

anticipate the attack “not for want of the relevant materials, but because of a plethora of irrelevant ones.” The “noise” of extraneous information, in other words, drowned out the “signal” of useful clues. In reality, Kahn states, there *was* a dearth of intelligence materials. “Not one [diplomatic or naval] intercept, not one datum of intelligence ever said a thing about an attack on Pearl Harbor.”

Some critics, including Admiral Husband Kimmel, the naval commander at Pearl, have found it hard to reconcile the complete surprise of the attack with the fact that U.S. cryptanalysts in September 1940 had scored a great triumph: They cracked the Empire of Japan’s most secret diplomatic cipher. The Americans dubbed it PURPLE. In the succeeding months, the intercepted Japanese diplomatic messages corroborated other evidence that a crisis was approaching. On July 31, 1941, for example, the foreign minister in Tokyo told Japan’s ambassador in Washington that “There is more reason than ever before for us to arm ourselves to the teeth for all-out war.” But, Kahn points out, “the Japanese

diplomatic PURPLE and other intercepts did not reveal military or naval plans. The [U.S.] Army had not solved any Japanese army codes because it could not intercept enough messages. The Navy had made scant progress on the main Japanese operations code . . . .”

After Pearl Harbor, Kahn notes, U.S. codebreaking played a vital role in the Allied war effort. The cracking of Japanese naval codes made possible “three critical American victories: the battle of Midway, the midair assassination of Japan’s leading strategist and architect of the Pearl Harbor attack, Admiral Isoroku Yamamoto, and the strangling of the island empire through the sinking of its merchant marine.” British-American exploitation of the German Enigma cipher machine helped defeat Germany’s U-boats and land forces. And the breaking of PURPLE “later yielded astonishing insights into Hitler’s plans, gleaned from the messages of the Japanese ambassador in Berlin.” All that hastened the war’s end, but the Allies had no knowledge that could have averted the tragedy at Pearl Harbor.

### *Why Nukes Will Not Spread*

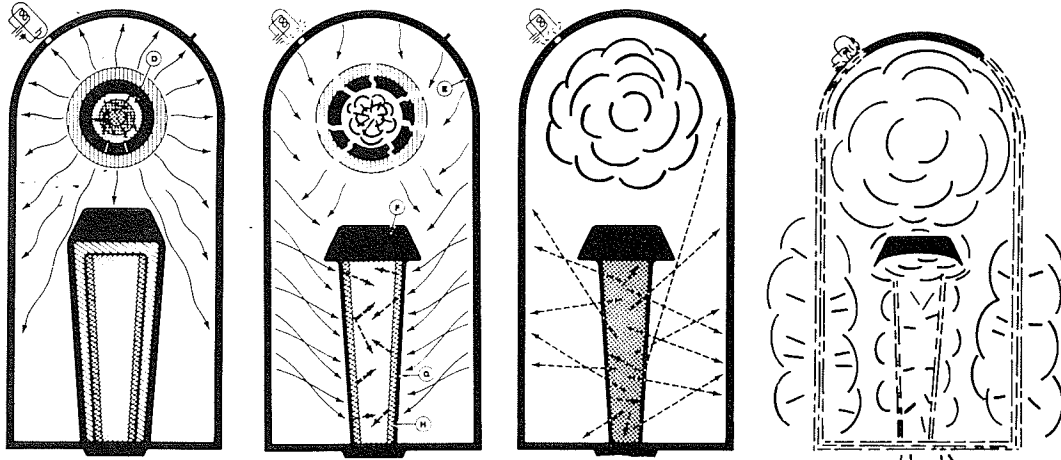
“Winning the Nonproliferation Battle” by Thomas W. Graham, in *Arms Control Today* (Sept. 1991), 11 Dupont Cir., Washington, D.C. 20036.

Stopping the proliferation of nuclear weapons now seems more urgent than ever. In recent months, the United States has been trying to prevent North Korea from joining the nuclear club, and it has pressured China and India not to sell reactors to Iran. Despite such challenges, Graham, a former official at the U.S. Arms Control and Disarmament Agency who is now with the University of California’s Institute on Global Conflict and Cooperation in San Diego, is confident that the spread of nuclear weapons can be halted.

Nuclear proliferation, Graham maintains, is a much less intractable problem than many strategists think. Past efforts to curb it, he points out, “have been extremely successful, especially given the meager resources . . . devoted to the task.” Today, outside the five declared nuclear

powers, only a relatively small number of “problem countries” have or are close to having nuclear weapons. India, Israel, Pakistan, and South Africa, despite formal denials, have either nuclear weapons or the ability to build them within days or weeks. They are *de facto* nuclear powers. Four other nations—Argentina, Brazil, South Korea, and Taiwan—have the technical capability to build nuclear weapons within just a few years, although none now appears likely to do so. And five nations—Algeria, Iran, Iraq, Libya, and North Korea—seem to desire nuclear weapons, although getting them will not be easy.

There is no evidence that this list of “problem countries” is growing, Graham says. In fact, many nations that once were considering nuclear efforts—among them, Egypt, Indonesia, Spain, Sweden, and Tur-



These instructions showing how to trigger a hydrogen bomb were published amid much controversy in 1979. But actually building nuclear weapons remains extremely difficult.

key—no longer are. In the mid-1970s, the United States forced South Korea and Taiwan to reverse their nascent nuclear-weapons programs. In the early 1980s, the United States, using diplomatic pressure on other nations, was able to block Libya from buying nuclear technology abroad. More recently, thanks in part to international pressure, Argentina and Brazil, which under military rule had been pursuing a nuclear-weapons capability for decades, brought their nuclear competition to an apparent end. Since the Persian Gulf War, international attention on Iraq has made any effort to rebuild a covert nuclear-weapon program there extremely difficult. And South Africa, which has signed the 1968 Nuclear Nonproliferation Treaty, could become the first former *de facto* nuclear-weapon state.

Some analysts worry that the end of the

Cold War could prompt new countries to seek nuclear weapons, but Graham says that such “abstract thinking” ignores the lessons of the past. In almost all cases—Britain and France being notable exceptions—nations that have “gone nuclear,” he says, have done so mainly because they faced “an acute security threat from a nuclear-armed adversary that also had a substantial conventional military capability.” Such a threat, he says, is unlikely to appear in Europe or—unless North Korea goes nuclear—in East Asia.

Moreover, building a nuclear bomb is no easy matter. It requires “a wide array of advanced technology, and a huge and expensive industrial infrastructure.” The long lead time involved gives outsiders time to cut off needed technology, exert diplomatic pressure, or take covert action to snuff out the nuclear efforts.

## ECONOMICS, LABOR & BUSINESS

### Help Wanted?

“The Myth of the Coming Labor Shortage” by Lawrence Mishel and Ruy A. Teixeira, in *The American Prospect* (Fall 1991), P.O. Box 7645, Princeton, N.J. 08543-7645.

The United States will soon face a serious labor shortage, with an increasing demand for highly skilled workers and a greatly in-

sufficient supply. So concluded *Workforce 2000*, the oft-quoted 1987 report done by the Hudson Institute for the U.S. Labor De-