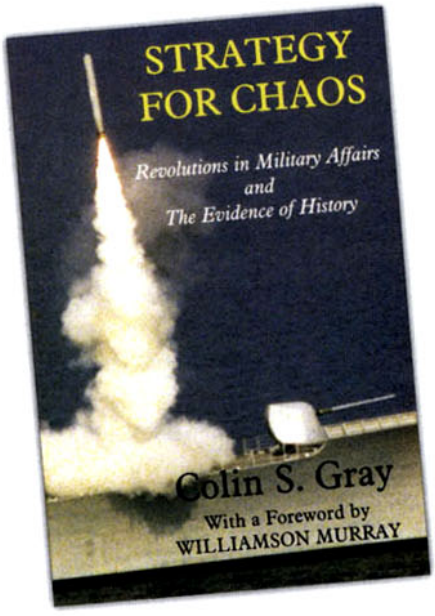
A Book Review

***By* BARRY WATTS**

Strategy for Chaos: Revolutions in Military Affairs and the Evidence of History
by Colin S. Gray
London: Frank Cass, 2002
310 pp. $33.95
[ISBN: 0–714–65186–9]

Strategy for Chaos by Colin S. Gray is an uneven work of good intentions. Its goal is to use the concepts of revolutions in military affairs (RMAs) and nonlinearity to improve understanding of war and strategy by balancing pure theory and the singularities of military history. Gray observes that social scientists have been prone to force square pegs of military history into round holes of theory regardless of the resulting distortions. Conversely, military historians have been chary of even modest generalizations from the historical record on the grounds that events are unique both in themselves and in context. *Strategy for Chaos* attempts to avoid erring in either direction by elucidating the "nature, structure, and dynamics" of both war and strategy while respecting history by reviewing the RMAs of the Napoleonic period, World War I, and the Cold War nuclear era.

There is much that is sensible, praiseworthy, and even true in the resulting book. Gray argues, for example, that insofar as strategy and war are fundamentally about use of organized violence between opposing polities to achieve their conflicting ends, their natures have never changed, nor are they likely to regardless of how "revolutionary" alterations in warfighting may prove to be. Conversely, he insists that the character of war and strategy is "ever changing" in response to changes in society, economics, technology, and politics.



Gray's first point was made repeatedly by Carl von Clausewitz, perhaps most memorably when he observed that war can have its own means or "grammar," but not its own ends or "logic." Gray's second point is more obvious to those who have lived through the emergence of nuclear weapons and airliners being flown into buildings than it may have been to Clausewitz. Both theoretical claims have broad empirical support and, taken together, offer a needed corrective to much of the conceptual and verbal excesses in the RMA and nonlinearity-of-war literature. Gray is right to condemn incautious assertions—even by American Secretaries of Defense—that precision munitions or cyberspace weapons are altering the *nature* of war or strategy.

Nevertheless, the book is not entirely successful in laying out either theory or evidence. Because certain misconceptions have become so widespread in RMA debates, this review attempts to clarify two key points: the central implication of nonlinear dynamics for war and strategy, and the historical origins of the RMA hypothesis in the Department of Defense (DOD).

Gray's deepest concern about nonlinearity and strategy is their seeming incompatibility. If war is chaotic, how can purposeful strategy be possible? Gray's solution is to argue that "the proposition that it is the nature of war to be chaotic [is] an insightful fallacy.... A misreading of Clausewitz on the importance of friction, chance, risk, and uncertainty in war, combined with an appreciation of the chaotic conditions of actual combat, has encouraged a newly orthodox view that chaos rules in war and, in reality, over strategy." This orthodoxy, he concludes, is mistaken.

The main argument behind these conclusions is in Gray's fourth chapter. Given the confusion between *nonlinear* and *complex-adaptive* systems evident in phrases such as "chaos-complexity-nonlinearity theory," Gray's reasoning is not easy to follow. For example, he appears unaware that the dynamical systems of physics, whether linear or nonlinear, process information strictly through mechanical iteration, whereas complex-adaptive systems such as humans and stock markets look for regularities or patterns that can be condensed into schemata describing aspects of reality and then act on those schemata, a radically different way of processing information. Moreover, he concedes that "strategy is nonlinear in that strategic consequences, or effectiveness, can show radical discontinuities." Such discontinuities clearly suggest a loss of universal predictability in strategy, which is a key feature of nonlinear systems. Yet Gray also insists that "much of strategic behavior is linear" and subject to "sensible prediction," and therefore purposeful predictive strategy can confound chaos. In summarizing his assessment of three historical RMAs—Napoleonic France, imperial Germany, and the Soviet Union in the nuclear era—he argues that all three were "massively overmatched by their enemies," which is to say that "the bigger battalions" eventually won all three contests. Ignored, however, are cases such as the American failure in Vietnam and the Spanish conquest of the Incas in which the bigger battalions lost.

The larger question in *Strategy for Chaos* is whether the absence of

Lieutenant Colonel Barry Watts, USAF (Ret.), is a senior fellow with the Center for Strategic and Budgetary Assessments.

universal predictability for combat outcomes renders strategy moot. This reviewer's answer is a resounding no. If combat outcomes were computationally reducible in the way the movements of the planets around the sun are, then appropriately programmed computers could replace strategists. War's nonlinearities are what make strategy an art, demanding rare levels of discernment and judgment (Clausewitz's *coup d'oeil*). Rather than rejecting nonlinearity in strategy, Gray the strategist ought to embrace it. But like 18th- and 19th-century physicists such as Pierre Simon de Laplace, he feels compelled to insist that strategy is for the most part predictable, when in truth predictability can vanish in the next moment with devastating strategic consequences.

Turning to the origins of RMA discussions in DOD, Gray asserts that "various official and commercial patrons . . . in the 1990s undoubtedly were motivated largely by parochial—albeit legitimate—concerns of U.S. defence policy and even simply by business opportunity." Given his acknowledgement of Andrew Marshall's role in pushing him to declare where he stands on the RMA debate, this denigrating characterization of how and why the debate emerged does not reflect the facts as this reviewer understands them. After Marshall became the Director of Net Assessment in 1973, he saw the need to develop plausible Soviet assessments of the nuclear competition with the United States and the military balance in Europe. While that effort took over a decade to mature, it became the single most important body of research he pursued from 1973 to the end of the Cold War. Besides a substantial impact on the major assessments Marshall's office produced during the 1980s, this research also provided insight into Soviet thinking about past and future military-technical revolutions (MTRs).

Reflection on Soviet theorizing together with ongoing technical advances in guided weapons, sensors, and automated control systems led Marshall, through the late-1980s Commission on Long-Term Integrated Strategy, to conclude that changes in the conduct of war lay ahead. Further, based on historical research into the period 1918–1939, he suspected that these changes, when integrated with new operational concepts and organizational arrangements, would be as significant for war's *conduct* as was the rise of *blitzkrieg*, strategic bombardment, and carrier aviation during the interwar period. Marshall's subsequent decision to undertake an MTR assessment for the Secretary of Defense, far from being either parochial or casual, was made for the eminently serious purpose of alerting senior DOD decisionmakers to prospective changes in the conduct of war. Moreover, Marshall substituted the term *revolution in military affairs* for MTR in July 1993 to emphasize the importance of operational concepts and organizational adaptations in turning technological advances into greater military effectiveness. *Strategy for Chaos* distorts the origins of the RMA debate by ignoring this early history.

Contrary to Gray's claim that the debate was merely about definitions, Marshall's choice of the term *hypothesis* to refer to the possibility of far-reaching changes in war signified that the reality and character of the conjectured revolution were matters of fact. Gray's argument that RMAs are moot unless they can directly produce victory is itself predicated on a definitional sleight of hand, namely conflating *strategic* and *military* effectiveness.

Williamson Murray's assessment that *Strategy for Chaos* "has framed debate about RMAs for the foreseeable future" seems overblown. First, the changes in American military practice from 1991 to 2003, of which growing reliance on guided weapons is but the tip of the iceberg, are too substantial to be dismissed on such grounds as the weakness of Arab opponents. Gray may be correct in arguing that the military's growing use of guided weapons does not equate to an order-of-magnitude increase in strategic effectiveness, but there seems little doubt that such increases in military effectiveness have occurred. Second, there are historical cases in which increases in military effectiveness did drive the strategic outcome. Again, the conquest of Amerindian civilizations in the early 1500s is nigh impossible to explain without acknowledging the roles of Spanish weaponry (including horses), tactical cohesion, and military culture. In the Andes, for example, Spanish *tactical* superiority crushed Incan forces time and again no matter how heroic, tenacious, skillfully led, or numerically superior they were.

Despite these objections, *Strategy for Chaos* will be of interest to those who follow the RMA debate. The book is an invaluable goad for thoughtful readers to think beyond the RMA bumper stickers and slogans Gray rightly condemns and to determine their own positions on the subject. **JFQ**

A Book Review

By JAKUB J. GRYGIEL

The Modern Prince: What Leaders Need to Know Now
by Carnes Lord
New Haven: Yale University Press, 2003
304 pp. $26.00
[ISBN: 0–3001–0007–8]

For a variety of reasons, ranging from swinging academic trends to the democratic dislike of great men, the study of leadership is not a popular field in modern political science. Carnes Lord offers a valuable work that goes against the prevailing fashion and underscores the importance of leadership in modern politics. The author, a professor of strategy at the Naval War College in Newport, Rhode Island, brings to his work an impressive scholarship combined with extensive policy

Jakub J. Grygiel is assistant professor of international relations at the Paul H. Nitze School of Advanced International Studies at The Johns Hopkins University.