diograms. Prolongation of the PR interval does not occur and an extra-systolic arrythmia cannot definitely be determined in the electrograms.

Atropinization, decapitation or section of the vagi prevent the reflex.

In the frog there is a specific reflex from the gall bladder to the heart which appears to have a vagal origin. Katz[1] has suggested that the characteristic inversion of T with the inception of a slower rate of beating may well be a vagal effect producing asynchronous cessation of electrical effects in a ventricle in which there is decreased conduction. Irritation of the gall bladder by thermal or other instrumental means does not produce the succession of events noted when the stimulus is adequate. Acute pressure changes in the extra-hepatic ducts are thought to constitute an adequate stimulus for the production of the reflex. It has also been suggested[2] that this may be the mechanism operating for the production of arrythmias frequently seen in the human with so-called gall bladder disease, especially cholelithiasis.

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Fibrillation and Augmented Contractile Response of the Tongue Following Strophanthin and Digitalis.*

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The response of the dog tongue to minimal break shocks applied to the intact or divided peripheral end of the hypoglossal nerve in the neck is greatly increased following the administration of digitalis-tincture or strophanthin. There is usually a fairly progressive increase in the response following the administration of the tincture preparation by way of the femoral vein. Injected into the lingual artery, fibrillation of that side of the tongue almost invariably follows and may persist for 30 minutes or an hour. Large doses applied this way may at first produce a heightened response to electrical

[1] Katz, L. N., personal communication.

[2] Buchbinder, William C., *Arch. Int. Med.*, 1928, xlii, 743.

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stimulation with a subsequent failure. The injection of 1 mgm. of strophanthin by way of the femoral vein produces a powerful and usually acute response of the tongue. Spontaneous fibrillation of a coarse grade lasting almost an hour has been observed after the administration of this drug without nerve stimulation.

The action of digitalis bodies upon the tongue appears to be different from that upon ordinary striped muscle. Cushny[1] has pointed out that the more recent investigators find that cardiac glucosides only weaken the muscle, reduce its excitability, quicken the onset of fatigue, and finally paralyze it completely. The similarity between the pharmacodynamic effects of digitalis bodies upon both tongue and heart is an observation that further stresses certain morphologic and physiologic comparisons drawn between the two organs in a recent communication.[2]

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Organ Distribution of Leucocytes.

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Interest in the leucocytic participation between periphery and internal organs, dating from the early work of Goldscheider and Jacob[1] was revived by the publications of Widal[2] on the "hemoclastic crisis."

In our own work of this field, we were first interested in determining the participation of individual organs because of the many clinical questions so related.[3] We observed a distinct balance existing between the peripheral organs and the splanchnic group (splanchno-peripheral balance).[4] This balance is presumably one that depends on the proper functioning of the autonomic nervous system whereby peripheral vaso-constriction (leucopenia) is associated with

[1] Cushny, Arthur R., The Actions and Uses in medicine of Digitalis and its Allies. Longmans, Green and Co., London, 1925.

[2] Buchbinder, William C., *Am. Heart J.*, 1930, xci, 654.

[1] Goldscheider and Jacob, *Z. fur Klin. Med.*, 1894, xxv, 373.

[2] Widal, F., *Presse Medicale*, 1920, xxviii, 893.

[3] Müller, F. E., and Petersen, W. F., *Klin. Wschr.*, 1926, v, 53.

[4] Petersen, W. F., Müller, E. F., and Boikan, Wm., *J. Infect. Dis.*, 1927, xli, 405.