Fluid extract of ergot (John Wyeth and Bro.) was likewise injected in doses of 15-30 minims in 5 cc. of Ringer's solution, under similar conditions of peripheral failure; but although there was a slight rise in blood-pressure, it was in no way comparable to that produced by tyramine, either in height or duration, and completely failed to effect any restoration of cardiovascular function.

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The rôle of the dorsal spinal nerve roots in bulbar anemia.

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Pike[1] has shown that in the spinal cat there is a certain reflex element concerned in the maintenance of blood-pressure, by the fact that section of the dorsal roots of the spinal nerves in the thoracic region causes a fall of about 10 millimeters of blood-pressure. Wickwire[2] has demonstrated that section of the dorsal roots of the spinal nerves from C5 to L2 does not abolish the compensation of heart rate to high and low blood-pressures.

A series of experiments was made to see whether division of the dorsal roots of the spinal nerves would affect the cardiovascular response to bulbar anemia, produced by temporary occlusion of the arteries to the head.[3] Laminectomy was done through the thoracic region, and the head arteries were isolated as usual. The blood-pressure rise in a control occlusion of the head arteries was then recorded, and as soon as recovery was initiated, the dorsal roots were divided in the thoracic region, and occlusion of the head arteries was repeated. Such difference in response as was shown between the two occlusions was due to the low pressure which resulted from the extensive operation,

[1] Pike, *Quart. J. Exper. Physiol.*, 1913, vii, 1.

[2] Wickwire, *Am. J. Physiol.*, 1920, liii, 355.

[3] Stewart, Guthrie, Burns and Pike, *J. Exper. M.*, 1906, viii, 289.

and not to any intrinsic difference in the mechanism of the response. Few responses could be elicited owing to the persistent low level of the blood-pressure, although respiratory gasps indicated that the medulla was not exhausted. Injection of adrenalin or tyramine caused a sufficient vaso-constriction to raise blood-pressure enough to restore the medulla, so that further anemic responses could be elicited; but in general, the number and magnitude of these responses was far below normal. This difference was probably due not to any interruption of an essential part of the vaso-motor pathway, but to the general condition of the organism.

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The distribution of the immune bodies occurring in Types I, II and III antipneumococcus serum.

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Avery[1] states that the immune bodies occurring in Types I and II are completely precipitated by 38 to 42 percent saturation with ammonium sulphate, and that they were incompletely precipitated by (a) ammonium sulphate in less than 38 percent saturation, (b) saturation with sodium chloride, (c) dilution and saturation with carbon dioxide and (d) removal of crystalloids by dialysis. He states that the most practical purification appears to be precipitation by 38 to 42 percent saturation with ammonium sulphate. The higher saturation, *i. e.*, the 42 percent, corresponds to about 47.6 cc. of saturated ammonium sulphate solution.

Felton[2] finds that a 10 times dilution with distilled water containing 4 percent N/1 phosphoric acid per volume of antiserum, will, with Type I, completely precipitate the immune bodies. He has been less successful with some of the antisera of Types II and

[1] Avery, O. T., *J. Exper. M.*, 1915, xxi, 133.

[2] Felton, L. D., *Boston M. & S. J.*, 1924, cxc, 819.