Willie Mays is the better batter. Then Slaybaugh *et al.* explain that they have reanalyzed the data and have discovered that John Q. got a total of 80 hits while Willie Mays got only 50 and that they therefore question my conclusions. This may seem absurd, but the argument has no more validity in their comment than it does in this example.

2) There is exceptionally poor recall in this experiment.

This is not the case. Recall is only slightly poorer than that seen in normal free recall experiments with similar presentation rates. Per word recall probabilities for 20-word lists in previous experiments has usually been close to .20 (for words retrieved from long-term memory—that is, prior to the recency region). The difference between this value and .12 may seem sizable but a normal free recall procedure, which I performed with the identical subject population as the delayed free recall experiment, gave a probability of only .137 for words in nonrecency regions of 20-word lists. Thus, recall in the DFR experiment is not out of line with that in normal free recall experiments. Perhaps Slaybaugh *et al.* object to the fact that most subjects simply recall fewer words from long-term memory than they would like, in all free recall experiments.

3) Short-term recall is somehow implicated in the retrieval shown, since the total words recalled is within the short-term memory span.

Exactly the opposite is the case. It is generally established that short-term recall is reflected in the recency effect: the enhanced recall for the last words presented in a list. But, as seen in the graphs in my report, the recency effect was eliminated by the delayed recall procedure, thus demonstrating that no recall was occurring from short-term memory, and all retrieval was long term. Surely it is not surprising that the intervening list and recall period, which were always interpolated between presentation and recall of a given list, would cause short-term retrieval to be eliminated.

4) Effects of list length are unclear because subjects might be paying attention to fewer words in the longer lists, thus seeming to reduce per word recall.

Unfortunately for this explanation, subjects did not know at the start of a list what length that list would be. Thus subjects could not have treated the first five words in the 20-word lists differently from the first five words in the five-word lists. Yet the curves in my report (and in all papers showing the list length effect) clearly demonstrate huge differences in recall for the first five positions between the short and long lists. Of course, the explanation of Slaybaugh *et al.* would still be appropriate if subjects somehow divined what length each list was going to be. Perhaps their comment would be better titled "Retrieval Failure or ESP."

I do not wish to give the impression that the conclusions suggested in the original paper are absolutely verified by that experiment. This is far from the case, since much additional work needs to be done. But the above objections are surely not the ones on which those conclusions must stand or fall.

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Differential Attack Frequency during Hypothalamic Stimulation

In their report Bandler and Flynn (*1*) state: "Thus, the contralateral eye [with reference to the site of hypothalamic stimulation] is more effective in mediating attack than the ipsilateral eye, and the effect seems to be due to a facilitation of visual mechanisms related to the contralateral eye and not simply to the exclusion of sensory information from the ipsilateral eye." They further state: "The mechanisms within the nervous system whereby this effect is mediated are not known at present. . . ."

I believe that my recent findings concerning signal-to-noise ratios in the brain offer a clear and concise explanation for the attack data reported by Bandler and Flynn. Using a narrow-passband filtering technique, I discovered that in both the visual cortex and the pars dorsalis of the lateral geniculate the known ratio of decussating optic tract fibers in the rat was quantitatively reflected in the corresponding relative signal-to-noise power ratios for contralateral and ipsilateral photic stimulation (*2*).

If we may generalize from the rat to the cat, we would expect signal-to-noise ratios to be proportional to the decussation ratio at the optic chiasma in the cat. It is known that in the cat there is a 3 : 1 preponderance of contralateral afferents as compared with ipsilateral afferents from the chiasma (*3*). Thus we would anticipate a higher signal-to-noise ratio to be associated with the perception of a mouse presented to the contralateral eye of a cat as opposed to the ipsilateral eye. One would expect that, if an attack system were primed by hypothalamic stimulation, the probability of releasing a consummated attack would depend upon the clarity with which the appropriate triggering visual pattern (mouse within range) were communicated to the primed neuronal networks. Since the signal-to-noise ratio with respect to the hypothalamically primed areas is higher for the contralateral eye than for the ipsilateral eye, we should expect more instances of attack when the mouse is presented to the contralateral eye of the cat than when it is presented to the ipsilateral eye. Furthermore, if we lower the trigger threshold in the attack networks by increasing the hypothalamic stimulation, we should expect the probability of eliciting attack by patterns in the noisier (ipsilateral) channel to increase. This is precisely what Bandler and Flynn found.

Using the data presented by Bandler and Flynn, I computed the average percentage of lunges for contralateral and ipsilateral stimulation, respectively, for all cats examined and for all hypothalamic sites tested. The averages are as follows: contralateral stimulation, 87.4 percent lunges; ipsilateral stimulation, 27.6 percent lunges. Thus the probability of attack for contralateral stimulation as opposed to ipsilateral stimulation is 3.17:1, which, interestingly, is approximately equal to the visual afferent decussation ratio in the cat and, on the basis of my recent findings, to the relative signal-to-noise power ratio for contralateral as opposed to ipsilateral visual stimulation.

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