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Abstract: For defense departments and professional militaries of advanced liberal democracies, judgments concerning future armed conflict are necessary to guide force preparation, personnel readiness, and equipment procurement. When such judgments are made in times of economic austerity and geopolitical uncertainty, the need for clarity of thought on the future of war becomes imperative in determining priorities.

> It is not primarily in the present, nor in the past that we live. Our life is an activity directed towards what is to come. The significance of the present and the past only becomes clear afterwards in relation to the future.
>
> José Ortega y Gassett

While all advanced military establishments engage in intellectual examinations about the future of armed conflict, it is often unclear which intellectual methods actually represent best futures practice. In any Western officer corps one can find contending advocates for how best to interpret the future of war. Some argue that the lens of human experience—filtered through a Clausewitzian-style of military history as *Kritik*—is the most sensible way forward; others prefer the geometrical tradition of Jomini and seek to gain better understanding through science in the form of operations research and technical experimentation; still others prefer to look to the interdisciplinary subject of strategic studies as a means of revealing holistic insights on armed conflict. Further diversity in professional outlook is often imposed by imperatives of service affiliation and specialized training for the separate domains of land, sea, and aerospace warfare. Speculation on the future of war may also be affected by the demands of hierarchical military culture ranging from idiosyncratic command preferences to the imposition of short-term strategic and operational goals. Not surprisingly, *ad hoc* intellectual endeavors can easily dominate military institutions—driven as much by the interaction of budgets, personalities, and internal compromises—as by objective mental rigor. Such pressures led American philosopher Lewis Mumford to conclude that military establishments represent "the refuge of third-rate minds" in which institutional thinking can be conformist, sometimes dogmatic, and frequently anti-intellectual.[1]

This article probes the generic intellectual requirements involved in preparing to consider the problems of future war. Two caveats are immediately required. First, the author makes no claims to having uncovered any magic formulae for predictive accuracy about future conflicts. Second, this essay is not a meditation on the full sweep of potential future military operations from computers through cyberwarfare to climate change. Rather, it is a reflection on the conceptual demands of dealing

Michael Evans is the General Sir Francis Hassett Chair of Military Studies at the Australian Defense College, Canberra and a professor in the School of Humanities and Social Sciences at Deakin University. He is a former Head of the Australian Army's Land Warfare Studies Centre at the Royal Military College, Duntroon. Author may be contacted at michael.evans4@defence.gov.au.

1 Lewis Mumford, *Technics and Civilization* (New York: Harcourt, Brace and World, Inc, 1934), 95.

with future armed conflict—what Peter Paret calls the "cognitive challenge of war"—the "how to think" dimension which is the most serious problem facing any military organization.[2] The author believes that, for armed forces establishments, futures studies, if properly conceived and conducted, are likely to be particularly valuable over the next decade. When militaries are faced with an end to a long period of hostilities—as is the case with the United States and its allies in 2014—they must embark on rigorous contemplation of the shape of future war. The task is "to look ahead, not into the distant future, but beyond the vision of the operating officers caught in the smoke and crises of current battle; far enough ahead to see the emerging form of things to come and outline what should be done to meet or anticipate them."[3]

With these issues in mind, three areas are analyzed. First, to provide philosophical and methodological context, the development of modern futures studies is explored and its intellectual connections to the field of strategic studies are highlighted. In the second section, the role history can play in military futures studies is explored. Finally, some speculations on future war are advanced drawing on insights and methods derived from an appreciation of the interplay between futures studies, strategic studies, and historical analysis.

Parallel Lives: Futures Studies and Strategic Studies

As a field of scholarly endeavor, futures studies emerged in the 1950s and coincided with the flowering of the behavioral revolution in the policy sciences and the creation of research institutions that followed the invention of nuclear weapons and the evolution of the Cold War. "The purposes of futures studies," writes leading Yale sociologist Wendell Bell, "are to discover or invent, examine and evaluate, and propose possible, probable and preferable futures. *The futures field is an integrative science of reasoning, choosing and acting.*"[4] The pioneers of futures studies include such figures as Harold Lasswell, Daniel Bell, and Herman Kahn. The collective work of these pioneers was concerned with developing the policy sciences into an interdisciplinary pool of problem-solving methodologies to serve as a guide to future decisionmaking.[5] For example, Lasswell believed the aim of research was to explain past and present conditions, identify emerging trends, and then to project notions of alternative possible and probable futures for use by policymakers.[6]

From Lasswell onward, futures studies became less about attempting a prediction of events and more about forecasting probabilities and developing educated foresight. Whereas a prediction may be defined as human anticipation of an occurrence, futures studies are concerned with defining expectations through the construction of a range of alternative

2 Peter Paret, *The Cognitive Challenge of War: Prussia 1806* (Princeton NJ: Princeton University Press, 2009), 1-3..

3 Dean Acheson, *Present at the Creation* (New York: W. W. Norton, 1969), 214.

4 Wendell Bell, *Foundations of Futures Studies: History, Purposes, and Knowledge: Human Science for a New Era*, Vol.1 (New Brunswick, NJ: Transaction Publishers, 2009), 51; 53-54. Emphasis added.

5 Ibid, chapters 1-3. For further background on the evolution of the field of futures studies, see Edward Cornish, *Futuring: The Exploration of the Future* (Bethseda, MD: World Future Society, 2004); and James A. Dator, ed., *Advancing Futures: Futures Studies in Higher Education* (Westport, CT: Praeger, 2002).

6 Harold D. Lasswell, "The Policy Orientation," in *The Policy Sciences*, eds. D. Lerner and and H. D. Laswell (Stanford, CA: Stanford University Press, 1951), 3-15.

scenarios. In futures studies, the aim is to isolate a preferred path forward by analyzing the interactions of past experiences and present realities with likely trends and future goals.[7] In the military sphere, and to paraphrase Gregory Foster, if politics is the art of the possible, then war must be considered "the science of the preferable."[8]

Following in the steps of Lasswell, Herman Kahn, the futurist and nuclear strategist, invented the modern scenario method—a narrative considering the future drawn from past and present about alternative possibilities under variable conditions. In Kahn's words, "a scenario results from an attempt to describe in more or less detail some hypothetical sequence of events by imaginative and creative thinking. Scenarios can emphasize different aspects of future history.[9] Kahn's intellectual significance was that he helped introduce a logical methodology that made futures thinking imaginable without assuming the burden of predictability. He recognized that in meeting the challenge of foresight, scenarios are not predictors but indicators of how different driving forces can manipulate the future in different directions. By the end of the 1970s, variants of Kahn's scenario approach had been adopted for corporate strategy development in leading businesses. As Peter Schwartz has explained, a scenario is "a tool for ordering one's perceptions about alternative future environments in which one's decisions might be played out."[10]

Since the 1970s, forms of futures studies have become a staple of large organizations in both the public and private sectors and methodologies have proliferated. John Naisbitt developed the concept of identifying megatrends; in the Pentagon, Andrew Marshall evolved the practice of net assessment to identify patterns in long-term strategic competition; in the RAND Corporation, researchers developed approaches ranging from the Delphi survey technique to assumption-based planning.[11] More recently, complexity science and nonlinear chaos theory dealing with stochastic behavior in systems have emerged as factors in futures studies.[12] In 2003, the United Nations University published a comprehensive handbook, *Futures Research Methodology*, highlighting the most common techniques in use.[13] University teaching in the field tends

7 Cornish, *Futuring: The Exploration of the Future*, 1-8; 78-79; 213; Stephen M. Millett, *Managing the Future: A Guide to Forecasting and Strategic Planning in the 21st Century* (Devon: Triarchy Press, 2011), 29-30; 268-69.

8 Gregory D. Foster, "The Conceptual Foundation for a Theory of Strategy," *The Washington Quarterly* (Winter 1990): 1, 54.

9 Herman Kahn, *Thinking about the Unthinkable* (London: Weidenfeld & Nicolson, 1962), 150, 152.

10 Peter Schwartz, *The Art of the Long View: Planning for the Future in an Uncertain World* (New York: Currency/Doubleday, 1991), 4; Peter C. Bishop and Andy Hines, *Teaching about the Future* (New York: Palgrave Macmillan, 2012), passim.

11 John Naisbitt, *Megatrends: Ten New Directions Transforming Our Lives* (New York: Warner, 1982); Stephen Peter Rosen, "Net Assessment as an Analytical Concept," in Andrew W. Marshall, J. J. Martin and Henry S. Rowen, eds., *On Not Confusing Ourselves: Essays on National Security Strategy in Honor of Albert and Roberta Wohlstetter* (Boulder, CO: Westview Press, 1991), 283-301; Thomas R. Stewart, "The Delphi Technique and Judgmental Forecasting," in K. C. Land and S. H. Schneider, eds., *Forecasting in the Social Sciences* (Dordrecht, Holland: D. Reidel, 1987), 97-113; James A. Dewar, *Assumption-Based Planning: A Tool for Reducing Avoidable Surprises* (New York: Cambridge University Press, 1998).

12 Antoine J. Bouquet, *The Scientific Way of Warfare: Order and Chaos on the Battlefields of Modernity* (New York: Columbia University Press, 2009), chapters 5-7.

13 Jerome C. Glenn and Theodore J. Gordon, *Futures Research Methodology* (Washington, DC: American Council for the United Nations University, 2003).

to encompass such skills as trend analysis; the uses of forecasting and backcasting; causal layered analysis; the employment of survey research; simulation and computer modeling; gaming; and the construction of robust and optimal scenarios.[14]

However, despite a global proliferation of techniques, futures studies continue to invoke skepticism from many scholars for three reasons. First, there is the problem of prediction. For many critics attempts at forecasting are seen as futile. As Arthur C. Clark once put it, "it is impossible to predict the future and all attempts to do so in any detail appear ludicrous within a few years."[15] A cursory glance at military history demonstrates this reality. No Western strategist foresaw the crises of 9/11, Afghanistan, Iraq, or the unfolding drama of the Arab Spring. "It is simply not possible," wrote two writers on military affairs, "to rule out certain kinds of conflict in advance, no matter how unlikely they may seem at any given moment."[16] Yet, even if accurate prediction is nigh impossible, governments and organizations still require what Nicholas Rescher calls a "philosophical anthropology of forecasting."[17] Although the future may be observationally inaccessible, it is, in part, cognitively accessible because trends can be identified and extrapolated from the present. Yet such cognitive accessibility is no guarantee that trend analysis will produce accurate projections.[18] This dilemma is well illustrated by the problems experienced in Western intelligence analysis after 1989:

> The major intelligence failure since the end of the Cold War was not 9/11 or the wayward estimates of Iraqi WMD. . . . Instead it was the startling lack of attention given to the rise of irregular warfare—including insurgency, warlordism and the 'new terrorism'. Transnational violence by non-state groups was the emerging future challenge of the 1990s.[19]

Despite the risk of misjudgments, Western governments have no choice but to rely upon methods of strategic forecasting to inform policymaking. Inaccuracy can often be attributed to human error, institutional torpor, and flawed organizational learning. Many intellectual problems in forecasting arise "not from failure to predict events per se but rather the failure to realize the significance—the *predictive value*—of antecedents or triggers."[20]

The second reason for skepticism about futures studies concerns the problem that as a field they appear to lack any proper foundation in espistemology—that is a theory of knowledge.[21] Here Bertrand Russell's 1924 version of Occam's razor comes into play, "whenever possible, substitute constructions out of known entities for inferences to unknown

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14 Andy Hines and Peter Bishop, eds., *Thinking about the Future: Guidelines for Strategic Foresight* (Washington, DC: Social Technologies, LLC, 2006).

15 Arthur C. Clarke, quoted in Nick Deshpande, "Seven Sinister Strategic Trends: A Brief Examination of Events to Come," *Canadian Military Journal* 11, no. 4 (Autumn 2011): 4, 15.

16 Thomas Donnelly and Frederick W. Kagan, *Ground Truth: The Future of US Land Power* (Washington, DC: AEI Press, 2009), 37.

17 Nicholas Rescher, *Predicting the Future: An Introduction to the Art of Forecasting,* (Albany, NY: State University of New York Press, 1998), 11.

18 Ibid., 53-55; 70; 86.

19 Christopher Andrew, Richard J. Aldrich, and Wesley K. Wark, "Preface: Intelligence, History and Policy," in Andrew, Aldrich and Work, eds, *Secret Intelligence: a Reader* (New York: Routledge, 2009), xv.

20 Gregory F. Treverton, *Intelligence for an Age of Terror* (New York: Cambridge University Press, 2009), 140. Emphasis added.

21 Bell, *Foundations of Futures Studies*, Vol 1, 166-67; 191-238.

entities."[22] For skeptics, the very idea of gaining knowledge of the future from the unknown seems counterintuitive. After all, beyond death, taxes, and Hollywood movies, the future is simply nonevidential. Only in a Hollywood version of *The Three Musketeers* can a courtier possess the prescience to change seventeenth century history by informing Cardinal Richelieu: "Your Eminence, the Thirty Years War has just begun."[23] In futures studies there are no facts, no archives to examine, no participants to interrogate. Those who speculate on what might occur must face the paradox that they must draw on past and present evidence to develop "surrogate knowledge" about the future—a knowledge based as much on intuition and speculation as logic drawn from an evidentiary base.[24] Such concerns relate directly to the third reason for scholarly unease about futures studies—namely that the field lacks proper academic quality control and contains too many eccentric manifestations of intellectual behavior. From Nostradamus to Nancy Reagan's astrologers, assorted seers and media gurus have proliferated. As Herman Kahn recognized in the mid-1970s, popular futurology by attracting "fashionable, banal, polemical and sometimes even charlatanical elements" threatens the credibility of futures studies.[25]

The above objections notwithstanding, a solid case can be made that serious futures studies—as conducted by universities and governmental institutions—remain essential for progress. Without a perspective on the future, forward-looking policy and resource allocation simply cannot be determined. However, futures studies must be based on intellectual rigor and plausibility. They must involve the identification and extension of predesigned factors—factors that exist in present structures and whose rapid development in the future is both plausible and imaginable.[26] For example, from the Greek fable of Icarus in the ancient world to the balloons of the Montgolfiers in the Enlightenment, humans dreamed of conquering the air. Yet it was only with the Wright brothers' aircraft in 1903 that development of manned flight became a feasible proposition.

Conducted with mental rigor and with a keen eye for context, conjectures about the future often represent a form of presumptive truth—truth which is accepted at a given time as guidance but whose logic cannot be completely verified as accurate using available facts.[27] In formulating presumptive truth about the future, policymakers are not entirely without skills and resources. The future is not completely unknown; there are constants at work in the present that can act as guides through the mists of the unknown. What French philosopher and strategic thinker Raymond Aron once called "the intelligibility of probabilistic determinism"—in the form of patterns of social order, value systems, and cultural behavior derived from the past and operative in the present—can provide conditional expectations about the shape of

22 Bertrand Russell, "Logical Atomism," in *The Philosophy of Logical Atomism*, D. F. Pears, ed, (Chicago: Open Court, 1985), 160.

23 Colin S. Gray, "Coping With Uncertainty: Dilemmas of Defence Planning," *British Army Review* (Autumn 2007), no. 143, 36. Like "play it again Sam" in *Casablanca,* this line from the 1948 film, *The Three Musketeers* seems to be apocryphal but it captures the point.

24 Bell, *Foundations of Futures Studies*, Vol.1, 236-38.

25 Herman Kahn, "On Studying the Future," in *Handbook of Political Science: Vol 7, Strategies of Inquiry*, eds. F. I. Greenstein and N. W. Polsby (Reading, MA: Addison-Wesley, 1975), 405-06.

26 Rescher, *Predicting the Future*, 69-70.

27 Bell, *Foundations of Futures Studies*, Vol. 1, 149-50; 112.

the future.[28] Imagining the future in this way is feasible because human society is, in turn, a system of purposive actors whose interactions actively shape and create the process of change.[29] Philosophically, the future, then, resembles a set of contending outcomes rather than a single predetermined destination.

The notion of a society as purposive actors attempting to speculate on the future is particularly strong when it comes to the problem of war—a situation reinforced over the past seventy years by the existence of nuclear weapons. Not surprisingly, futures studies and the evolution of modern strategic studies have been closely related as parallel endeavors. Indeed, the futures and strategic studies fields share a number of common characteristics. First, in both fields, prospective thinking about the future is seen as an indispensable skill. Second, both areas have a strong policy orientation and many practitioners tend to see themselves not just as scholars but also as "action-intellectuals."[30] Third, both futures and strategic studies possess an interdisciplinary focus for the purposes of problem solving. Fourth, there is considerable cross-fertilization in methodologies with both futures studies and strategic studies employing common approaches such as trend analysis, gaming, and scenario construction. Finally, both fields often employ historical analysis as an important database to link the past and the present to the future.[31]

It is no accident, then, that Herman Kahn was both a futurist and a nuclear strategist; or that Andrew W. Marshall, long-time head of the Pentagon's Office of Net Assessment, has spent his career identifying future strategic challenges to the United States; or that Andrew F. Krepinevich, director of the Center for Budgetary and Strategic Analysis, should have written a book in 2009 speculating on future global crises.[32] There is a direct line of intellectual convergence in futures and strategic studies from Kahn through Marshall to Krepinevich. Moreover, some of the main philosophical assumptions from futures studies transfer directly to strategic studies. For example, notions of presumptive truth and surrogate knowledge have been central in strategic thinking about how to manage the nuclear weapons revolution. Since a nuclear war has mercifully not been fought, much of the epistemology of nuclear age strategic thought—in the form of theories of deterrence, escalation, and limited war—are clearly based on forms of presumptive truth.[33]

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28 Raymond Aron, "Three Forms of Historical Intelligibility," in idem, *Politics and History* (New Brunswick, NJ: Transaction Publishers, 1984), 61, 47-59.

29 Bell, *Foundations of Futures Studies*, Vol. 1, 159.

30 Roman Kolkowicz, "Intellectuals and the Nuclear Deterrence System," in *The Logic of Nuclear Terror*, ed. Roman Kolkowicz (Boston: Allen & Unwin, 1987), 15-46; Bell, *Foundations of Futures Studies*, Vol. 1, 189.

31 Dator, *Advancing Futures: Futures Studies in Higher Education* and Thomas G. Mahnken and Joseph A. Maiolo, eds, *Strategic Studies: A Reader* (New York: Routledge, 2008).

32 Sharon Ghamari-Tabrizi, *The Worlds of Herman Kahn: The Intuitive Science of Thermonuclear War* (Cambridge, MA: Harvard University Press, 2005); Andrew W. Marshall, "Strategy as a Profession for Future Generations," in *On Not Confusing Ourselves*, Marshall, Martin and Rowen, 302-11; Andrew F. Krepinevich, *7 Deadly Scenarios: A Military Futurist Explores War in the 21st Century* (New York: Bantam, 2009).

33 From the vast theoretical literature, see especially Lawrence Freedman, *Strategy: A History* (Oxford: Oxford University Press, 2013), chapters 12-13 and Lawrence Freedman, *The Evolution of Nuclear Strategy* (New York: Palgrave Macmillan, 2003).

The Use of History in Futures Studies

Few academic historians today would accept the views of military thinkers, B. H. Liddell Hart and J. F. C. Fuller that the main aim of historical study is to illuminate patterns in understanding future war. Liddell Hart was convinced that, "the practical value of history is to throw the film of the past through the material projector of the present on to the screen of the future."[34] Similarly, Fuller wrote, "unless history can teach us how to look at the future, the history of war is but a bloody romance."[35] These utilitarian ideas are today seen as the antithesis of sound historical practice. "To professional historians," wrote one soldier-scholar, "the idea of history having a direct utility seems a bit odd, bordering on some form of historiographic and epistemological *naïveté*."[36]

How then should military professionals and defense analysts concerned with pondering war in the context of futures studies use the discipline of history in general, and military history in particular? First, they must understand that any study of the future of war must rest on a firm foundation of historical knowledge.[37] Military professionals need to learn to think in terms of integrating the *functional* (the application of historically informed military expertise) and the *dialectical* (knowledge of the interactions of the past, present, and future) and to understand how the interplay of continuities and contingencies on these two planes determine outcomes.[38] There has never been a better statement on the relationship between the use of history and forming a vision of future war than that advanced by General Donn A. Starry:

> The purpose of history is to inform our judgments of the future; to constitute an informed vision; guide our idea of where we want to go; how best to get from where we are (and have been) to where we believe we must be. Implicit is the notion that change—evolution (perhaps minor revolution) is both necessary and possible.[39]

Second, in approaching the use of history, military professionals must accept that their requirements are legitimately different from those of professional scholars. For most military practitioners, history is of interest less as a pure academic discipline and more as an applied laboratory of knowledge. A soldier's principal interest in the past is to use it to gain insights of professional value in preparing for, and conducting, the art of war in the present and the future. If the scholarly world seeks to reconstruct history in the pure spirit of Ranke, the armed forces seek to reveal its secrets in the applied spirit of Liddell Hart. In an applied process, some form of military historicism —that is history as evidence and illustration becomes inevitable—if only because the

34 Liddell Hart, *the Remaking of Modern Armies* (London: John Murray, 1927), 173.

35 J. F. C. Fuller, *British Light Infantry in the Eighteenth Century* (London: Hutchinson, 1925), 242-43.

36 Harald Høiback, *Understanding Military Doctrine: A Multidisciplinary Approach* (Abingdon, Oxon: Routledge, 2013), 80.

37 Williamson Murray, "History, War and the Future," *Orbis* 52, no. 4 (Fall 2008): 544-63.

38 Dominick Graham, "Stress Lines and Gray Areas: The Utility of the Historical Method to the Military Profession," in *Military History and the Military Profession*, eds. David A. Charters, Marc Milner, and J. Brent Wilson (Westport CT: Praeger, 1992), 148-58.

39 General Donn A. Starry, "A Perspective on American Military Thought," *Military Review* 69 (July 1989): vii, 3.

conceptualization of war represents a dialogue between the past and the present aimed at illuminating the future.[40]

Third, to help make an applied approach to history intellectually useful in futures studies, military professionals need to cultivate a capacity to think across time. As a philosophical position, they should adopt as their guide the mantra of R. G. Collingwood that "the present is the actual; the past is the necessary; the future is the possible."[41] A professional historian who has specifically sought to align historical method to futures studies is David Staley and his work is instructive for military practitioners. "Historical method," Staley argues, "is an excellent way to think about and represent the future in the classical sense of *historia*, a cognitive intellectual inquiry."[42] He seeks to link the *seen* (the present and the past) to the *unseen* (the future). All three zones of time are intertwined and intelligent speculation is possible exactly because there are pre-designed factors in the structure of the present. Staley identifies intellectual similarities between the historical method and the scenario method. Both are attempts at reconstruction and are therefore essentially representations rather than realities; both must be sensitive to context, complexity, and contingency; both employ analogies as indicators of similiarity in the midst of apparent difference. Finally, given the absence of direct experience, historians and scenarists both construct mental maps of the past and future respectively.[43]

Most scenario-building in futures studies involves the use of synchronic narratives (those that describe bounded structures and relations in a given time and space) as opposed to diachronic narratives (those that describe changing events over time). Staley suggests that historians can enrich scenario-construction when they employ a synchronic narrative with a sophisticated historical understanding of plausible situations.[44] Futures studies should, therefore, use history to construct a structural anthropology of the future—an approach which is focused more on examining *environments* and less on seeking to foresee *events*. In scholarly terms, this is the historical method favored by Fernand Braudel and the French *Annales* school who believed that the history of social structures was more significant for human understanding of change than the sudden fluctuations caused by wild card, unexpected events.[45] Staley concludes that, in futures studies, empirical historical methodology is "in many ways better than that traditionally employed by social scientists and other scientifically minded futurists."[46] Staley's linkage of historical method to futures studies in general, and to scenario-building in particular, especially his focus on issues of plausibility and synchronic narrative, are techniques that should be studied by any military officers engaged in speculating on future war.

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40 Høiback, *Understanding Military Doctrine: A Multidisciplinary Approach,* 78-85.

41 R. G. Collingwood, "Lectures on the Philosophy of History, 1926" in *The Idea of History: With Lectures 1926-1928*, ed. J. van der Dussen (Oxford: Oxford University Press, 1993), 412-13.

42 David J. Staley, *History and Future: Using Historical Thinking to Imagine the Future* (Lanham, MD: Lexington Books, 2007), 2; 48.

43 Ibid., 11-12; 57-60.

44 Ibid, 70-84.

45 Ibid., 71-73; Fernand Braudel, *On History* (Chicago: Chicago University Press, 1980), 28-31.

46 Staley, *History and Future*, 2.

A useful companion to Staley's integration of historical method and futures studies is contemplation of the growing literature on counterfactual thinking.[47] A counterfactual is "any subjunctive conditional in which the antecedent is known to be false."[48] "What if" counterfactual reasoning is a highly underrated asset in the training of military professionals involved in futures analysis. Unlike a future scenario that uses *conjectural knowledge*, a historical counterfactual thought experiment—for example, conceiving of Confederate victory in the American Civil War—operates with *confirmed knowledge* of what actually occurred and then proceeds to think about a different outcome. In scenario-building, backcasting may be employed in which one posits a desirable future and then works backwards to identify actions that will connect the future to the present. In contrast, those involved in developing a historical counterfactual must learn to treat known moments in the past as if they are like the present with only limited foreknowledge of the future. The use of subjunctive thinking (the employment of imagination) and the disciplined need for ensuring plausibility and probability in historical counterfactuals, make them useful learning devices and mind-set changers for scenario development in futures analysis.[49]

Ultimately, the value of historical knowledge in futures studies, particularly in the military realm, lies in its demonstration that there is no single future and that many alternatives beckon. Indeed, the intimate relationship between historical knowledge and futures studies is vividly captured in the Jorge Luis Borges story, "The Garden of Forking Paths." In this tale, a Chinese sage, Tsu'i Pen, invents an invisible garden labyrinth in which "time forks perpetually toward innumerable futures."[50] The Chinese master chooses one path, and eliminates others to produce multiple outcomes. By human agency, he partially constructs the future by a choice of alternatives from among the forking paths. Today, in attempting to think incisively across time, make value judgments, and construct alternative courses of action, the work of a military futures specialist is not unlike that of Borges's sage.

Speculations on Future War

Having established the anatomy of futures studies, we must contemplate how such studies can be employed in examining the future of war beyond Afghanistan. Predictions on future war may be impossible but rational anticipation through research and organizational learning are required to improve understanding and readiness. The aim of futures studies in the armed forces must be to enhance institutional creativity for

47 Philip E. Tetlock and Aaron Belkin, eds., *Counterfactual Thought Experiments in World Politics* (Princeton, NJ: Princeton University Press, 1996); Niall Ferguson, ed., *Virtual History: Alternatives and Counterfactuals* (London: Picador, 1997); Philip E. Tetlock, Richard Ned Lebow and Geoffrey Parker eds, *Unmaking the West: 'What If' Scenarios That Rewrite World History* (Ann Arbor, MI: University of Michigan Press, 2006); and Richard J. Evans, *Altered Pasts: Counterfactuals in History* (Waltham, MS: Brandeis University Press, 2013).

48 James Fearon, "Counterfactuals and Hypothesis Testing in Political Science," *World Politics* 43 (1991): 169-95.

49 Steven Weber, "Counterfactuals, Past and Present," in Tetlock and Belkin, *Counterfactual Thought Experiments in World Politics*, 268-90.

50 Jorge Luis Borges, "The Garden of Forking Paths," in idem, *Labyrinths: Selected Stories and Other Writings* (New York: New Directions, 2007), 28; 19-29.

theorizing about war in the pursuit of long-term military effectiveness.[51] Colin Gray puts the intellectual challenge well when he writes, "we *know* a great deal about future war, warfare, and strategy. What we *do not know* are any details about future wars, warfare episodes, and strategies."[52]

When applied to analyzing military conflict, futures studies should draw on its own cognitive corpus reinforced by knowledge from strategic studies and history to facilitate holistic analysis. Such an interdisciplinary merger yields a useful set of mental tools ranging from trend analysis and scenario development to concepts of presumptive truth, surrogate knowledge, and predesigned factors through to the notion of society as a system of purposive actors governed by the intelligibility of a probabilistic determinism. A focus on building historical knowledge yields a number of key approaches. These include thinking across time both functionally and dialectically; the construction of synchronic narratives for environmental rather than predictive event analysis; and the use of historical logic for case study analysis including a capacity for counterfactual thinking.

In an era in which digital networks, precision weapons, and media penetration are transforming the geography of conflict into diffuse forms; where the domains of space and cyber are emerging alongside the increased automation of war from robotics to unmanned systems; and an array of global-regional inflection points make intersected crises more likely—the application of imaginative and robust futures studies is imperative. To demonstrate how some of the conceptual tools and techniques of futures studies might be applied to thinking about war, contending contemporary views about armed conflict are examined. This is a contested area which reveals much about the factors shaping future war—ranging from continued globalization through transformational geopolitics to the challenge of rapid demographic change.

Contending Views of Future War: Radicals, Traditionalists, and Integrationists

Over the last decade there has been no Western consensus on the future of war. Rather, there has been a split in thinking among three loose schools of thought: radicals, traditionalists, and integrationists. The radicals constitute a group who see the future of war largely in irregular terms related to the impact of globalization. The traditionalists continue to uphold the primacy of conventional conflict and are inclined toward seeing the future of war in terms of great powers and transformational geopolitics. The integrationists believe the intersection of globalized conditions, transformational geopolitics, and changing demographic patterns will produce a world in which modes of armed conflict will overlap and merge. For analysts involved in the professional study of armed conflict, the premises and beliefs of the radicals, traditionalists, and integrationists of future war need to be carefully interrogated.

The Radicals: The Regularity of Irregular War

Those who argue in favor of a future marked by irregular warfare believe there has been a paradigm shift away from conventional conflict.

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51 Richard W. Woodman, John E. Sawyer, and Ricky W. Griffith, "Toward a Theory of Organizational Creativity," *Academy of Management Review* 18, no. 2 (April 1993): 293.

52 Colin S. Gray, "The 21st Century Security Environment and the Future of War," *Parameters*, 37, no. 4 (Winter 2008-2009): 17. Emphasis added.

They point to the over-preoccupation of Western militaries in the 1990s with high-technology and information warfare theory as proof of failure to anticipate the asymmetrical challenges of the post 9/11 era in Afghanistan and Iraq. Their theoretical touchstone is Rupert Smith's "war amongst the people" in which nonstate actors and assorted indigenous forces in failing states combine to create protracted campaigns of combat and stabilization.[53] Leading international advocates of this view of future war include David Richards, a former Chief of the British Defense Staff; Greg Mills and Vincent Desportes; and, in the United States, scholars such as John Nagl and John Arquilla.[54] Much of the prevailing attitude is summed up by Richards and Mills in their introduction to the book, *Victory Among People*:

> Conventional war is a thing of the past. Such is one lesson from Afghanistan and Iraq. This appears even true for those countries that possess a considerable array of conventional weaponry. Why should they risk everything in a conventional attack, if they can instead achieve their aims through the use of proxies, or through economic subterfuge and cyber-warfare?[55]

These beliefs are shared by many in the French military. For example, General Vincent Desportes writes that "the symmetrical war is dead, or at least the chances of it happening are negligible" making irregular war the reality for the foreseeable future.[56] American thinking can be found in the work of the so-called "COINdinista," or irregular school of thought, in which the central argument is a need to restructure US forces for sustained counterinsurgency and stabilization operations on the basis that "our [US] capacity to win the wars we are not fighting far exceeds our ability to win the ones in which we are currently engaged."[57] The argument appears to be that, given the frequency of irregular conflict, "the long debate between the leading conventional and irregular thinkers . . . seems finally over. The irregulars have won."[58]

The above views require careful examination by futures specialists simply because the idea of "the regularity of irregular warfare" conflates tactical asymmetry with strategic difference and detracts from a holistic understanding of war.[59] Despite the predominance of irregular warfare over the last decade, the notion that long-term, expensive, population-centric counterinsurgency must be adopted was deeply problematic for both military and political reasons.[60] This development can, in part, be

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53 General Sir Rupert Smith, *The Utility of Force: The Art of War in the Modern World* (London: Allen Lane, 2005).

54 David Richards and Greg Mills, eds,*Victory Among People: Lessons from Countering Insurgency and Stabilising Fragile States* (London: Royal United Services Institute for Defence and Security Studies, 2011); General Vincent Desportes, *Tomorrow's War: Thinking Otherwise* (Paris, Economica, 2009); John Nagl, *Learning to Eat Soup With a Knife: Counterinsurgency Lessons from Malaya and Vietnam* (Chicago: Chicago University Press, 2005); John Arquilla, *Insurgents, Raiders and Bandits: How Masters of Irregular Warfare Have Shaped Our World* (Chicago: Ivan R. Dee, 2011)

55 Richards and Mills, "Introduction in idem," *Victory Among People,* 1.

56 Desportes, *Tomorrow's War*, 27; 41.

57 John Nagl and Brian M. Burton, "Dirty Windows and Burning Houses: Setting the Record Straight on Irregular Warfare," *Washington Quarterly* 32, no. 2 (April 2009): 98.

58 Arquilla, *Insurgents, Raiders, and Bandits*, 279-80.

59 W. Alexander Vacca and Mark Davidson, "The Regularity of Irregular Warfare," *Parameters* 42, no. 1 (Spring 2011): 18-28.

60 For a critique see David Ucko, "Whither Counterinsurgency: The Rise and Fall of a Divisive Concept," in *The Routledge Handbook of Insurgency and Counterinsurgency*, ed. Paul B. Rich and Isabelle Duyvesteyn (New York: Routledge, 2012), 67-79; US Army, ADP 3-0, *Unified Land Operations* (Washington DC: Department of the Army, October 2011)

attributed to the typology of theorizing in the decade from 2004-14, much of which was based on forms of presumptive truth, surrogate, and conjectural knowledge drawn from flawed historical analogies.

A futures analyst might note that, in the revival of counterinsurgency after 2004, most historical lessons were drawn from twentieth century colonial-domestic conflicts such as Malaya and Algeria rather than from more relevant expeditionary-interventionist conflicts such as Vietnam. A close examination of US intervention in Vietnam would have revealed the basic flaw in post-2006 counterinsurgency: the problem of weak host regimes. The conclusion of Charles Maechling Jr, Lyndon Johnson's advisor on counterinsurgency in Vietnam, resonates when it comes to the expeditionary-interventionist approach adopted in fighting insurgents in Afghanistan:

> COIN in theory failed in practice [in Vietnam] since it had to be implemented by an unpopular, unrepresentative local regime. Moreover, the presumption by the Kennedy and Johnson administrations in supposing that middle-grade US Army officers and civil servants from the American heartland could create a viable rural society in a primitive and densely populated Asian country in the middle of a civil war is staggering. There was no way for the Americans to get beneath the surface of Vietnamese life.[61]

To use the language of futures studies, the weakness of the centralized Karzai regime in ethnically diverse Afghanistan represents a classic predesigned factor in a decentralized tribal society. Progress has been difficult for the intervening Western forces in Afghanistan since, to quote Maechling again, "dependence on a weak central government [represents] the old horror of responsibility without authority elevated to the plane of high strategy."[62] In recent counterinsurgency efforts, if Charles Maechling's strategic warnings and the "deadly paradigms" identified by counterinsurgency scholars such as D. Michael Shafer had been studied—rather than the tactical techniques of David Galula and John Nagl—a deeper understanding of actual conflict *environments* rather than merely the pattern of military *events* might have occurred in the decade 2004-14.[63]

In dissecting the notion of an alleged dominant irregular paradigm in future war, military analysts need to avoid over-determinism and historicism in their prospective thinking and focus on discretionary forms that Western counterinsurgency might assume in the years ahead. While the 2012 US Joint and Coalition Operational Analysis publication, *Decade of War* may be correct to state that "operations other than conventional warfare will represent the prevalent form of warfare in the future," prevalence is not a determinant of intervention.[64] The document's recommendations that the United States and its allies focus on environmental knowledge, improved language-culture skills, interagency coordination, and better special operations and general purpose force

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61 Charles Maechling, Jr., "Counterinsurgency: The First Ordeal by Fire" in *Low Intensity Warfare: Counterinsurgency, Proinsurgency and Antiterrorism in the 1980s,* eds. Michael T. Klare and Peter Kornbluh (New York, Pantheon, 1987), 46.

62 Charles Maechling, Jr., "Our Internal Defense Policy—A Reappraisal,) *Foreign Service Journal* (January 1969): 27.

63 Michael D. Shafer, *Deadly Paradigms: The Failure of US Counterinsurgency Policy* (Princeton, NJ: Princeton University Press, 1988).

64 Joint and Coalition Operational Analysis (JCOA), *Decade of War: Enduring Lessons from the Past Decade of Operations* (Suffolk VA: Division of the Joint Staff, 15 June 2012), 7.

integration and military assistance (foreign internal defense and security force assistance) are useful—but such measures are all contingent on the rationale of strategic choice.[65]

Military analysts need to remember that irregular conflict has many conceptual manifestations that require careful case-by-case treatment in the spirit of Staley's structural anthropology of the future—from jungle through mountain to city—and these require synchronic forms of operational analysis. For example, future special operations and general purpose forces integration need to be accompanied by an appreciation that counterterrorism and counterinsurgency are less blended than distinct modes of military activity that can operate at cross-purposes if improperly applied. In an interventionist campaign, a counterinsurgency approach is designed to *build* the political capital of a host government while a counterterrorism approach requires that a host government *use i*ts political capital in authorizing kill-capture missions by external forces that may further erode its support base.[66]

Future war analysts surveying the problem of irregular conflict require a balanced perspective: one that avoids the institutional amnesia of the post-Vietnam era but does not exaggerate the importance of this field of armed conflict. Analysts must pay special attention to political dynamics and to the development of indirect approaches by external intervention forces. In particular, they must treat the proposition that war among the people represents the future of war as simply a form of conjectural knowledge and subject it to case studies using synchronic analysis aimed at determining actual environmental conditions and identifying any predesigned factors. Wars in Iraq and Afghanistan cannot be used as conclusive evidence that insurgency *per se* represents the future of armed conflict; nor should recent conflicts be used by professional militaries to benchmark their military effectiveness, especially when most irregular adversaries are devoid of close air support, advanced missiles, and combined arms formations.

Traditionalists: Conventional War as the Gold Standard

In examining the second view of future war, the traditionalist approach that upholds the primacy of conventional conflict, military futures analysts need to be equally rigorous. While it is certainly true that conventional war looms as the most serious, if not the most likely, test for armed forces, it is much less clear what forms it might assume in the years to come. The case for a strategic future dominated by powerful states was set out by Philip Bobbitt as early as 2002 when he wrote in the wake of the 9/11 attacks: "I strongly believe the greatest threats to American security in the early twenty-first century will come from powerful, technologically sophisticated states—not from 'rogues,' whether they be small states or large groups of bandits."[67]

Since that time, military analysts such as Michael Mazaar and Gian Gentile and historians such as Douglas Porch have condemned America's preoccupation with irregular conflict as a folly which can only degrade

65 Ibid., 1-2; 7-10.

66 Michael J. Boyle, "Do Counterterrorism and Counterinsurgency Go Together?" *International Affairs* 86, no. 2 (March 2010): 333-53.

67 Philip Bobbitt, *The Shield of Achilles: War, Peace and the Course of History* (New York: Alfred A. Knopf, 2002), 315.

core military skills and strain the operational depth of the armed forces.[68] The concerns of American traditionalists are shared in other militaries. In a reflection on modern joint operations, the British general serving as Deputy Supreme Allied Commander Europe (SACEUR) reflected on how a preoccupation with counterinsurgency prejudiced the Israeli military's capacity for armored warfare in Lebanon in 2006:

> The Israelis failed to grasp the opportunity to employ manoeuvre to isolate and destroy Hezbollah. . . . An [Israeli] Army which was once seen as the exemplar of bold manoeuvre but which had adapted for enduring COIN operations in the occupied territories had lost its collective understanding of the art of manoeuvre, particularly armoured manoeuvre, at formation level.[69]

Traditionalists are concerned with conventional warfare challenges in which high-technology and weapons platforms are dominant from ballistic missiles to anti-satellite weapons through submarines and aircraft carriers to unmanned systems, cyberwarfare, and anti-access and area denial (A2AD) capabilities. They would be heartened by the content of the 2012 *Joint Operational Access Concept* and by the ideas of the 2012 United States Joint Chiefs of Staff, *Capstone Concept for Joint Operations*. The latter document outlines much that is important in conventional war including digital collaboration, global agility, joint flexibility, cross-domain synergy for focused combat power, cyberwarfare, precision strike, and information operations.[70]

Many traditionalists, particularly those associated with navies and aerospace power, view the rise of China as the central strategic challenge facing the United States and its allies in the coming decades. The literature on China's military rise is vast and is outside the analytical scope of this article. It is sufficient to note that much contemporary American strategic assessment of China is a heady brew of Western realism that bears more than a passing resemblance to the Europe of 1914-1945. Indeed, the scholarship on an Asian Europe by leading social scientists such as John J. Mearsheimer and Aaron L. Friedberg represents an interesting exercise in Western probabilistic determinism.[71]

However, for military analysts, Occidental historical analogues regarding China must be treated as no more than a combination of presumptive truth mixed with historicism. China remains a society of purposive actors who are heirs to an ancient Confucian civilization and its military modernization trajectory is neither that of Imperial Germany nor a delayed duplicate of Meiji Japan. Military futures specialists need to ponder carefully Asia's own martial history by thinking in functional and dialectical time streams that consider the military implications

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68 Michael Mazarr, "The Folly of "Asymmetric War" *Washington Quarterly* 31, no. 3 (Summer 2008): 33-53; Gian Gentile, *Wrong Turn: America's Deadly Embrace of Counterinsurgency* (New York: The Free Press, 2013); Douglas Porch, *Counterinsurgency: Exposing the Myths of a New Way of War* (New York: Cambridge University Press, 2013).

69 General Sir Richard Shirreff, "Conducting Joint Operations" in *The Oxford Handbook of War*, eds. Julian Lindley-French and Yves Boyer (Oxford: Oxford University Press, 2012), 379.

70 US Joint Chiefs of Staff, *Joint Operational Access Concept, Version 1.0* (Washington, DC: JCS, January 2012), 14-27; 33-36; and *Capstone Concept for Joint Operations; Joint Force 2020* (Washington, DC: JCS, September 2012), 4-14.

71 John Mearsheimer, "The Rise of China Will Not be Peaceful," *The Australian*, 18 November, 2005, 10; John Mearsheimer, *The Tragedy of Great Power Politics* (New York: W. W, Norton, 2001); Aaron L. Friedberg, *A Contest for Supremacy: China, America, and the Struggle for Mastery in Asia* (New York: W. W. Norton, 2011).

of David C. Kang's celebrated counterfactual challenge to American realists: "I wondered why we would use Europe's past—rather than Asia's own past—to explore Asia's future."[72] In short, China's military modernization needs to be carefully situated in a study of Sinological strategic culture in all its indigenous complexity—ranging from the cultural realism of Alastair Iain Johnston through the cultural exceptionalism of Yuan-Kang Wang to Mikael Weissmann's "mystery of the East Asian peace."[73]

Finally, we need to remember that, unlike the conventional wars with Iraq in 1990-91 and 2003, a US military confrontation with China in Asia would ultimately be a collision between two nuclear-armed states. If such a confrontation escalated, it would represent a global crisis of a magnitude not seen since the 1962 Cuban missile crisis. For these reasons, the likelihood of conventional armed conflict between the United States and China—whether couched in terms of air-sea battle doctrine or joint anti-access concepts—remains remote. As strategist, Edward N. Luttwak, warns:

> Large [US] military expenditures aimed at China must . . . be closely questioned. . . . Nothing resembling a general China/anti-China war with armies in the field, naval battles, and conventional air bombardments is possible in the nuclear age. China may be making exactly the same colossal error that Imperial Germany did after 1890, but this is not a devolution that ends with another 1914, another war of destruction. *The existence of nuclear weapons does not preclude all combat between those who have them, but does severely limit its forms.*[74]

It is incumbent on those who see China as a long-term antagonist of the United States to make their case not just in terms of conventional capabilities but in the context of deeper currents of military rivalry, ideological conflict, economic competition, strategic culture, and geopolitics. If such a multi-layered, synchronic analysis is not performed convincingly, then distorted forms of conjectural and surrogate knowledge from preconceived notions of Sinology may come to dominate American strategy.

Integrationists: The Confluence of Warfare

A third group of thinkers on future war are the integrationists who view the coming of globalization and its interaction with geopolitical change and demographics as facilitating a conventional and unconventional spectrum of armed conflict involving both nonstate and state actors. The world of the integrationists is one in which lethal technologies ranging from battlespace drones to battlefield improvised explosive devices (IEDs) coexist. As senior US defense officials from Robert Gates to William Lynn have noted, the categories of war are blurring into "hybrid or more complex forms of warfare" and the consequent "increase in lethality across the threat spectrum means we

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72 David C. Kang, *China Rising: Peace, Power and Order in East Asia (*New York: Columbia University Press, 2007), xi.

73 Alastair Iain Johnstone, *Cultural Realism: Strategic Culture and Grand Strategy in Chinese History*, (Princeton, NJ: Princeton University Press, 1995); Yuan-Kang Wang, *Harmony and War: Confucian Culture and Chinese Power Politics* (New York: Columbia University Press, 2011); Mikhael Weissmann, *The East Asian Peace: Conflict Prevention and Peacebuilding* (New York: Palgrave Macmillan, 2012).

74 Edward N, Luttwak, *The Rise of China vs. the Logic of Strategy* (New York: Belknap Press of Harvard UP, 2012). 98. Emphasis added.

cannot prepare for either a high-end conflict with a potential near-peer competitor or a lower-end conflict with a counterinsurgency focus."[75]

This multi-mode, or hybrid understanding of war, is reflected in the January 2012 document *Sustaining US Global Leadership: Priorities for 21st Century Defense* which outlines a broad range of tasks from countering irregular conflict through A2AD and nuclear deterrence to stabilization tasks.[76] After two long counterinsurgency campaigns, the US Army is moving towards a greater notion of unified and full-spectrum operations in which it is "capable of defeating or destroying a hybrid threat, defined as a diverse and dynamic combination of regular forces, irregular forces, criminal elements or some combination thereof, unified to achieve mutually benefiting effects."[77] A hybrid view of future conflict, a confluence of warfare, has gradually become a form of received wisdom in the English-speaking West. The National Intelligence Council's *Global Trends 2030* states that while great power conflicts remain unlikely, "the risks of interstate conflict are increasing [due] to changes in the international system." However, it cautions, "if future state-on-state conflicts occur, they will most likely involve multiple forms of warfare."[78] This is a view shared by the British defense establishment.[79]

It is most important for military futures analysts to note that hybrid warfare did not suddenly appear with Hezbollah in the Lebanon conflict of 2006. Historically, the phenomenon has long roots and was encountered in China during the Chinese civil war of 1946-49; in South Vietnam in the form of simultaneous Viet Cong guerrilla cadres and North Vietnamese main force units; and in Sri Lanka with the multidimensional campaign of the Tamil Tigers. The concept of hybridity in war has received little attention in the United States until recently perhaps because of the neglect of Vietnam as a field of study by the professional military. It is an interesting counterfactual thought experiment to consider that, if the United States had succeeded strategically in Vietnam, whether the hybrid character of the Viet Cong-North Vietnamese enemy would have been more fully appreciated and understood.

There is much to be considered by futures specialists in hybrid manifestations of armed conflict, not least in the demographic implications of merged aspects of armed conflict in the urban realm. Between 2015 and 2030, up to one billion people are expected to move from rural areas into cities and towns throughout Asia, Africa, and Latin America. The global population will expand from 7.1 to 8.3 billion with over sixty percent living in urban areas characterized by an unequal and multi-speed global economy, increased social fragmentation, and pervasive social media.[80] The phenomenon of a global urban transi-

75 Robert M. Gates, "The National Defense Strategy: Striking the Right Balance," *Joint Force Quarterly* (January 2009), 52, 1st Quarter, 5; William J. Lynn, III, "Global Security Forum 2011 Keynote Address," (Washington DC: Center for Strategic and International Studies, 8 June 2011) at csis.org/files/attachments/110608_gsf_plenary-transcript pdf

76 Department of Defense, *Sustaining US Global Leadership: Priorities for 21st Century Defense* (Washington, DC: Department of Defense, January 2012), 3-8.

77 Association of the US Army, *US Army Training for Unified Land Operations* (Washington, DC: Institute of Land Warfare, September 2011), 8.

78 *Global Trends 2030: Alternative Worlds*, 53-55; 65. Emphasis added.

79 United Kingdom, *Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review* (London: Her Majesty's Stationery Office, October 2010), 16.

80 Jack A. Goldstone, "The New Population Bomb: The Four Megatrends That Will Change the World," *Foreign Affairs* 82, no. 2 (January-February 2010): 31-43.

tion will yield a rich field in trend analysis, scenario-building, pattern recognition and synchronic narratives. Since military conflict mirrors human habitat, aspects of warfare are likely to involve cityscape as well as landscape and the consequences for security and stable governance from competition for natural resources and energy supplies from over-populated megalopolises and shanty cities from Lagos through Karachi to the Indo-Pacific littoral will be challenging. "In the future," notes one British document, "we will be unable to avoid being drawn into operations in the urban and littoral regions where the majority of the world's population lives." In 2006, for the first time in history, the global urban population exceeded the rural population.[81]

For integrationists, the rise of strategic pluralism is the central reality of present and future war. Such pluralism yields a range of global-regional inflection points ranging from crises in the Islamic world, the transformation of parts of Asia, the rapidly changing demography of urbanization, and irregular and hybrid challenges emanating from fragile states. While outcomes cannot be predicted, their repercussions may be dangerous since they are rapidly transmitted by the power of information networks and instant images.

Conclusion

The Czech novelist Milan Kundera once wrote that "man proceeds in the fog. But when he looks back to judge people of the past, he sees no fog in their pasts."[82] The conceptual challenge of war is like movement through a mist of the unknown; it is the cognitive demand to understand how the past and the present interact to shape armed conflict in the future. The passage of historical time into first the present and second into the future, means that forms of futures studies will always be essential despite their inability to predict events. In the military realm, such studies provide a corpus of ideas and methods that can be used to explain the structure and components of war and their relationship with political, economic, and social factors. The primary goal is to anticipate in general rather than to predict in particular; to build skills in foresight by exploring alternative possibilities—the forking paths of the future. Seen in this light, futures studies are far better at explaining potential environments of conflict rather than the shape of conflict's events.

Knowledge of strategic-military environments is a valuable asset to cultivate if only because it ensures that prospective thinking can be as much about orientation as expectation. Properly conducted with interdisciplinary rigor, military futures studies should encourage a brisk exchange of creative ideas and critical modes of thinking on plausible alternatives and probabilities. Such a process encourages flexibility and the more flexible an armed forces establishment is, the more adaptable it is likely to be when faced with the unexpected. A fusion of historical knowledge with an understanding of present trends is important in constructing any image of a future. In this realm, the task of the military futures specialist is an unforgiving intellectual struggle to grasp meaning from fleeting time and circumstance. It is a task for the creative and bold

81 Ministry of Defence, *The Future Character of Conflict* (Shrivenham: Development, Concepts and Doctrine Centre, February 2010), 21.

82 Milan Kundera, *Testaments Betrayed* (NY: Harper/Collins, 1990), 238.

mind in which error and misjudgment are as likely as accuracy and foresight. In a real sense the military futures analyst shares the melancholy fate of F. Scott Fitzgerald's adventurer, Jay Gatsby, who, conscious of the past yet trapped in the present, reaches out continuously towards the green light of the future:

> [T]he orgiastic future that year by year recedes before us. It eluded us then, but . . . tomorrow we will run faster, stretch out our arms farther. . . . So we beat on, boats against the current, borne back ceaselessly into the past.[83]

83 F. Scott Fitzgerald, *The Great Gatsby* (New York: Scribner reissue edition, 2004, original publication 1925), 180.