

Dr. Norman Friedman

Norman Friedman is a strategist known for his ability to meld historical, technical, and strategic factors in analyses of current problems. He has often appeared on television (on the History, Discovery, and other channels, including Public Television) and he has published 32 books, ranging from accounts of recent wars in Afghanistan and Iraq to histories of the Cold War to accounts of naval strategy and technology. He writes a monthly column on world and naval affairs for the Proceedings of the U.S. Naval Institute and his writing has appeared widely in periodicals, including the *Wall Street Journal* and the Los Angeles Times. His Cold War history, *The Fifty Year War: Conflict and Strategy in the Cold War*, won the 2001 Westminster Prize for the best military history book of the previous year, from the British Royal United Services Institute. His *Seapower as Strategy* won the Samuel Eliot Morrison prize awarded by the Naval Order of the United States in November 2002.

Dr Friedman has testified before the U.S. House and Senate on U.S. Navy programs, most recently in 2006, on the possible effects on the navy of a shortage of oil. He has lectured widely in forums such as the U.S. Naval War College, the Naval Postgraduate School, the Industrial College of the Armed Forces, the Air War College, the Australian and Canadian junior and senior national staff colleges, the Royal United Services Institute, the British Ministry of Defence, and at a series of seminars for the Naval Air Systems Command managed by the University of Virginia. In the fall of 2002 Dr. Friedman served as the Royal Australian Navy's Synott Professor, lecturing on seapower in several Australian cities. For some years he was Visiting Professor of Operations Research (for the naval architecture course) at University College, London, concerned mainly with the formulation and consequences of ship operational requirements. For about twenty years Dr. Friedman has presented annual series of commercial lectures (for defense and naval professionals) on various defense topics. A hallmark of these lectures is their firm grounding in current international political and even social trends, rather than simply in technology.

Educated as a theoretical physicist at Columbia University and at an IBM Laboratory associated with the University, Dr. Friedman spent ten years at a U.S. think tank, the Hudson Institute. Much of his work there involved writing scenarios for possible future conflicts -- many in places which are still of great interest, such as Korea. Scenario-writing demands the ability to focus on the essentials of a situation, and on the forces likely to drive it. Joining Hudson in 1973, Dr. Friedman left in 1984 as Deputy Director for National Security Studies. He then spent a decade as in-house consultant to the Office of Program Appraisal of the Secretary of the Navy. Among his projects for that office was a series of studies of likely future developments in various areas, beginning with the fundamentalist Muslim uprising then enveloping Algeria. Later Dr. Friedman served as a futurologist for the U.S. Marine Corps headquarters in 2002-2004.

Topics Dr. Friedman has studied under contract to government agencies and to major government contractors have included the current defense transformation effort (as reflected in attempts to develop network-centric types of warfare), naval command and control as a model for network-centric warfare, the development of U.S. and British aircraft carriers (for the Naval Sea Systems Command and for the Office of Net Assessment, respectively), missile defense, the future shape of the U.S. Marine Corps, the contribution of the U.S. Coast Guard to homeland defense, the future of the U.S. aerospace industry, U.S. strategic targeting and competitive policies, scenarios for conflict in Europe and Asia, the cost of current and future naval aircraft, and nuclear proliferation (incentives and deterrents), and the tactics of long-range anti-ship missiles (which turned out to be an early application of network-centric warfare). He is currently working on a study for the Office of Net Assessment on the U.S. use of British innovations to solve major aircraft carrier problems after World War II, and on a study of the likely impact of unmanned (but armed) air vehicles.

Dr. Friedman's latest book is *Network-Centric Warfare: How Navies Learned to Fight Smarter in Three World Wars*. It uses a century of naval command and control experience to explain how the new networked form of warfare works, and what is required to make it work. This book draws on Dr. Friedman's experience of applying network concepts to targeting long-range naval missiles, and on his years of teaching network-centric warfare at U.S. Navy laboratories and at numerous commercial venues. Dr. Friedman's has

published 33 other books, most recently *Naval Firepower*, which describes gunnery in the battleship era. It examines the way in which gunnery technology and information technology affected tactics in the two World Wars, and also the way in which key technology was transferred among the major navies. His *British Destroyers and Frigates: The Second World War and After* describes the way in which the Royal Navy sought to maintain its capability despite severe financial problems in a period of drastically changing technology and strategic realities -- which may be read as a parable of current U.S. Navy concerns. A forthcoming book on British destroyers before the Second World Wars describes the Royal Navy's response to the revolutionary effect of the torpedo, an earlier revolution in military affairs offering lessons for the present.

Other recent books are *Terrorism, Afghanistan, and America's New Way of War* and *The Cold War Experience*, a short history of the Cold War with accompanying reproduced documents. Others include *Seapower as Strategy*, an account of modern naval strategy; *U.S. Amphibious Ships and Craft: An Illustrated Design History*; a history of the Cold War, *The Fifty-Year War: Conflict and Strategy in the Cold War*; and *Seapower and Space*, an account of the role that space and information assets now play in naval warfare (published in translation in Taiwan). He published an analysis of the strategy and tactics of the 1991 Gulf War, *Desert Victory* (Naval Institute Press; published in translation in Japan and in Taiwan). Other books are five editions of *The Naval Institute Guide to World Naval Weapon Systems* (the latest of which has just been published), *Naval Radar*, *U.S. Naval Weapons* (covering all U.S. systems, 1883-1983), *The U.S. Maritime Strategy*, design histories of U.S. warships (volumes on cruisers, destroyers, battleships, carriers, small combatants, amphibious ships and craft, and submarines; a revised version of the destroyer book was published in 2004), *Submarine Design and Development*, *Modern Warship Design and Development*, *British Carrier Aviation*, *Carrier Air Power* (the interaction of carrier and aircraft design, on a historical basis), *The Postwar Naval Revolution*, and *Battleship Design and Development*. Many of these books are concerned with the tactical and strategic consequences of particular technological developments. Dr. Friedman is co-author of a book on the rise of aircraft carriers as a case study of a Revolution in Military Affairs, as it affected the U.S., British, and Japanese navies. He wrote the U.S. and Soviet sections of *Conway's All The World's Fighting Ships 1947-82* (and of the revised 1947-95 edition), the U.S. section of the 1922-46 volume, and the U.S. and Japanese sections of the 1906-21 volume of that series. He was editor of and contributor to the post-1945 naval volume of the *Conway History of the Ship (Navies in the Nuclear Age)* and wrote the chapter on the effect of the postwar naval technological revolution for the Oxford University Press history of the Royal Navy. He contributed the chapter on naval electronic systems to a recent Frank Cass book on the post-1945 Royal Navy, and chapters on maritime strategy to a recent Routledge book on maritime policy. Dr. Friedman's cold war history, *The Fifty-Year War: Conflict and Strategy in the Cold War*, won the 2001 Westminster Prize for the best English-language military book of 2000, awarded by the Royal United Services Institute.

Dr. Friedman contributed the chapters on naval strategy and technology for the Routledge book on naval policy. Projects include and a history of navies and their operations during the Cold War.

Dr. Friedman's articles have appeared in, among others, *Joint Forces Quarterly*, *Jane's International Defence Review*, *Asian Pacific Defence Reporter*, *Defense Electronics*, the *Journal of Electronic Defense*, *The International Countermeasures Handbook*, *Armada*, *Defence*, *ORBIS*, *Military Technology*, *Naval Forces*, *Jane's Navy International*, *Signal*, *The Wall Street Journal* (U.S., European, and Far Eastern editions), *DPA*, the *RUSI Journal*, the *Journal of Cold War Studies*, and the *Proceedings* of the U.S. Naval Institute. A long-time consultant to the media, he frequently appeared on New York and national television during the Falklands and Gulf Wars and in connection with the Somalia, Bosnia, and post-Gulf War Iraq crises. He also appeared on a variety of television shows, including specials on various forms of weaponry, on warships, and on the Gulf War for the Discovery and History networks and the "Warplanes," "Warship," and "Seapower," series and NOVA on the U.S. Public Broadcasting System.

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