Examples of Simulations with HMS (Schultheis, Thorwart and Lachnit, 2007)

In the following, simulations with HMS for three discrimination learning tasks are presented. The discrimination tasks are chosen based on examples in Harris (2006). All files necessary to simulate can be downloaded from http://www.staff.uni-marburg.de/~lachnit/harris/.

1. Patterning

a. Positive Patterning

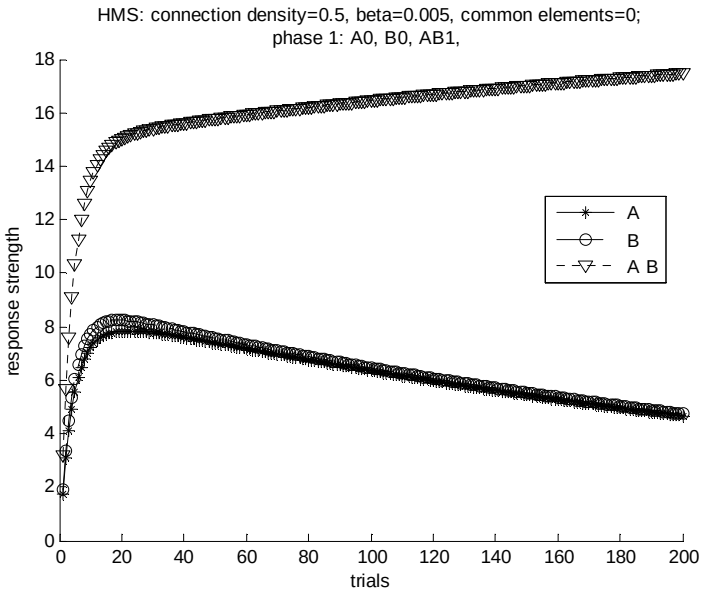

Figure 1. Simulated course of response to A, B and AB after training with A-,B-,AB+.

b. Negative Patterning

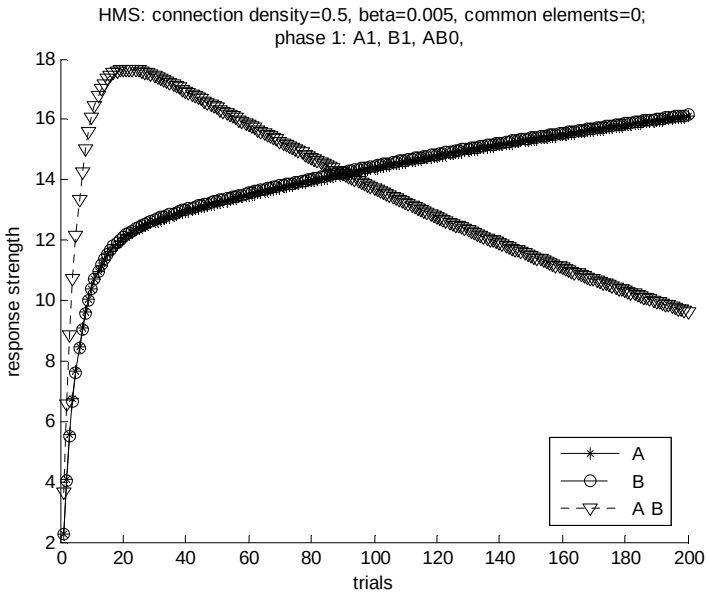

Figure 2. Simulated course of response to A, B and AB after training with A+,A+,AB--.

2. Feature Negative Discrimination with and without common element

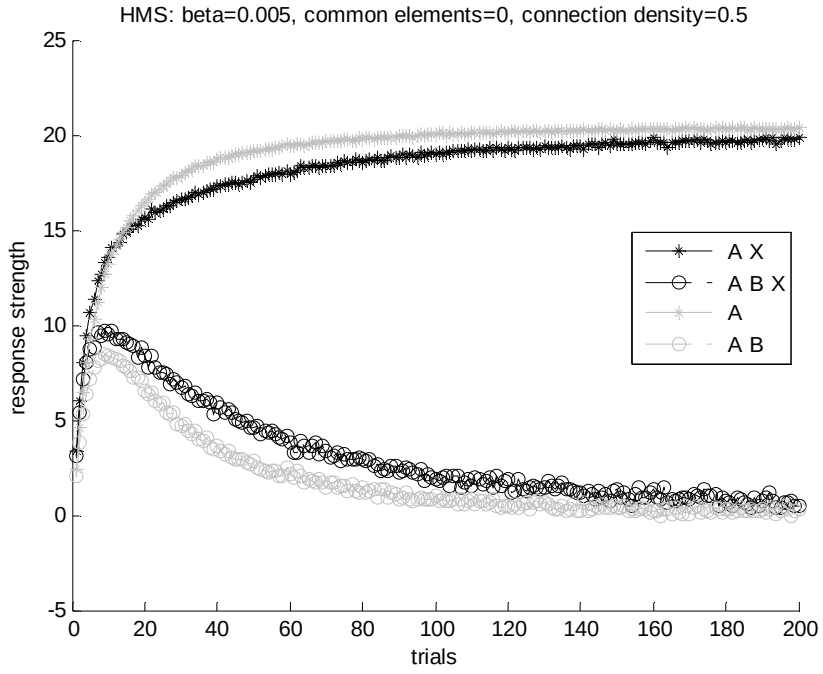

Figure 3. Simulated course of response to A and AB after training with A+, AB- (gray lines) and responses to AX and ABX after training with AX+, ABX- (black lines).

3. Blocking

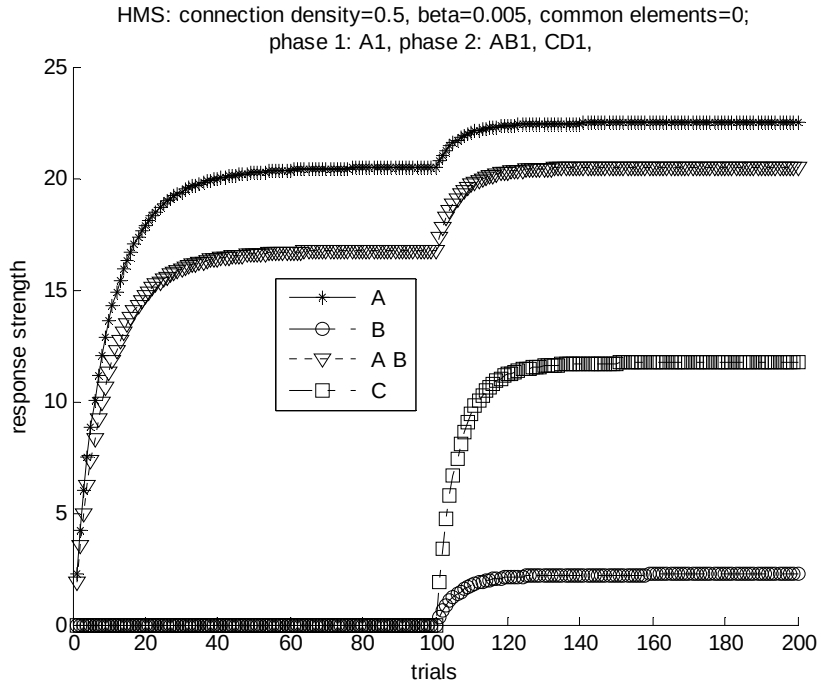

Figure 4. Simulated course of response to A, B , AB, and C after training with A+ in a first phase and AB+ and CD+ in a second phase.

References:

Harris, J.A. (2006). Elemental Representations of Stimuli in Associative Learning. *Psychological Review*, *113(3)*, 584-605.

Schultheis, H., Thorwart, A., & Lachnit, H. (2007). HMS: A Matlab Simulator of the Harris Model of Associative Learning (submitted)