1056-91-1704   **Nicholas De Meglio** and **Rebecca Hager*** (`rshager@buffalo.edu`), 244 Mathematics Bldg, Mathematics Department, Buffalo, NY 14260, and **Jorge Wu Mok**, **Matthew Westley** and **Surajit Sen**. *A study of a two species battle between an intelligent army and insurgent defenders.*

We develop a simple model of a battle using a two-species cellular automaton. This model quickly leads to surprising complexity and rich behavior, especially in battles between two well-matched sides. In this paper, we examine global terrain effects upon the outcome of a battle - cities, narrow pathways, and other constraints. We further investigate the consequences to these "symmetric" battles when one side is highly intelligent. Modifying strategy according to the current state of the battlefield ("adaptive strategy") is found to be extremely effective in winning battles. (Received September 22, 2009)