0.1 to 0.5 cc. of untreated blood serum in castrated mice (granted that Wildebush and McClendon's observations are correct) should give a positive reaction. Yet the results of many investigators have uniformly shown that even 10 to 15 cc. of untreated blood serum of normal non-pregnant women, produce no reaction.

TABLE I.

Days of Cycle	Amounts of extract used in each case equivalent to	Mouse units to be expected according to Wildebush and Mc Clendon*	Mouse units found
27th day after menses	1/2 of 10 cc. blood	30-31.5	0
26th day after menses	1/5 of 10 cc. blood	12-12.6	0
24th day after menses	1/10 of 10 cc. blood	6- 6.3	0
23rd day after menses	1/20 of 10 cc. blood	3- 3.1	0

* At this period of the cycle.

4611

The Development of Movement of the Hind Leg of Amblystoma.

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The earliest movements of the hind leg are adduction and abduction, and they occur only with action of the trunk. At about the same time that this type of movement appears, or probably a little later, the hind leg elevates when the animal is rotated dorsally on its longitudinal axis on the side of the reacting limb. This movement of the hind leg is co-ordinated with elevation of the fore limb. This integrated action of fore and hind limbs with action of the trunk is a typical postural reaction and it occurs before a local reflex of the hind leg can be excited. Before local exteroceptive reflexes of the hind leg appear there occur also strong simultaneous abduction of both hind legs in coordination with elevation of the head and fore part of the trunk; the typical walking posture, *i. e.*, flexure of the trunk with the adduction of the fore legs and abduction of the hind leg on the concave side while on the opposite side the fore leg is abducted and the hind leg adducted; and, at least in many cases, typical walking.

Tactile stimulation of the leg excites action of the animal as a whole until just before local reflexes of the leg appear, when such stimulation inhibits all body movement. Local reflexes of the hind

leg in response to exteroceptive stimulation on the leg and on the skin of the trunk behind and near the leg make their appearance at about the same time. These reflexes begin at about the same time that antigravity action of the legs can first be detected. This is before there is rotation of the leg or passive bending of the knee under antigravity pressure.

The leg begins to rotate passively under antigravity pressure at about the time that antigravity action of the leg can first be detected and this is before there is flexion of the knee; but antigravity action of the leg has been observed in specimens in which there was no passive rotation of the leg.

The plantar reflex begins as an action of the leg as a whole, and only later is restricted to action of the distal segments of the leg. At about the time that active flexion of the knee appears in walking there is the first reflex flexion of the knee, foot and digits in response to plantar stimulation, and active extension of the knee in walking appears at about the same time. Stepping backward first appears after the plantar reflex stage of the digits, and in the earliest observed case of the backward step there was active extension of the toes as the animal lifted the foot from the substratum in the extreme position of abduction.

Active rotation of the leg in walking makes its appearance distinctly after there is passive rotation of the leg under antigravity pressure and it first occurs in the extreme phase of abduction.

4612

Accumulation of Potassium in Living Cells—a Non-equilibrium Condition.

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Previous workers[1, 2] have suggested that the relative excess of potassium observed in divers living cells and tissues might be accounted for by assuming that ionic equilibrium is not attained during the life of such systems but is most nearly approached by the most mobile ions. But no completely satisfactory theory has yet been proposed, nor has any experimental proof been adduced. This

[1] Andrè, G., and Demoussy, E., *Bull. Soc. Chim. Biol.*, 1925, vii, 806.

[2] Osterhout, W. J. V., PROC. SOC. EXP. BIOL. AND MED., 1926, xxiv, 234.