation also became greater, remained at its maximum for a longer time, and the return to a normal diameter was slower.

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Intermittent and continuous lights of equal intensity as stimuli.

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It is generally assumed that white lights of equal intensity give equal stimulation. We have attempted to ascertain whether there is any observable physiological difference between the action of continuous white light and intermittent white light of equal intensity. From a common source of light two beams were conducted over separate paths of equal length to a common observation point. One beam passed through a narrow slit and was thus reduced to a continuous stream of light of low intensity. The