
BIBLIOGRAPHY

- Allard, C. Kenneth, "The Future of Command and Control: Toward a Paradigm of Information Warfare," L. Benjamin Ederington and Michael J. Mazarr (eds.), *Turning Point: The Gulf War and U.S. Military Strategy*, Boulder: Westview Press, 1995, pp. 161–192.
- , *Somalia Operations*, Washington, D.C.: National Defense University Press, 1995.
- Andelman, David A., "The Drug Money Maze," *Foreign Affairs*, July/August 1994, pp. 94–108.
- Anderson, Malcolm, *Policing the World*, Oxford: Clarendon Press, 1989.
- Arquilla, John, "The Strategic Implications of Information Dominance," *Strategic Review*, Summer 1994, pp. 24–30.
- , *From Troy to Entebbe: Special Operations in Ancient and Modern Times*, Lanham, Md.: University Press of America, 1996.
- Arquilla, John, and David Ronfeldt, "Cyberwar is Coming!" *Comparative Strategy*, Vol. 12, No. 2, pp. 141–165 (Summer 1993).
- , "(Book Review) Welcome to the Revolution . . . in Military Affairs," *Comparative Strategy*, Vol. 14, No. 2, pp. 331–341 (Spring 1995).
- , "Information, Power, and Grand Strategy: In Athena's Camp," Stuart Schwartzstein (ed.), *Information and National Security*, Washington, D.C.: Center for International and Strategic Studies, 1996.
- Beam, Louis, "Leaderless Resistance," *The Seditonist*, Issue 12, February 1992 (text can sometimes be located on the Internet).
- Beniger, James R., *The Control Revolution: Technological and Economic Origins of the Information Society*, Cambridge, Mass.: Harvard University Press, 1986.
- Boorman, Scott, *The Protracted Game: A Weich'i Interpretation of Maoist Revolutionary Strategy*, New York: Oxford University Press, 1969.
- Boulding, Elise, *Building a Global Civic Culture: Education for an Interdependent World*, New York: Teachers College Press, 1988.

- Brassey's, *War Annuals, 1991–1994*, London: Brassey's, Ltd., 1991–1995.
- Braudel, Fernand, *Civilization and Capitalism, 15th–18th Century, Volume II: The Wheels of Commerce*, translated from original French edition (1979), New York: Harper & Row, 1982.
- Brecher, Jeremy, John Brown Childs, and Jill Cutler (eds.), *Global Visions: Beyond the New World Order*, Boston: South End Press, 1993.
- Bresler, Fenton, *The Chinese Mafia*, New York: Stein and Day, 1981.
- Burghardt, Tom, "Leaderless Resistance and the Oklahoma City Bombing," San Francisco, Calif.: Bay Area Coalition for Our Reproductive Rights (BACORR), April 1995a.
- , "Dialectics of Terror: A National Directory of the Direct Action Anti-Abortion Movement and Their Allies," San Francisco, Calif.: Bay Area Coalition for Our Reproductive Rights (BACORR), October 1995b.
- Bywater, Hector C., *The Great Pacific War*, New York: St. Martin's Press, 1924; reprinted 1991.
- Castañeda, Jorge G., *The Mexican Shock: Its Meaning for the United States*, New York: The New Press, 1995.
- Chairman of the Joint Chiefs of Staff, *Memorandum of Policy Number 30*, Washington, D.C., 1993.
- Chase, Alston, *In a Dark Wood: The Fight over Forests and the Rising Tyranny of Ecology*, New York: A Richard Todd Book/Houghton Mifflin Company, 1995.
- Chisholm, Donald, *Coordination Without Hierarchy: Informal Structures in Multi-organizational Systems*, Berkeley: University of California Press, 1989.
- Claessen, Henri J.M., and Peter Skalník (eds.), *The Early State*, The Hague: Mouton Publishers, 1978.
- Cleaver, Harry, "Introduction," Editorial Collective, *¡Zapatistas! Documents of the New Mexican Revolution*, Brooklyn: Autonomedia, 1994 (on-line at [gopher://lanic.utexas.edu:70/11/la/Mexico/Zapatistas/](http://lanic.utexas.edu:70/11/la/Mexico/Zapatistas/)).
- Clutterbuck, Richard, *Terrorism, Drugs, and Crime in Europe after 1992*, New York: Routledge, 1990.
- Cobban, Helena, *The Palestinian Liberation Organization*, Cambridge: Cambridge University Press, 1984.
- Cohen, Frederick B., *Protection and Security on the Information Superhighway*, New York: John Wiley and Sons, 1995.
- Cohen, Ronald, and Elman R. Service (eds.), *Origins of the State: The Anthropology of Political Evolution*, Philadelphia: Institute for the Study of Human Issues (ISHI), 1978.

- Collins, Larry, and Dominique Lapierre, *The Fifth Horseman*, New York: Simon & Schuster, 1979.
- Davis, Paul K., and John Arquilla, *Deterring or Coercing Opponents in Crisis: Lessons from the War with Saddam Hussein*, Santa Monica, Calif.: RAND, R-4111-JS, 1991a.
- , *Thinking About Opponent Behavior in Crisis and Conflict: A Generic Model for Analysis and Group Discussion*, Santa Monica, Calif.: RAND, N-3322-JS, 1991b.
- Delbrück, Hans, *History of the Art of War*, 4 vols., Lincoln: University of Nebraska Press, 1900; revised 1990.
- Drucker, Peter F., *Post-Capitalist Society*, New York: HarperCollins Publishers, 1993.
- , "The Age of Social Transformation," *Atlantic Monthly*, November 1994, pp. 53–80.
- Evans-Pritchard, E. E., *The Nuer: A Description of the Modes of Livelihood and Political Institutions of a Nilotic People*, Oxford: Oxford University Press, 1940.
- Fischer, David Hackett, *Paul Revere's Ride*, New York: Oxford University Press, 1994.
- Frederick, Howard, "Computer Networks and the Emergence of Global Civil Society," Linda M. Harasim (ed.), *Global Networks: Computers and International Communication*, Cambridge, Mass.: The MIT Press, 1993, pp. 283–295.
- Fried, Morton H., *The Evolution of Political Society: An Essay in Political Anthropology*, New York: Random House, 1967.
- Galvin, John R., *The Minute Men: The First Fight: Myths & Realities of the American Revolution*, Washington, D.C.: Pergamon-Brassey's International Defense Publisher, 2nd ed., revised, 1989.
- Gann, Lewis, *Guerrillas in History*, Stanford: Hoover Institution Press, 1971.
- Gelernter, David, *Mirror Worlds, or the Day Software Puts the Universe in a Shoebox . . . How It Will Happen and What It Will Mean*, New York: Oxford University Press, 1991.
- Gerlach, Luther P., "Protest Movements and the Construction of Risk," B. B. Johnson and V. T. Covello (eds.), *The Social and Cultural Construction of Risk*, Boston: D. Reidel Pub. Co., 1987, pp. 103–145.
- Gerlach, Luther P., and Virginia Hine, *People, Power, Change: Movements of Social Transformation*, New York: The Bobbs-Merrill Co., Inc., 1970.
- Gibson, Clark Champion, *Politicians, Peasants and Poachers: The Political Economy of Wildlife Policy in Zambia, 1964–1991*, Ph.D. dissertation, Duke University, 1995.
- Gipson, Lawrence H., *The Great War for Empire: The Years of Defeat*, New York: Alfred A. Knopf, 1946.

- Gonzalez, Edward, and David Ronfeldt, *Storm Warnings for Cuba*, Santa Monica, Calif.: RAND, MR-452-OSD, 1994.
- Goren, Roberta, *The Soviet Union and Terrorism*, London: Allen & Unwin, 1984.
- Granovetter, Mark S., "Economic Action and Social Structure: The Problem of Embeddedness," *American Journal of Sociology*, Vol. 91, No. 3, November 1985, pp. 481–510.
- Graves, Robert, *The Greek Myths*, Penguin Books, Baltimore, Md., 1960.
- Hafner, Katie, and John Markoff, *Cyberpunk: Outlaws and Hackers on the Computer Frontier*, New York: Simon and Schuster, 1991.
- Hamilton, Edith, *Mythology*, Little, Brown, and Co., Boston, Mass., 1969.
- Handel, Michael, *Sun Tzu and Clausewitz Compared*, Carlisle, Pa.: Strategic Studies Institute, 1991.
- Hannerz, Ulf, *Cultural Complexity: Studies in the Social Organization of Meaning*, New York: Columbia University Press, 1992.
- Heclo, Hugh, "Issue Networks and the Executive Establishment," Anthony King (ed.), *The New American Political System*, Washington, D.C.: The American Enterprise Institute, 1978, pp. 87–124.
- Heilbroner, Robert L., *The Worldly Philosophers: The Lives, Times, and Ideas of the Great Economic Thinkers*, New York: Simon & Schuster, 3rd ed., revised, 1967.
- Hirschman, Albert O., *The Passions and the Interests: Political Arguments for Capitalism Before Its Triumph*, Princeton: Princeton University Press, 1977.
- Hoffman, Bruce, *Responding to Terrorism Across the Technological Spectrum*, Santa Monica, Calif.: RAND, P-7874, 1994.
- Hundley, Richard O., and Robert H. Anderson, *Security in Cyberspace: An Emerging Challenge for Society*, Santa Monica, Calif.: RAND, P-7893, 1994.
- Ianni, Francis A. J., *Black Mafia: Ethnic Succession in Organized Crime*, New York: Simon & Schuster, 1974.
- Jacobs, Jane, *Systems of Survival: A Dialogue on the Moral Foundations of Commerce and Politics*, New York: Random House, 1992.
- Johnson, Allen W., and Timothy Earle, *The Evolution of Human Societies: From Foraging Group to Agrarian State*, Stanford: Stanford University Press, 1987.
- Kahn, Herman, *On Thermonuclear War*, Princeton: Princeton University Press, 1960.
- Kaplan, David, and Alex Dubro, *Yakuza*, Reading, Mass.: Addison-Wesley, 1986.
- Kedzie, Chris, "Democracy and Network Interconnectivity" (Proceedings of INET '95, Honolulu, June 1995).

- Kelly, Kevin, *Out of Control: The Rise of Neo-Biological Civilization*, New York: Addison-Wesley Publishing Company, 1994.
- Kissinger, Henry, *Nuclear Weapons and Foreign Policy*, New York: Council on Foreign Relations Press, 1957.
- Krepinevich, Andrew F., Jr., *The Army and Vietnam*, Baltimore, Md.: Johns Hopkins University Press, 1986.
- Kumon, Shumpei, "Japan as a Network Society," Shumpei Kumon and Henry Rosovsky (eds.), *The Political Economy of Japan, Volume 3: Cultural and Social Dynamics*, Stanford: Stanford University Press, 1992, pp. 109–141.
- Kupperman, Robert and Jeff Kamen, *Final Warning: Averting Disaster in the New Age of Terrorism*, New York: Doubleday, 1989.
- Laquer, Walter, *Terrorism*, Boston: Little, Brown, 1979.
- Laraña, Enrique, Hank Johnston, and Joseph R. Gusfield, eds., *New Social Movements: From Ideology to Identity*, Philadelphia, Pa.: Temple University Press, 1994.
- Libicki, Martin C., *The Mesh and the Net: Speculations on Armed Conflict in a Time of Free Silicon*, Washington, D.C.: National Defense University Press, 1994.
- Liddell Hart, B.H., *Strategy*, London: Faber & Faber, Ltd., 1954.
- Lindblom, Charles E., *Politics and Markets: The World's Political-Economic Systems*, New York: Basic Books, Inc., 1977.
- Lipnack, Jessica, and Jeffrey Stamps, *The Age of the Network*, Essex Junction, Vt.: Oliver Wight Publications, Inc., 1994.
- Littleton, Matthew, *Information Age Terrorism*, M.A. thesis, Monterey, Calif.: Naval Postgraduate School, 1995.
- Maslow, Abraham, *Motivation and Personality*, 3rd ed. [with new material by Ruth Cox and Robert Frager], New York: Harper and Row, 1987.
- Mill, J. S., "A Few Words on Non-Intervention," *Essays on Politics*, New York: Doubleday, 1857; reprinted 1962, pp. 396–413.
- Morris, Aldon D., and Carol McClurg (eds.), *Frontiers in Social Movement Theory*, New Haven: Yale University Press, 1992.
- Nohria, Nitin, and Robert G. Eccles (eds.), *Networks and Organizations: Structure, Form, and Action*, Boston, Mass.: Harvard Business School Press, 1992.
- North, Douglass C., *Structure and Change in Economic History*, New York: W. W. Norton & Co., 1981.
- Ohmae, Kenichi, *The End of the Nation-State: The Rise of Regional Economies*, New York: The Free Press, 1995.

- Parkman, Francis, *Montcalm and Wolfe: The Decline and Fall of the French Empire in North America*, New York: Collier, 1884; reprinted 1962.
- Perrow, Charles, *Complex Organizations: A Critical Essay*, 2nd Edition, Glenview, Ill.: Scott, Foresman and Company, 1979.
- Poggi, Gianfranco, *The Development of the Modern State: A Sociological Introduction*, Stanford: Stanford University Press, 1978.
- Polanyi, Karl, *The Great Transformation*, Boston, Mass.: Beacon Press, 1944; reprinted 1957.
- Powell, Walter W., "Neither Market Nor Hierarchy: Network Forms of Organization," Barry M. Staw and L. L. Cummings, ed., *Research in Organizational Behavior: An Annual Series of Analytical Essays and Critical Reviews*, Vol. 12, Greenwich, Conn.: JAI Press Inc., 1990, pp. 295–336.
- Powell, Walter W., and Laurel Smith-Doerr, "Networks and Economic Life," Neil J. Smelser and Richard Swedberg, eds., *The Handbook of Economic Sociology*, Princeton, N.J.: Princeton University Press & Russell Sage Foundation, 1994, pp. 368–402 (Chapter 15).
- Quester, George, *Offense and Defense in the International System*, New York: John Wiley, 1977.
- Reich, Walter, ed., *Origins of Terrorism: Psychologies, Ideologies, Theologies, States of Mind*, Cambridge, Mass.: Cambridge University Press, 1990.
- Reisman, W. Michael, and James E. Baker, *Regulating Covert Action*, New Haven, Conn.: Yale University Press, 1992.
- Rivers, Gayle, *The War Against the Terrorists: How to Win It*, New York: Stein and Day, 1986.
- Ronfeldt, David, "Cyberocracy Is Coming," *The Information Society*, Vol. 8, No. 4, 1992, pp. 243–296.
- , *Institutions, Markets, and Networks: A Framework About the Evolution of Societies*, Santa Monica, Calif.: RAND, DRU-590-FF, December 1993.
- , *Tribes, Institutions, Markets, Networks—A Framework About Societal Evolution*, Santa Monica, Calif.: RAND, P-7967, 1996.
- Ronfeldt, David, and Cathryn Thorup, *North America in the Era of Citizen Networks: State, Society, and Security*, Santa Monica, Calif.: RAND, P-7945, 1995.
- Rothschild, Emma, "What Is Security?" *Daedalus*, Vol. 124, No. 3, Summer 1995, pp. 53–98.
- Sahlins, Marshall D., *Tribesmen*, Englewood Cliffs: Prentice-Hall, 1968.
- Salamon, Lester M., "The Rise of the Nonprofit Sector," *Foreign Affairs*, Vol. 73, No. 4, July/August 1994, pp. 109–122.

- Schelling, Thomas C., *Arms and Influence*, New Haven, Conn.: Yale University Press, 1966.
- Schwartz, Winn, *Information Warfare: Chaos on the Electronic Superhighway*, New York: Thunder's Mouth Press, 1994.
- Service, Elman R., *Primitive Social Organization, An Evolutionary Perspective*, Second Edition, New York: Random House, 1971.
- , *Origins of the State and Civilization: The Process of Cultural Evolution*, New York: W.W. Norton and Company, 1975.
- Shils, Edward, "The Virtue of Civil Society," *Government and Opposition*, Vol. 26, No. 1, Winter 1991, pp. 3–20.
- Skolnikoff, Eugene B., *The Elusive Transformation: Science, Technology, and the Evolution of International Politics*, Princeton, N.J.: Princeton University Press, 1993.
- Smith, Arthur, *The Game of Go*, New York: Moffat, Yard and Co., 1908.
- Spiro, Peter J., "New Global Communities: Nongovernmental Organizations in International Decision-Making Institutions," *The Washington Quarterly*, Vol. 18, No. 1, Winter 1995, pp. 45–56.
- Sterling, Claire, *Thieves' World: The Threat of the New Global Network of Organized Crime*, New York: Simon & Schuster, 1994.
- Stern, Kenneth, *A Force upon the Plain: The American Militia Movement and the Politics of Hate*, New York: Simon & Schuster, 1996.
- Stockholm International Peace Research Institute, *World Annuals, 1991–1994*.
- Strassmann, Paul A., *The Politics of Information Management*, New Canaan, Conn.: The Information Economics Press, 1995.
- Summers, Harry G., Jr., *On Strategy: A Critical Analysis of the Vietnam War*, Novato, Calif.: Presidio Press, 1982.
- Szafranski, Colonel Richard, "Neo-Cortical Warfare? The Acme of Skill," *Military Review*, November 1994, pp. 41–55.
- , "A Theory of Information Warfare: Preparing for 2020," *Airpower Journal*, Spring 1995, pp. 56–65.
- Tainter, Joseph A., *The Collapse of Complex Societies*, New York: Cambridge University Press, 1988.
- Thorup, Cathryn L. "Politics of Free Trade and the Dynamics of Cross-Border Coalitions in U.S.-Mexican Relations," *Columbia Journal of World Business*, Vol. XXVI, No. II, Summer 1991, pp. 12–26.

- , *Redefining Governance in North America: The Impact of Cross-Border Networks and Coalitions on Mexican Immigration into the United States*, Santa Monica, Calif.: RAND, DRU-219-FF, 1993.
- , "Building Community Through Participation: The Role of Non-Governmental Actors in the Summit of the Americas," Robin Rosenberg and Steven Stein, eds., *Advancing the Miami Process: Civil Society and the Summit of the Americas*, Coral Gables, Fl.: North-South Center Press, 1995, pp. xiii–xxvi.
- Toffler, Alvin, *Future Shock*, New York: Random House Inc., 1970.
- , *Powershift: Knowledge, Wealth, and Violence at the Edge of the 21st Century*, New York: Bantam Books, 1990.
- Toffler, Alvin, and Heidi Toffler, *War and Anti-War: Survival at the Dawn of the Twenty-first Century*, Boston, Mass.: Little, Brown and Company, 1993.
- Van Creveld, Martin, *Technology and War: From 2000 B.C. to the Present*, New York: The Free Press, 1989.
- , *The Transformation of War*, New York: Free Press, 1991.
- Vaksberg, Arkady, *The Soviet Mafia*, New York: St. Martin's Press, 1992.
- Violence at Sea Database*, Monterey, Calif.: Naval Postgraduate School, 1995.
- Walzer, Michael, "The Idea of Civil Society: A Path to Social Reconstruction," *Dissent*, Spring 1991, pp. 293–304.
- Wapner, Paul, "Politics Beyond the State: Environmental Activism and World Civic Politics," *World Politics*, Vol. 47, No. 3, April 1995, pp. 311–340.
- Weinberger, Caspar, "The Uses of Military Force," Speech to the National Press Club, November 28, 1984.
- Williams, Phil, "Transnational Criminal Organizations and International Security," *Survival*, Vol. 36, No. 1, Spring 1994, pp. 96–113.
- , "Transnational Criminal Organizations: Strategic Alliances," *The Washington Quarterly*, Vol. 18, No. 1, Winter 1995, pp. 57–72.
- Williamson, Oliver E., *Markets and Hierarchies: Analysis and Antitrust Implications*, New York: The Free Press, 1975.
- Wylie, J. C., *Military Strategy: A General Theory of Power Control*, New Brunswick, N.J.: Rutgers University Press, 1967.

NETWAR: Information-age crime and conflict

The information revolution is leading to the rise of network forms of organization, with unusual implications for how societies are organized and conflicts are conducted. “Netwar” is an emerging consequence. The term refers to societal conflict and crime, short of war, in which the protagonists are organized more as sprawling “leaderless” networks than as tight-knit hierarchies.

Many terrorists, criminals, fundamentalists and ethnonationalists are developing netwar capabilities. A new generation of revolutionaries and militant radicals is also emerging, with new doctrines, strategies, and technologies that support their reliance on network forms of organization.

Historically speaking, netwar is about Mexico’s Zapatistas more than Cuba’s Fidelistas, Hamas more than the PLO, the Christian Identity Movement more than the Ku Klux Klan, the Asian Triads more than the Sicilian Mafia, and Chicago’s Gangsta Disciples more than the Al Capone Gang.

Netwar may be the dominant mode of societal conflict in the twenty-first century. This is one conclusion implied by the evolution of societies, according to a framework presented in this RAND study.

The emergence of netwar implies the need to rethink strategy and doctrine to conduct counternetwar. Traditional notions of war and low-intensity conflict as a sequential process based on massing, maneuvering, and fighting will likely prove inadequate to cope with nonlinear, swarm-like, information-age conflicts in which societal and military elements are closely intermingled. Netwar is more like the Oriental game of Go than like the Western game of chess.

ISBN 0-8330-2414-0



MR-789-OSD