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Battles between an insurgent army and an advanced army - focus on strategy[1] SURAJIT SEN, LINDA SHANAHAN, Physics Dept, SUNY-Buffalo — Detailed and aggregate analyses of the outcome of past battles focusing on rates of troop losses or on the ratios of forces on each side is at the heart of present knowledge about battles. Here we present non-equilibrium statistical mechanics based studies of possible outcomes of well matched strategic battles by a "blue" army against insurgency based attacks by well matched opponents in a "red" army in red territory. We assume that the red army attacks 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. Our results reveal that while unpredictable events play a major role in battles, a balance between risk of exposure in a battlefield and the use of short range intelligence is needed in determining whether one side can decimate the other, and hence force a battle to end.

Surajit Sen
Physics Dept, SUNY-Buffalo

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