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EXPERIENCE

- 2011-** *Distinguished Visiting Professor, Cybersecurity, U.S. Naval Academy.* Courses on Cybersecurity
- 2009-2011** *Adjunct Professor, Georgetown University.* Course on Cyberwar.
- 1998-** *Senior Management Scientist, RAND Corporation* Conducting analysis focused on the relationship of information technology to national and domestic security as well as other public policy goals. Extant publications cover (1) cyberwar, (2) demographics, (3) classification policy, (4) standards and standards policy, (5) medical health information standards, (6) terrorism/counter-terrorism strategy, and (7) counter-insurgency strategy and evaluation, and (8) digital surveillance. Other work includes forecasting techniques, U.S. space policy, and DoJ and FBI information systems.
- 1986-1998** *Senior Fellow, Institute for National Strategic Studies* (National Defense University). Strategic planner and policy analyst in the areas of information technology, national defense, military operations, command-and-control, industrial economics, and resource allocation. This work has resulted in a series of monographs, book chapters, and other publications. The monographs have been reprinted several times over and have led to requests for lectures (e.g., at Harvard, Columbia, Air War University), high-level briefings (e.g., for several senators, DOD Capstone course, USAF GO/SES course), articles, and interviews (in print and video media). Current work examines architectures for DOD's emerging battlefield information systems, as well as their impact on U.S. alliances.
- Taught graduate-level courses in economics, information technology standards, and emerging DOD information systems.
- 1982-1986** *Head, U.S. Navy Industrial Preparedness Planning Program.* Reformed Navy's programs for wartime mobilization planning, factory modernization incentives, and materials purchase guarantees. Responsible for developing Navy instructions, representing Navy before OSD and Joint staffers, and justifying Navy's industrial preparedness planning budgets.
- 1979-1982** *Economist, Energy and Minerals Division, U.S. General Accounting Office.* Analyzed capacity formation in key heavy industries (e.g., cement, steel) and forecast the impact of decontrolling natural gas prices by modeling demand under alternative scenarios.

1978-1979 *Economist, Office of Minerals Policy Research and Analysis, Department of Interior.* Analyzed data and policies affecting the U.S. mining industry.

EDUCATION

Ph.D. 1978: U. C. Berkeley. Thesis: *Shortages of Manufactured Materials in the 1973-74 Business Cycle Upturn.*
M.C.P. 1974: U. C. Berkeley, City and Regional Planning.
S.B. 1972: M. I. T., Mathematics.

Books and Book-Length Monographs

1. *Crisis and Escalation in Cyberspace*, RAND 2013, MR-1215-AF.
2. *Global Demographic Change and Its Implications for Military Power*, (with Howard Shatz and Julie Taylor) RAND 2011, MG-1091-AF.
3. *Influences on the Adoption of Multifactor Authentication* (with multiple co-authors), RAND 2011, TR-937-NIST.
4. *What Should be Classified: Framework with Application to the Global Force Management Data Initiative*, (with multiple co-authors), RAND 2010, MG-989-JS.
5. *How Insurgencies End* (with Ben Connable), RAND 2010, MG-965-MCIA.
6. *Cyberdeterrence and Cyberwar*, RAND, 2009, MG-877-AF.
7. *Conquest in Cyberspace*, Martin Libicki (Cambridge University Press, 2007).
8. *Byting Back* (with David Gompert, David Frelinger, and Ray Smith), RAND, 2007, MG-595/1-OSD.
9. *Exploring Terrorist Targeting Preferences* (with Peter Chalk and Melanie Sisson), RAND MG-483, 2006.
10. *The Costs and Benefits of Moving to the ICD-10 Code Sets*, Martin Libicki, Irene Brahmakulam, RAND TR-132, 2004.
11. *Collecting the Dots: Problem Formulation and Solution Elements*, Martin C. Libicki, Shari Lawrence Pfleeger, RAND OP-103RC, 2004
12. *New Challenges, New Techniques for Defense Decisionmaking*, Martin Libicki, Stuart Johnson, Greg Treverton (eds.), RAND MR-1576, 2003 and book chapters: "What Information Architecture for Defense?" and "Incorporating Information Technology in Defense Planning."
13. *Who Runs What in the Global Information Grid: Ways to Share Local and Global Responsibility*, RAND MR-1247-AF, 2000.
14. *Scaffolding the New Web: Standards and Standards Policy for the Digital Economy*, RAND MR-1215-OSTP, 2000 with James Schneider, David Frelinger, and Anna Slomovic.
15. *Illuminating Tomorrow's War* (NDU Press, 1999). An early version of chapter three appeared as "Is Halfway to the RMA Far Enough?" in *The Information Revolution and*

International Security, (Center for Strategic and International Studies, 1998).

16. *Defending Cyberspace and Other Metaphors* (NDU Press, 1997). An early version of essay one appeared in Al Campen et al, *Cyberwar* (AFCEA Press, 1995), 91-105. An early version of essay two appeared in Winn Schwartau, *Information Warfare* (Thunder's Mouth Press, 1996). An expanded version of essay three (with Dan Kuehl) published in the June 1998 issue of *Enjeux Atlantique*.
17. Martin Libicki and Stuart Johnson (ed.) *Dominant Battlespace Knowledge* (NDU Press, 1995), and monograph chapter, "Dominant Battlespace Knowledge and Its Consequences."
18. *What is Information Warfare?* (NDU Press, 1995). Abstracted in INSS Strategic Forum No. 28. Spanish translation (by the Mexican Defense Ministry).
19. *Information Technology Standards: Quest for the Common Byte* (Boston: Digital Press, 1995). Summarized as *Standards: The Rough Road to the Common Byte* (NDU Press, 1995 and Harvard's Program on Information Resources Policy, 1994) and reprinted in Brian Kahin and Janet Abbate, *Standards Policy for the Information Infrastructure* (MIT Press, 1995), 35-78.
20. *The Mesh and the Net* (NDU Press, 1994). Chapter two appears as "The Small and the Many" in John Arquilla and David Ronfeldt, *In Athena's Camp* (RAND, 1997), 191-216. Chapter Three appears as "Do We Need an Information Corps?" (with CDR James Hazlett), *Joint Force Quarterly*, 2, (Autumn 1993), 86-97.
21. *What Makes Industries Strategic?* (NDU Press, 1989).
22. *Industrial Strength Defense* (NDU Press, 1987).

Articles and Book Chapters

Cyberwar/Information Warfare

1. "The Specter of Non-Obvious Warfare," *Strategic Studies Quarterly* (Fall 2012), pp. 88-101.
2. "Why Cyberspace is not a Warfighting Domain," *I/S: A Journal of Law and Policy for the Information Society* (Fall 2012), pp. 325-340.
3. "The Nature of Strategic Instability in Cyberspace," *Brown Journal of World Affairs* (Fall/Winter 2011).
4. "The Strategic Uses of Ambiguity in Cyberspace," (in Hebrew) *INSS Cyber Warfare Journal* (Autumn, 2011).
5. "Cyberwar as a Confidence Game," in *Strategic Studies Quarterly*, Spring 2011, pp. 132-147.
6. "Sub Rosa Cyber War," in C.Czossek and Kenneth Geers (ed.) *The Virtual Battlefield: Perspectives on Cyber Warfare*, Amsterdam NL (IOS Press), pp. 53 - 65.
7. *Chinese Use of Cyberwar as an Anti-Access Strategy: Two Scenarios*, testimony before the U.S. China Commission, January 2011 (RAND CT-255).

8. "Pulling Punches in Cyberspace," in National Research Council, *Proceedings of a Workshop on Deterring Cyberattacks: Informing Strategies and Developing Options for U.S. Policy*, 2010, pp. 123-150.
9. "Wringing Deterrence from Cyberwar Capabilities," in US Naval War College, *Economics and Security: Resourcing National Priorities* (William B. Ruger Chair Workshop, U.S. Naval War College, Newport, Rhode Island, 19–21 May 2010), pp. 259-272
10. "Mission Assurance in the Face of Cyber Attacks," (with Robert Elder) in *High Frontier, The Journal for Space & Missile Professionals*, August 2010.
11. "Deterrence in Cyberspace," *High Frontier: The Journal for Space & Missile Professionals*, May 2009, 16 to 20.
12. "Is Cyberterrorism Getting Closer?" prepared for Lexington Institute publication on measuring homeland security, 2004.
13. "Conclusion: The Changing Role of Information in Warfare," in *The Changing Role of Information in Warfare*, Zalmay M. Khalizad, ed., (RAND, 1999).
14. "Information War, Information Peace" in *Journal of International Affairs*, Spring 1998.
15. *Information Dominance* (INSS Strategic Forum No.132, 1998); material originally requested for an essay in a monthly publication of the French MOD's Acquisition Directorate.
16. "Information Warfare: A Brief Guide to Defense Preparedness," *Physics Today*, **50**, 9 (September 1997), 40-45.
17. "A Cyberbolt from the Blue?" *Foresight*, (March 1997), 74-77 (in Japanese).

The Revolution in Military Affairs

1. "Military Cyberpower," in Frank Kramer *et al* (eds.), *Cyberpower and National Security*, NDU Press, 2009.
2. "A Ten-Year Rule for Defense Planning," in *Orbis* (Summer, 2001), 387 – 399.
3. "The Mouse's New Roar," in *Foreign Policy* (Winter 1999-2000).
4. "Military Revolutions and the Information Systems that Would Power Them," in Reiner Huber, Hans Hofmann, ed., *Defense Analysis for the 21st Century: Issues, Approaches, Models* (Baden-Baden, Germany, 1999).
5. *Mind the Gap*, with David Gompert, Richard Kugler, (NDU Press, 1998).
6. "Alternative Futures," "Adaptiveness and Force Structure," and "Adaptiveness and Force Posture" in *Strategic Assessment 1998* (NDU Press, 1998).
7. "High-Tech: The Future Face of War?" (with Alvin H. Bernstein as co-author, and Frederick W. Kagan) *Commentary*, **105**, 1, (January 1998), 28-31.
8. "In Someone Else's Boots", *Cybersword*, **1**, 2 (Fall 1997), 13-15.

9. *Information and Nuclear RMAs Compared* (INSS Strategic Forum No. 82, 1996).
10. "...Or Go Down in Flame? Toward an Airpower Manifesto for the 21st Century," (with Col. Richard Szafranski), *Airpower Journal*, **10**, 3 (Fall 1996), 65-77. Abstracted as *Tomorrow's Air Force* (INSS Strategic Forum No. 77, 1996).
11. "How Information Can Alter Geography," *Orbis*, **40**, 2 (Spring 1996), 261-276.
12. Comments on "The Coming Train Wreck," *Washington Quarterly*, **19**, 1 (Winter 1996), 110-133.
13. "Alternative Futures," "Adapting Forces," and "Future Posture," in *Strategic Assessment 1998* (NDU Press, 1998).
14. "Technology and Warfare" in Patrick Cronin (ed.) *Project 2015* (NDU Press, 1996).
15. "Emerging Military Instruments" in *Strategic Assessment 1996* (NDU Press, 1996).
16. *The Next Enemy* (INSS Strategic Forum No. 35, 1995).
17. "Information Technologies" in *Strategic Assessment 1995* (NDU Press, 1995).
18. *The Revolution in Military Affairs* (INSS Strategic Forum No. 11, 1994)
19. "Silicon and Security in the 21st Century", *Strategic Review*, **20**, 3 (Summer 1992), 62-65.

Standards and Other

1. "Wideband Global Satellite," chapter in Irv Blickstein *et al*, *Root Cause Analyses of Nunn-McCurdy Breaches, Volume 1: Zumwalt Class Destroyer, Joint Strike Fighter, Longbow Apache, and Wideband Global Satellite*, RAND TR-992/1-OSD, 2011.
2. *Assessing Living Conditions in Iraq's Anbar Province in 2009*, (with Audra Grant), RAND, TR-836-MCIA, 2010.
3. Keith Crane *et al*, *Assessing Living Conditions in Iraq's Anbar Province in June 2008*, RAND TR-715-MCIA, 2009.
4. "Privacy and Civil Liberties Protections in a New Domestic Intelligence Agency" (with David Howell) in Brian Jackson (ed.) *The Challenge of Domestic Intelligence in a Free Society*, RAND MG-804-DHS, 2008
5. *How Terrorist Groups End* (with Seth Jones), RAND, 2008, MG-741-1-RC.
6. "Toward a Theory of Border Control," in Robert Lathan (ed), *Bombs and Bandwidth: The Emerging Relationship between IT and Security*, New York, NY (New Press), 2003.
7. "Biometrics and the Feasibility of a National ID Card" in John D. Woodward, Nicholas M. Orlans, Peter T. Higgins, *Biometrics: Identity Assurance in the Information Age*, Berkeley CA (McGraw-Hill/Osborne), 2003.
8. "Global Networks and Security: How Dark is the Dark Side?" in Richard Kugler and Ellen Frost, *The Global Century: Globalization and National Security*, NDU Press, 2001.
9. "A Second-Best Approach to Standards," in *Standardview* (December 1995).
10. *Report of the Defense Science Board on Defense Critical Industries* (as executive secretary, May 1990).

11. *U.S. Industrial Base Source Dependence/Vulnerability: Phase II, Analysis* (report for the Undersecretary of Defense, Policy, November 1987).
12. "Mobilizing the Defense Electronics Industry," *Signal*, **40**, 5 (January 1986), 41-43.
13. *An Analysis of Natural Gas Pricing Alternatives: Demand Methodology*, U.S. General Accounting Office (GAO/RCED-83-13, 1983).
14. "International Developments," in *1979 Annual Report on Mining and Minerals Policy*: (Department of Interior, Washington, DC, 1979).