

## VII. NYSTAGMUS IN YOUNG CHICKS

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The results of observations on nystagmus and postnystagmus in normal young chicks and those from which one or more semicircular canals have been removed are set forth in this paper.

A nystagmograph or turn table revolved by an electric motor was devised which permitted records of the head movements, rate at which the table was revolved, and time in seconds to be recorded on a Kymograph.

Our results indicate that nystagmus, and postnystagmus occur as a result of a particular stimulation arising in the labyrinth and retina; this stimulation of effectors resulting when the chick is moved in a direction not in a straight line at not less than a certain minimum speed. It is further indicated that either visual or labyrinthine stimuli will cause true nystagmus; furthermore that postnystagmus is of purely labyrinthine origin since it does not occur if the labyrinths have both been removed, even though the subject does show true nystagmus of visual origin alone.

Since nystagmus does not occur when the eyes are blindfolded if the labyrinths have been destroyed, and since either visual or labyrinthine stimuli do cause true nystagmus it is concluded that only these stimuli initiate the nystagmus movements.

In the normal unoperated chick the postnystagmus of the head corresponds in direction of compensation and return movements with that of the eyes of man. This relation is also observed in dogs, cats and rabbits where head and eye oscillations may be studied together.

### Summary

True nystagmus results from either visual or labyrinthine stimuli or both when the subject is rotated.

Postnystagmus seems to be due to labyrinthine stimuli alone, as it does not occur unless labyrinthine stimuli are present.

Periods of "return" and "compensation" bear a definite relation to each other depending upon the speed of rotation and the particular operative condition.

A compensatory movement is always of longer duration than the return movement following it.