

**Read** Gluck & Myers (1992) - Hippocampal mediation of stimulus representation: a computational theory, *Hippocampus* 3(4):491-516, **and answer the below questions:**

1. (10 points) What is the role of the hippocampal region according to Gluck & Myers's model?
2. (10 points) What is the role of each module in their full connectionist model (Figure 5)? What is the role of the outcome? What familiar learning rule does the cortical subsystem realize?
3. (Bonus - 10 points) Suggest how temporal difference learning could be incorporated into the model, and how this would affect learning (or what is learnable) in the model?
4. (10 points) Explain why "context only" trials are necessary when training the network
5. (Bonus - 5 points) Are these trials also necessary in discrimination learning (A+, B-)? Explain.
6. (10 points) Explain the paradoxical result that animals without a hippocampus show faster discrimination learning compared to intact animals, according to the model.
7. (10 points) Why does this pattern change in reversal learning?
8. (10 points) What are the two mechanisms by which, according to the model, an easy discrimination can assist in learning a more difficult discrimination along the same dimension?
9. (10 points) How does the model explain latent inhibition? Why is LI context specific? Why, according to the model, is LI an acquisition rather than an expression phenomenon?
10. (10 points) Explain why in Figure 15, in the last step (B-) there is more responding in the full model compared to the 'cortex' without the 'hippocampus'?
11. (10 points) How does Gluck&Myers's model relate to configural theories? Does it predict that animals without a hippocampus will not be able to solve the XOR (negative patterning, A+, B+, AB-) problem?
12. (Bonus - 5 points) In what ways is the model more similar to configural theories rather than elemental theories?
13. (10 points) Without a hippocampus, the response to A+ does not decline due to a context shift. How does this relate to the fact that without a hippocampus latent inhibition is also context-independent?
14. (Bonus - 5 points) What is the problem, then, with the model's explanation of latent inhibition? (hint: animals without a hippocampus still show latent inhibition..).