REVIEW
OF
"ARTIFICIAL WAR:
MULTIAGENT-BASED SIMULATION OF COMBAT"
by
ANDREW ILACHINSKI

This sophisticated yet accessible book has much to offer. While many groups today are applying complexity and agent-based modeling to combat, the models developed by Ilachinski and described in this book, ISAAC and EINSTein, are the true pioneers, and the story behind their development is fascinating.

Following the Vietnam War, a major rethinking about the type of education and skills needed to fight a modern-day war resulted in many reforms that led to the U.S. military's swift victory in "Operation Desert Storm" in 1991. Building on those successes, the United States Marine Corps undertook a search for new discoveries with the potential to influence the military's thinking about and readiness for future conficts. Through this effort they learned about the emerging new field of nonlinear studies, also known as chaos theory and complexity science.

In 1995, under the direction of Lt. General Paul K. Van Riper (now retired) an "Office of New Sciences" was established within the Marine Corps Combat Development Command--a sort of futures think tank for the Marine Corps--to explore the possible applications of complexity to the Marine Corps' strategic thinking about the future of combat.

In the Forward to this book General Van Riper writes, "In an initial discussion Dr. Ilachinski (employed by the Center for Naval Analysis and invited by Gen. Van Riper to meet with him to discuss these ideas) suggested we focus our research on the relevance of complexity theory to land combat because of its unique characteristics, these being hierarchically organized units engaged in multifaceted interactions with each other and the enemy over complicated terrain." This book is the story of the project, insights and models that resulted from those early conversations.

Despite (I write with a laugh) his math and physics background, Ilachinski is a wonderful writer, taking his time with each subject and thus making this book accessible to the nonscientist with a basic understanding of complexity. It's also fun to work with the basic model (described here in detail) and explore some of the more abstract ideas from complexity and their applications to many domains beyond those for which it was originally developed (namely, combat). There is

also within this book a self-contained primer on complexity. I was so impressed with the clarity of this section that I asked the book's publisher to make this section available as a separate publication (to which they agreed) for my workshops and seminars on complexity. This book is a valued reference that I have used over and over. As an aside, Andy is also an accomplished photographer (visit his photography website) whose stunning photographs capture nature's elegance, simplicity, beauty and complexity.

As a final tribute to Ilachinski's incredible pioneering work, General Van Riper writes in the book's Forward, "When histories of this era are written Dr. Andrew Ilachinski is likely to emerge as the 'Father of Military Complexity Research'...Those in positions with responsibility for planning and conducting the Nation's defense today and into the foreseeable future ignore this book at great peril for it offers deep and meaningful insights into war on land." You won't be disappointed with this book. It's worth every penny!

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