

Abstract Submitted
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Battles: Intelligent Army versus Insurgency¹ LINDA SHANAHAN, SURAJIT SEN, SUNY-Buffalo — A “simple” battle can be thought of as a conflict between two parties, each with finite reserves, and typically fought on one sides territory. Modern battles are often strategic, based largely on the speed of information processing and decision making and are mission oriented rather than to annex new territory. Here, we analyze such battles using a simple model in which the “blue” army fights a **strategic** battle against a “red” army that is well matched in combat power and in reds territory. We assume that the blue army attacks strategically while the red army attempts to neutralize the enemy when in close enough proximity, implemented here as “on- site,” with randomly varying force levels to potentially confuse and drive the blue’s strategies. The temporal evolution of the model battles incorporate randomness in the deployment of the reds and hence possess attendant history dependence. We show that minimizing risk exposure and making strategic moves based on local intelligence are often the deciding factors that determine the outcome of battles among well matched adversaries.

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