

of a third flash which followed CF by a constant 20 msec. All flashes were of 20-msec duration. A total of 15 "catch" trials were interspersed randomly among each block of 50 trials. Both subjects correctly reported which of the three single "catch" flashes had been presented on every one of these trials. Thus, it could be concluded that (i) variations in adaptation level during a session did not seriously influence flash detectability; (ii) reports on non-catch trials were not the outcome of guessing; and (iii) subjects had learned to identify a particular number with the appropriate stimulus area. On all trials, both the "catch," on which only one of the fields was presented, and the test, on which either two or three were presented, a "ready" was announced before presentation, no fixation patch was employed, and viewing was monocular.

The major results of the experiment are summarized in Fig. 1, which is a plot of the percentage of the trials on which the first flash (TF) was seen as a function of the TF-CF interval. Two functions are shown, one for trials containing two flashes only and one for trials on which the second flash was followed by a third. Since the data from the two subjects were essentially superimposable, they have been pooled. The results indicate marked facilitation of TF detection in the presence of a third flash. At those TF-CF intervals over which CF reliably backward-masks TF when no third flash followed, the detection of TF becomes reliable in the presence of a third flash. Further, CF was not detected on any of the "third flash present" trials. At the shortest TF-CF interval (25 msec), the

χ^2 significance of the difference between corresponding points on the two detection functions is beyond $p = 0.01$.

While the present study reports data from only two subjects, the observed *disinhibitory* effect has been confirmed in a dozen others in pilot research incorporating the same features as those described. Because of the temporal range of the effect, cortical mechanisms may be considered. In this connection, I have reported elsewhere (8) reliable electroencephalographic correlates of peripheral spatial and temporal summation. Moreover, Donchin *et al.* (9) have demonstrated representation of two-flash summation, resolution, and inhibition in human cortical-evoked potentials. These findings, considered in the context of the present data, bring human psychophysical and gross electrophysiological data to bear upon spatiotemporal inhibitory processes so prominent in the *Limulus* visual system (10).

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Grizzly Bear Skull: Site of a Find Near Lake Simcoe

In 1965 Peterson (1) reported the find of a skull of a grizzly bear of the *Ursus arctos-horribilis* complex near Lake Simcoe, Ontario, aged $11,700 \pm 250$ years. "The specimen was discovered in a load of gravel removed from approximately 30 feet [9 m] below the local grade of a commercial gravel pit in November 1964." We visited the site in June 1965 and examined the shorelines associated with the stages of Glacial Lake Algonquin to determine which of the several water planes (2) corresponded with the gravel in which the skull was found.

The gravel pit, operated by J. and B.

Ennis, is situated on lot 12, concession II, Orillia Township, Simcoe County, just east of provincial highway 11. The deposit is poorly sorted coarse and fine gravel interbedded with sand and silt. The pit is well below a shore bluff that reaches approximately 251 m above sea level and is associated with the Ardtrea Beach as mapped by Deane (2)—the first well-pronounced beach below that of the main Algonquin shoreline which is here about 255 m above sea level. Standing at the site of the skull, one can look up to the main Algonquin Beach, which is well developed to the northwest. There is no

doubt that the gravel deposit that yielded the skull is lower in elevation than the main Algonquin water plane and the gravels associated with that plane.

The gravel deposit is strongly cross-bedded and was built on what may have been an island or a headland in the glacial lake associated with the Ardtrea strand. There is evidence that deposition was extremely rapid, which rapidity would explain the excellent preservation of the skull.

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Random Light and Wheel Running

Holmquest, Retiene, and Lipscomb found (1), in testing the effects of a random lighting regime on ten rats, that wheel-running measured as total group activity appeared to become desynchronized. They concluded that this was caused by the development of activity rhythms having periods shorter and longer than 24 hours and that random lighting modifies or nullifies the effect of light on mammalian biological rhythms.

An experiment which I have performed indicates that random light does not disrupt the activity rhythm of hamsters (*Mesocricetus auratus*) to any greater extent than constant light. The activity of five hamsters in individual cages equipped with running wheels was measured. The temperature was $19.5^\circ \pm 1^\circ\text{C}$, and the light intensity was about 11 lu/m². The animals were placed for 9 days on a cycle of 12 hours of light and 12 hours of darkness, and then they were exposed to random light. This differed from the random-light sequence of Holmquest *et al.* in that successive days did not have the same proportion of light and darkness and that the shortest light or dark period was 15 minutes instead of 1 hour. Random light was continued for 15 days, after which the hamsters were exposed to constant light for 17 days.

Under the 12:12 LD cycle all hamsters showed a nocturnal activity pat-