

any fresh serum if it is rendered active by the removal of its antitrypsin.¹ In the recent experiments we have succeeded in demonstrating the proteolytic activity of the serum of pregnant individuals after the removal of its antitrypsin with boiled placenta, by allowing such a serum to act upon the standard suspension of fresh placenta cells. The number of cells were counted on a Fuchs-Rosenthal counting chamber at intervals during the experiment, and it was noticed that the cells underwent disintegration, only when mixed with the serum previously exhausted of its antitrypsin, whereas the control mixtures containing the whole male or female serum or salt solution remained practically unchanged. Such a digestion of placenta cells is not specific, as we have also observed it with the male serum, deprived of its antitrypsin by a non-specific mechanism, such as adsorption by kaolin or starch, as well as by the extraction with chloroform.

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The effect of adrenalin on the pupil after removal of the ciliary ganglion.

By **DON R. JOSEPH.**

[From the Department of Physiology, St. Louis University.]

Cats were used exclusively in these experiments. One ciliary ganglion was removed under ether anesthesia. The comparative irritability of the two irises to minimal doses of adrenalin was tested soon after the operation (1 to 4 hours) and again later (22 to 55 or more hours). In a few cases tests were made as long as 60 to 77 days after the operation. The adrenalin was injected into a saphenous vein. No ether was required.

Stated briefly the results are these: Removal of the ciliary ganglion renders the corresponding iris hypersensitive to adrenalin. Some increase in sensitiveness is occasionally seen within an hour after removal of the ciliary ganglion, but in most cases the maximal increase does not appear under 4 hours. The heightened irritability to adrenalin was still present after 60 to 77 days. The

¹ J. Bronfenbrenner, *PROC. SOC. EXP. BIOL. AND MED.*, 1914, Vol. XII, p. 3. J. Bronfenbrenner, W. J. Mitchel and P. Titus (in press).

irritability of the gangliectomized iris was from 3 to 20 times as great as that of the normal iris. The adrenalin effect lasted definitely longer in the operated eye than in the normal. After the smallest doses used this difference was not great, but after the larger doses (*e. g.*, 1/50 c.c. 1 : 1,000 Parke Davis solution) it was marked—for example, the normal iris recovered completely within 10 to 20 seconds, while the iris deprived of its ciliary ganglion required from 3 to 4 minutes for recovery. Adrenalin produces, after removal of the ciliary ganglion, a dilatation of the pupil.