Time courses of excitation and inhibition in retinal ganglion cells

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Latencies of the different types of ganglion cell responses to stimulation within a receptive field were measured in guinea pigs. The latency of the response evoked by stimulation of the center or intermediate zone was always less than the response evoked by stimulation of the periphery or intermediate zone. The on-off response had latency values as if the responses were independently elicited in the center and periphery. When two light spots were shone in the receptive field at different time intervals, it was found that one could cancel the other if shone in a precise time which was dependent on the latencies of the responses of the receptive field. To account for the observations, it is postulated that the time courses of excitation and inhibition can vary from ganglion cell to ganglion cell. © 1970.