The Mixed Blessing of Israel's Nuclear Policy | *Zeev Maoz*

Most observers seem to agree on three issues regarding Israel's nuclear policy. First, Israel's acquisition of a significant nuclear capability occurred over a relatively long period of time. Second, its policy of nuclear ambiguity has been balanced and sound, enabling Israel to develop a nuclear arsenal while maintaining close relations with the United States and other countries committed to nuclear nonproliferation. Third, and most important, Israel's decision to build a nuclear capability while publicly adhering to a policy of nuclear ambiguity has proven effective, perhaps exceeding even the expectations of the country's founders.

According to the conventional wisdom, which not only appears in much of the scholarly literature but also reflects the predominant belief within the Israeli policy and security communities, Israel's nuclear policy has accomplished three fundamental objectives. First, as its creators anticipated, the policy has deterred an all-out Arab attack since the 1967 Six Day War. Second, it has been instrumental in modifying the military objectives of Israel's adversaries, forcing them to shift their operational planning to limited war scenarios. Third, by helping to bring Arab states to the negotiating table, it has provided impetus to the conclusion of several peace treaties.

On closer inspection, however, these conclusions require fundamental revision. Contrary to the conventional wisdom, I argue that the balance sheet of Israel's nuclear policy is decidedly negative: Not only did the policy fail to deter Arab attacks in 1973 and 1991, but it has been unrelated or only marginally

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related to Arab decisions to make peace with the Jewish state. Moreover, the policy has had two major adverse side effects, the magnitude of which is only now becoming clear in light of developments in the Middle East in the last decade. First, the policy has been instrumental in fueling a nonconventional arms race in the region. Second, it has had negative implications for Israel's democracy and political control of national security affairs. Given these findings, I argue that Israel should refocus its nuclear policy to explore ways to leverage its nuclear capability to bring about regional agreement on a weapons of mass destruction–free zone in the Middle East.

This study is organized as follows: First, I review the major arguments suggesting the continued success of Israel's nuclear policy. I present the evidence on which these arguments are based and show why it is tautological, nonexistent, weak, or only marginally relevant. Second, I examine the policy's antidemocratic implications. Finally, I derive policy implications for the future of Israeli nuclear deterrence and arms control policy.

Israel's Nuclear Policy: Arguments, Data, and Problems

Any policy evaluation must begin with a clear conception of the underlying goals of that policy. In light of these goals, it is then possible to assess whether and to what extent the policy has achieved its stated objectives. It is also necessary, however, to consider the policy's side effects—that is, outcomes other than the policy's declared aims.[1] A key problem in analyzing a state's strategic decisionmaking involves efforts to determine the impact of a counterfactual policy on a given historical process.[2] Despite this difficulty, once the goals and side effects of a policy are specified, an evaluation becomes more feasible (although a definitive assessment may remain beyond reach). Finally, as with administering medicine to a patient, an assessment of whether the medicine is doing more harm than good is essential.

In evaluating Israel's nuclear program, it is useful to discuss its political origins. Following the Sinai/Suez War of 1956, the French government agreed

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1. Frans L. Leeuw, "Policy Theories, Knowledge Utilization, and Evaluation," in Ray C. Rist, ed., *Policy Evaluation: Linking Theory to Practice* (Aldershot, U.K.: Edward Elgar, 1995), pp. 19–37; Lawrence B. Mohr, *Impact Analysis for Program Evaluation* (Thousand Oaks, Calif.: Sage, 1995); and David Nachmias, *Public Policy Evaluation: Approaches and Methods* (New York: St. Martin's, 1979).
2. Mohr, *Impact Analysis for Program Evaluation,* chap. 1. The methodological and theoretical problems connected with the analysis of counterfactuals in international politics are too elaborate to consider here. For more on the issue, see James D. Fearon, "Counterfactuals and Hypothesis-Testing in Political Science," *World Politics,* Vol. 43, No. 2 (January 1991), pp. 169–195; and Richard Ned Lebow, "What's So Different about a Counterfactual?" *World Politics*, Vol. 52, No. 4 (July 2000), pp. 550–573.

to supply Israel with a nuclear reactor and natural uranium. The reactor was built secretly near the city of Dimona in southern Israel. Initial details of its existence were revealed in 1961, when the Israeli government announced that the facility would focus on nonmilitary nuclear research. Meanwhile, Israeli policymakers debated the pros and cons of developing a nuclear weapons program. Heading the pronuclear weapons group were David Ben-Gurion, Israel's first prime minister; Moshe Dayan, a former chief of staff and minister of agriculture; and Shimon Peres, director-general of the Israeli defense ministry. Leading opponents included Ministers Yigal Allon and Israel Gallili, as well as key members of the general staff of the Israel Defense Forces (IDF) such as Chief of Staff Zvi Zur and Yitzhak Rabin, head of the operations branch.[3] The timing of Israel's decision to develop nuclear weapons is unclear, but indications suggest that it was in late 1962 or early 1963.[4]

Israel's drive for a nuclear weapons capability originated with a doomsday scenario first put forward in the 1950s. The scenario brought together three major Israeli concerns: (1) the prospect of a unified Arab coalition starting an all-out war aimed at the total destruction of the Jewish state; (2) the military advantage in both quantitative terms (e.g., size of armed forces and number of basic weapons systems) and qualitative terms (especially in the realm of weapon systems capability) that such a coalition would enjoy; and (3) the widespread international support (including from the Soviet Union) that this coalition would likely face—compared with the political isolation that Israel could anticipate.[5]

Yet contrary to the conventional wisdom, which holds that the possession of nuclear weapons cannot be kept secret if they are to be an effective deterrent, Israel's policymakers decided on a policy of nuclear ambiguity. This policy has

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3. Opponents argued that Israel possessed sufficient conventional capability to deter an attack by an Arab coalition or to launch its own attack against such a coalition. See Avner Cohen, *Israel and the Bomb* (New York: Columbia University Press, 1998); and Yair Evron, "Israel and the Atom: The Uses and Misuses of Ambiguity," *Orbis*, Vol. 17, No. 4 (Winter 1974), pp. 1326–1343.

4. Detailed accounts of the history of Israel's nuclear project include Cohen, *Israel and the Bomb;* Evron, "Israel and the Atom"; Shlomo Aronson with Oded Brosh, *The Politics and Strategy of Nuclear Weapons in the Middle East: Opacity, Theory, and Reality, 1960–1991* (Albany: State University of New York Press, 1992); Yair Evron, *Israel's Nuclear Dilemma* (Ithaca, N.Y.: Cornell University Press, 1994); Seymour M. Hersh, *The Samson Option: Israel's Nuclear Arsenal and American Foreign Policy* (New York: Random House, 1991); and Warner D. Farr, "The Third Temple Holy of Holies: Israel's Nuclear Weapons," Counterproliferation Papers, Future Warfare Series No. 2 (Maxwell, Ala.: U.S. Air War College, September 1999), http://www.fas.org/nuke/guide/israel/nuke/farr.htm.

5. Cohen, *Israel and the Bomb,* pp. 11–14; Michael Bar-Zohar, *Ben-Gurion*, Vol. 3 (Hebrew) (Tel Aviv: Zmora-Bitan, 1987), pp. 1550–1553; Avner Yaniv, *Politics and Strategy in Israel* (Hebrew) (Tel Aviv: Sifriat Poalim, 1994), pp. 13–19; and Yigal Allon, *A Curtain of Sand* (Hebrew) (Tel Aviv: Ha'Kibbutz Ha'Meuchad, 1968), pp. 13–165.

two major components. The first is secrecy: Israel would develop nuclear weapons but refrain from either testing them openly or formally announcing their existence. The second involves signaling: Through a series of leaks and veiled statements, the spread of rumors, and other political actions (e.g., refusal to sign the 1968 Nuclear Nonproliferation Treaty, or NPT), Israel would bolster its nuclear image—an image comprising indirect evidence of an existing nuclear capability and hints of a deterrence doctrine. In Israel's case, the doctrine of nuclear ambiguity is embodied in the "Samson option"—namely, the use of nuclear weapons only as weapons of last resort. Adherents of this policy argue that Israeli nuclear ambiguity not only fosters deterrence but also allows the government to minimize the adverse political, military, and diplomatic ramifications of Israel's regional nuclear monopoly.[6] From the beginning, the government has rigidly adhered to a policy of nuclear ambiguity while continuing to oversee the production of nuclear weapons and delivery systems. According to some sources, by the mid-1990s Israel possessed 100–200 nuclear weapons, including surface-to-surface missiles (SSMs) and submarine-launched ballistic missiles.[7]

Below I discuss and then evaluate the arguments and evidence that Israeli strategists have marshaled to support the government's policy of nuclear ambiguity.

THE AMBIGUOUS PERFORMANCE OF ISRAELI NUCLEAR DETERRENCE
The majority of Israeli strategists contend that Israel's nuclear policy has accomplished its principal objective of deterring an all-out Arab attack aimed at the annihilation of the Jewish state.[8] Support for this argument rests on the nonoccurrence of such an attack. Since evidence of Israel's nuclear capability

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6. Israel's posture of nuclear ambiguity was not borne out of military strategic considerations, but rather out of a need to fend off U.S. pressure to join the NPT and to open nuclear installations to outside inspection. Cohen, *Israel and the Bomb,* pp. 142–147, 205–217; and Hersh, *The Samson Option,* pp. 59–70.
7. Sources on Israel's nuclear arsenal include Russian Federation intelligence estimates released on April 19, 1995. See Aluf Ben, "Soviet Intelligence Reveals Israel's Nuclear Capability," *Ha'aretz,* April 20, 1995, p. 2; and semiofficial estimates by nongovernmental organizations, including *Jane's Intelligence Review,* September 1997, and the American Federation of Scientists, http://www.fas.org/nuke/guide/index.html. For data resources on these issues, see http://first.sipri.org/. On nuclear cruise missiles launchable from Israeli submarines, see Nathan Guttman, "Report: Israeli Submarines Possess Nuclear Cruise Missiles," *Ha'aretz,* June 16, 2002, p. 3.
8. The extent to which nuclear ambiguity was a key to this success is the subject of much debate. For an argument against ambiguity, see Shai Feldman, *Israel's Nuclear Deterrence: A Strategy for the 1980s* (New York: Columbia University Press, 1982). For a pro-ambiguity argument, see Evron, *Israel's Nuclear Dilemma.* See also interviews with Shai Feldman and Shlomo Aronson, in Bob Levin with Milan J. Kubic, "Should Israel Build a Nuclear Bomb?" *Newsweek,* May 4, 1981, p. 42.

first surfaced in the late 1960s, however, there has been no indication of either the political buildup or operational planning for an all-out Arab assault, though there have been at least two instances of Arab states forming ad hoc coalitions to attack Israel: in May–June 1967 and October 1973. In both cases, the Arabs formulated limited operational plans to achieve limited territorial and political objectives.

Over the years, many Israeli decisionmakers have viewed the vehement anti-Israeli—and sometimes anti-Semitic—rhetoric of Arab leaders, journalists, intellectuals, and others as significant evidence of an overall intent to destroy the Jewish state.[9] Before 1967, direct and indirect references to this objective were particularly common. Although still employed by extremist groups, this rhetoric is no longer integral to the political discourse of most Arab regimes, even those still in a declared state of war with Israel.[10] Goals such as the reoccupation of the territories captured by Israel in 1967 and the creation of a contiguous Palestinian state have assumed greater importance. Moreover, even after the outbreak of the second intifada (uprising) in September 2000, there has been little evidence that the Arab states—or for that matter most Palestinian leaders—seek to revive the notion of eliminating the state of Israel.[11]

This evidence seems to support the argument of Israeli strategists that Israel's nuclear policy has essentially accomplished its principal aim: shifting the strategic objectives of Arab states to reflect a growing awareness of the futility of trying to destroy Israel. Although a number of other reasons may account for the absence of an all-out Arab attack, perceptual evidence suggests a meaningful change in Arab rhetoric that largely parallels developments in Israel's nuclear capabilities. By association, Israeli strategists conclude that the

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9. See Yehoshafat Harkabi, *Arab Attitudes to Israel* (London: Vallentine, Mitchell, 1972).

10. Compare Yehoshafat Harkabi's discussion of Arab rhetoric in his *Arab Attitudes to Israel* (originally published in Hebrew in 1968) to his discussion of Arab rhetoric in the post–Six Day War period, in Harkabi, *Arab Attitudes and Israel's Response* (New York: Free Press, 1975).

11. In this regard, the most recent and dramatic shift is the Arab League's resolution of March 28, 2002, to adopt the Saudi initiative. According to this resolution, in return for full Israeli withdrawal to the June 4, 1967, lines and the establishment of a Palestinian state, the Arab states would (1) agree to end the Arab-Israeli conflict, enter into a peace agreement with Israel, and provide security for all states in the region; and (2) establish normal relations with Israel. See Associated Press report in *New York Times*, March 29, 2002, p. A14. This initiative was incorporated in President George W. Bush's "road map" of September 17, 2002. See http://www.mideastweb.org/quartetrm2.htm. The most comprehensive account of Israel's nuclear image in Arab eyes is Ariel Levite and Emily Landau, *Israel's Nuclear Image: Arab Perceptions of Israel's Nuclear Posture* (Hebrew) (Tel Aviv: Pappyrus, Tel Aviv University Press, 1994).

government's nuclear doctrine has greatly influenced the shift toward Arab moderation.

A fundamental assumption of the doctrine of deterrence is the presence of a threat to some aspect of a state's national security. The threat may consist of one or more observable enemies with hostile intent and the capabilities to carry out their objectives. Deterrence rests on the defender's belief that, in the absence of a credible deterrent threat, the challenger will seek to alter the status quo by force.[12] The threat assessment of Ben-Gurion and his associates, for example, was based on four realities: (1) the all-out Arab attempt to unmake the new state of Israel in 1948, followed by numerous infiltrations into Israel from Egypt and Jordan prior to the 1956 Sinai War; (2) the hostile rhetoric of Arab political elites, which established the intent element in the threat perception; (3) the demographic and territorial asymmetry between Israel and its Arab neighbors that made the threat seem very real; and (4) the simultaneous existence of at least three, and possibly as many as seven, hostile Arab states, illustrating the need to take the capabilities of these states into account when calculating the balance of forces in the region.[13]

Given these realities, the basic rationale of Ben-Gurion and his colleagues for developing a nuclear insurance policy would appear to have been fundamentally sound. There is one problem, however: Israeli scholars' evaluation of the performance of the doctrine of deterrence has historically assumed that this perception accurately reflected the objective reality, thus treating it as the factual foundation of their analyses.[14] As a result, instead of performing independent strategic analyses grounded in classical principles of threat assessment, these scholars have bought into the rhetoric of Israeli advocates of nuclear deterrence.

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12. Zeev Maoz, *Paradoxes of War: On the Art of National Self-Entrapment* (Boston: Unwin Hyman, 1990), pp. 66–67.

13. David Ben-Gurion, *The Renewed State of Israel,* Vol. 1 (Hebrew) (Tel Aviv: Am Oved, 1969), pp. 518–526; Bar-Zohar, *Ben-Gurion,* Vol. 3, pp. 1359–1363; Cohen, *Israel and the Bomb,* pp. 9–14; Avner Yaniv, *Deterrence without the Bomb: The Politics of Israeli Strategy* (Lexington, Mass.: D.C. Heath, 1987), pp. 12–19; Yaniv, *Politics and Strategy in Israel,* pp. 14–21; Evron, *Israel's Nuclear Dilemma,* pp. 5–10; Hersh, *The Samson Option,* pp. 22–23; and Shai Feldman, *Nuclear Proliferation and Arms Control in the Middle East* (Cambridge, Mass.: MIT Press, 1997), pp. 95–96.

14. Writings on Israeli conventional deterrence have this same tendency. See, for example, Yaniv, *Deterrence without the Bomb;* Jonathan Shimshoni, *Israel and Conventional Deterrence: Border Warfare from 1953 to 1970* (Ithaca, N.Y.: Cornell University Press, 1988); John J. Mearsheimer, *Conventional Deterrence* (Ithaca, N.Y.: Cornell University Press, 1983); and Yoav Ben-Horin and Barry R. Posen, *Israel's Strategic Doctrine* (Santa Monica, Calif.: RAND, 1981).

Israeli threat perceptions in the 1950s were only partly accurate. For the doomsday scenario to have had a basis in fact, evidence of two related processes was essential: (1) multilateral political cooperation among Arab states, and (2) a sustained Arab military mobilization effort. An examination of inter-Arab politics and of the military policies of key Arab states strongly suggests that neither of these processes was evident in the second half of the 1950s and first half of the 1960s, a critical period in Israeli nuclear decisionmaking. Instead, from 1957 to 1973, inter-Arab relations were characterized primarily by political and military strife.[15]

Following the 1956 Sinai War, Egyptian President Gamal Abdel Nasser adopted a radical pan-Arab policy aimed at creating a unified Arab camp. To some observers, the radical uprising in Iraq and the multiple attempts to overthrow King Hussein in Jordan—not to mention the 1958–61 union between Egypt and Syria—were clear indications that Nasser's brand of pan-Arabism was gaining widespread support. With the 1962 outbreak of civil war in Yemen, however, Nasser's allegiance to pan-Arabism was exposed as a sham.[16] The Yemeni civil war split the Arab world, with the South Yemenis and Egyptian forces on one side and the North Yemenis and their Saudi ally on the other.[17] Later, during the May–June 1967 crisis, Arab unity seemed to reemerge, with Arab states rallying to support Nasser's campaign against Israel. The evidence suggests, however, that the rhetoric of Arab unity was not matched by a commitment to act. The governments of Syria and Jordan did the minimum to help Egypt during the war.[18] Between the 1967 and 1973 wars, Arab states increasingly disagreed over how to deal with Israel. Egypt, for

15. On inter-Arab politics during this era, see Eli Podeh, *The Quest for Hegemony in the Arab World: The Struggle over the Baghdad Pact* (New York: E.J. Brill, 1995); Malcolm H. Kerr, *The Arab Cold War: Gamal Abd al-Nasir and His Rivals* (Oxford: Oxford University Press, 1971); Patrick Seale, *The Struggle for Syria: A Study of Post-War Arab Politics, 1945–1958* (London: I.B. Tauris, 1986); Peter Snow, *Hussein* (London: Barrie and Jenkins, 1972); and Anthony Nutting, *Nasser* (London: Constable, 1972), pp. 196–293.
16. Kerr, *The Arab Cold War,* pp. 27–43; and Abraham Sela, *The Decline of the Arab-Israeli Conflict: Middle East Politics and the Quest for Regional Order* (Albany: State University of New York Press, 1998), pp. 41–54.
17. Another episode suggesting the divisive role that the Israeli factor played in inter-Arab politics is the effort to develop a joint Arab policy with respect to the Israeli Kinneret-Negev irrigation project during the January and September 1964 Arab summits. See Sela, *The Decline of the Arab-Israeli Conflict,* pp. 61–67.
18. For documentation of Syrian inactivity during the 1967 conflict, see Maoz, *Paradoxes of War,* pp. 209–212; and Patrick Seale, *Asad: The Struggle for the Middle East* (Berkeley: University of California Press, 1988), pp. 137–140. On Jordan, see Ephraim Kam, ed., *Hussein Starts a War* (Hebrew) (Tel Aviv: Ma'arachot, 1974), pp. 25–108.

example, repeatedly indicated interest in reaching a separate deal that would allow it to regain control over the Sinai Peninsula. Syria, meanwhile, led the rejectionist front.[19]

The human and material effort that Egypt and Syria expended on their military forces during this period was clearly inconsistent with the Israelis' threat perception.[20] Around the time the government was deciding to build the Dimona nuclear reactor, the investment in military manpower and hardware by the Arab confrontation states was at best marginal. Egypt, Israel's primary opponent, was ruled by a military regime that relied on the armed forces for its political survival. In 1957 Egypt had approximately 95,000 soldiers, less than 0.5 percent of its population of about 24 million. Defense spending for that year was $224 million, or about 6 percent of the country's gross domestic product (GDP).[21] Meanwhile, Syria had an armed force of some 60,000 troops and a defense budget of about $39 million (2.8 percent of Syrian GDP). Defense spending figures for other Arab states that could have potentially posed an existential threat to Israel were even lower.

Evidence of Arab weakness is also illuminated in the writings of key Arab military and political analysts, as well as in the speeches of Nasser himself. Writing in the Egyptian daily *al-Ahram* on September 25, 1964, Mohammed Hassanin Heikal (a Nasser confidant) stated that for the Egyptian leader, a successful Arab strike against Israel had three preconditions: (1) the concentration of superior Arab military force, (2) Arab unity, and (3) the diplomatic isolation of Israel. Nasser admitted on several occasions during the 1960s, however, that the first condition was far from being fulfilled, and that a premature provoca-

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19. Yoram Meital, *Egypt's Struggle for Peace: Continuity and Change, 1967–1977* (Gainesville: University Press of Florida, 1997), pp. 41–76; Seale, *Asad,* pp. 185–194; and Sela, *The Decline of the Arab-Israeli Conflict,* pp. 97–132. For a discussion of the extent of disagreement among Arab leaders in the wake of the 1967 war, see Abdel Magid Farid, *Nasser: The Final Years* (Reading, Berkshire: Ithaca Press, 1994), especially pp. 51–67, 109–122.

20. Sources for these figures include the Project on the Quantitative History of the Arab-Israeli Conflict and the Peace Process, Tel Aviv University, http://spirit.tau.ac.il/poli/faculty/maoz/conflict/introduct.html; and *COW Military Capability Dataset* (Ann Arbor, Mich.: Correlates of War Project, 1997), http://cow2.la.psu.edu/. In late 1962, during debate over whether to convert the Dimona reactor into a nuclear weapons facility, the members of the IDF general staff argued that the conventional balance of forces was becoming increasingly important both in a deterrence sense and in terms of its effect on war outcomes. See Evron, *Israel's Nuclear Dilemma,* pp. 6–7; and Cohen, *Israel and the Bomb,* pp. 148–151.

21. The government's efforts to increase Egypt's military capabilities were a response to the Israeli raid in Gaza on February 28, 1955. The raid convinced Nasser that his army was weak and badly equipped, and could not withstand an Israeli attack. See Mohammed Hassanin Heikal, *The Sphinx and the Commissar: The Rise and Fall of Soviet Influence in the Arab World* (London: Collins, 1978), p. 58; and Nutting, *Nasser,* p. 97.

tion of war against Israel would betray the Arab cause.[22] It also seemed that individual Arab states were more interested in finding ways to catch up with Israel's growing conventional and nonconventional power than in cooperating with each other. As for the third precondition, Israel was briefly gripped by a sense of fear and desperation following the Soviet Union's decision in the fall of 1955 to provide Egypt with top-of-the-line military hardware. At the time, Israel was still subject to a weapons embargo imposed by Britain, France, and the United States in 1950.[23] By the summer of 1956, however, and even more so after the October Sinai War, this fear had largely dissipated, as Israel started to receive shipments of French military hardware whose quality and quantity matched or surpassed the weapons systems being supplied to the Egyptians by the Soviets.[24]

Following Israel's 1957 withdrawal from the Sinai, Israeli decisionmakers believed that they had secured a firm U.S. commitment for direct intervention in the event Egypt should try to blockade the Tiran Strait, Israel's southern sea route.[25] By the time of the construction of the Dimona reactor, Israeli negotiations with the United States on direct and indirect (through Germany) arms transfers were well under way.[26] Thus, although one could argue in the mid-1950s that Israel's perception of international isolation may have seemed realistic, by the late 1950s this was no longer the case.

In sum, just as Israel's nuclear project was taking a military turn in the early 1960s, the gravity of the threat it was supposed to address had significantly receded. Israel's strategic and international position continued to improve, while the threat of an Arab coalition bent on destroying the Israeli state had become less realistic. Most important, the balance of conventional military forces had started to tilt heavily in Israel's favor—all of which suggests that, to a large extent, the Israeli nuclear project was not only superfluous but also dangerous in terms of its potentially destabilizing effect on regional politics.

22. See Ben D. Mor, *Decision and Interaction in Crisis* (Westport, Conn.: Praeger, 1993), pp. 116–119; Sela, *The Decline of the Arab-Israeli Conflict,* pp. 69–70; Nutting, *Nasser,* pp. 367–368; and Mahmoud Riad, *The Struggle for Peace in the Middle East* (London: Quartet, 1981), pp. 1–17.
23. For Israeli perceptions following the Egyptian-Soviet weapons deal, see Michael Brecher, *Decisions in Israel's Foreign Policy* (New York: Oxford University Press, 1975), pp. 232–254; and Moshe Dayan, *Diary of the Sinai Campaign* (New York: Schocken, 1967), pp. 4–5.
24. For the balance of forces between Israel and Egypt on the eve of the Sinai War, see Trevor Dupuy, *Elusive Victory: The Arab-Israeli Wars, 1947–1974* (New York: Harper and Row, 1978), p. 212; Dayan, *Diary of the Sinai Campaign,* pp. 183–197, and Maoz, *Paradoxes of War,* p. 55.
25. Brecher, *Decisions in Israel's Foreign Policy,* pp. 378–379.
26. Abraham Ben-Zvi, *Decade of Transition: Eisenhower, Kennedy, and the Origins of the American-Israeli Alliance* (New York: Columbia University Press, 1998), pp. 59–129.

Since the beginning of its nuclear project, Israel has faced a number of crises in which it perceived specific Arab military threats to both its conventional and nuclear deterrence postures. According to some sources, Israel has armed its nuclear weapons on three occasions: early June 1967, October 1973, and in 1991 during the Persian Gulf War.[27] Below I examine the nature of these military threats and the effectiveness of Israel's deterrence response.

From the Israeli perspective, the May–June 1967 crisis represented a colossal deterrence failure, as Egypt violated all of the casus belli that the Israeli government had articulated following the 1956 Sinai War. Yet a closer examination reveals that Israel's key political leaders and the Israeli military elite may have had very different perceptions of the Arab threat. Many Israeli politicians considered Egyptian troop movements in the Sinai before the outbreak of hostilities to be a major existential threat.[28] On the other hand, most Israeli military commanders viewed them primarily as a challenge to Israeli deterrence.[29] In addition, reports of Egyptian Mig-21 jets flying over Israel's Dimona nuclear reactor heightened concern among Israeli politicians that the facility might become a target of attack.[30]

It seems implausible that Israel's decision to arm its nuclear weapons during the crisis would not have been accompanied by a—possibly secret—threat to Nasser that an all-out Egyptian attack might provoke nuclear retaliation. Otherwise, arming the weapons would have been meaningless.[31] Assuming that

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27. Cohen, *Israel and the Bomb*, pp. 259–276; Hersh, *The Samson Option*, pp. 225–240; Farr, "The Third Temple Holy of Holies"; Aronson, *The Politics and Strategy of Nuclear Weapons in the Middle East*, pp. 139–149; and Laura Zittrain Eisenberg, "Passive Belligerency: Israel and the 1991 Gulf War," *Journal of Strategic Studies*, Vol. 15, No. 3 (September 1992), p. 307. Eisenberg mentions an Israeli Jericho missile test on the eve of the Gulf War.

28. See Yitzhak Rabin, *Personal Service File* (Hebrew) (Tel Aviv: Yediot Aharonot, 1978), pp. 150–151, 156–159; and Brecher, *Decisions in Israel's Foreign Policy*, pp. 331–355.

29. See Rabin, *Personal Service File*, pp. 157–158; Moshe Dayan, *Story of My Life* (London: Weidenfeld and Nicolson, 1976), pp. 322–323, 331; Ezer Weizman, *Yours Is the Sky, Yours Is the Land* (Hebrew) (Tel Aviv: Yediot Aharonot, 1975), p. 260; and Yaniv, *Deterrence without the Bomb*, pp. 115–123.

30. Michael Brecher, *Decisions in Crisis: Israel, 1967 and 1973* (Berkeley: University of California Press, 1980), pp. 230–231. Cohen, *Israel and the Bomb*, pp. 266–276, argues that Israeli decisionmakers believed that the potentially negative consequences of revealing Israel's nuclear capability outweighed any strategic benefits. He also states that "by May of 1967, Israel was a nuclear weapon state." Ibid., p. 275. It is unclear what purpose the crash project leading to the assembly of two crude atomic devices could have served other than to provide Israel with a credible deterrence capability at the peak of the crisis.

31. Shimon Peres, *Battling for Peace: A Memoir* (New York: Random House, 1995), p. 145, alludes to his role during the crisis: "My contribution during that dramatic period was something I still cannot write about openly, for reasons of state security. After Dayan was appointed defense minister, I submitted to him a certain proposal that in my opinion then—and in my opinion today, nearly

Israel did indeed communicate its position to Nasser, the threat had failed to accomplish its goal. The Egyptians not only raised the level of rhetoric; they also escalated their violations of the casus belli.

Around May 26–27, 1967, Nasser apparently agreed with the Syrians to launch a limited offensive against Israel, known as Operation Dawn, on May 28.[32] There is fairly solid evidence, however, that he had no immediate intention of participating in an all-out attack,[33] though not because of Israeli threats. Whether he was caught up in his own rhetoric, as some analysts suggest, or engaged in a calculated game of diplomatic brinkmanship, as others argue, is of marginal importance.[34] Nasser's rhetoric and Egyptian troop movements continued to escalate until Israel seized the initiative by launching a conventional attack; the doctrine of deterrence, it seems, had failed.

The 1973 Egyptian-Syrian attack on October 6 caught the Israeli leadership completely by surprise. Following Israel's abortive counteroffensive along the Suez front two days later, the prospect of an Israeli military defeat became all too real, as Syrian forward units reached the edge of the Golan Heights overlooking northern Israel.[35] The situation had become critical, with several Israeli ministers proposing a cease-fire in place. Israel's purpose in arming its nuclear warheads on October 9, however, remains unclear. Some accounts suggest that, rather than to deter the Arabs, the goal was to blackmail Washington into launching an airlift to supply Israel with weapons and munitions.[36] But, again,

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three decades later—would have deterred the Arabs and prevented the war. My proposal . . . was considered—and rejected." It seems that Peres proposed either communicating an explicit nuclear threat to Nasser or conducting a nuclear test. It is conceivable that the Egyptians detected heightened activity at Dimona and that Nasser considered the possibility that Israel did indeed possess a nuclear device.

32. See Michael B. Oren, *Six Days of War: June 1967 and the Making of the Modern Middle East* (New York: Oxford University Press, 2002), pp. 92–97, 118–121. The operation would have included an aerial attack on the Dimona reactor. Oren argues that last-minute intervention by the Soviet Union resulted in the cancellation of this operation.

33. Muhammad Abd al-Ghani Gamassy, *The Ramadan War: Memoirs of Field Marshal El-Gamassy of Egypt* (Cairo: American University in Cairo Press, 1993), pp. 21–50, offers a penetrating analysis of the political and military confusion in Egypt prior to and during the crisis.

34. For proponents of the first view, see Nutting, *Nasser,* pp. 395–417; and Richard Ned Lebow, *Between Peace and War: The Nature of International Crisis* (Baltimore, Md.: Johns Hopkins University Press, 1981), pp. 242–244. For advocates of the second view, see Mor, *Decision and Interaction in Crisis;* and Ben D. Mor, "Nasser's Decision Making in the 1967 Middle East Crisis: A Rational Choice Explanation," *Journal of Peace Research,* Vol. 28, No. 4 (November 1991), pp. 359–375.

35. Haim Herzog, *The War of Atonement* (Boston: Little, Brown, 1975), p. 122; and Maoz, *Paradoxes of War,* p. 187.

36. Hersh, *The Samson Option,* pp. 225–239; Avner Cohen, "Nuclear Arms in Crisis under Secrecy: Israel and the Lessons of the 1967 and 1973 Wars," in Peter R. Lavoy, Scott D. Sagan, and James J. Wirtz, eds., *Planning the Unthinkable: How New Powers Will Use Nuclear, Biological, and Chemical*

the arming of Israel's nuclear warheads would have been meaningless unless this fact was conveyed to Nasser and Syria's president, Hafiz al-Asad. Even if this information had not been communicated directly, it is likely that Soviet satellites would have picked up some of the details and that officials in Moscow would have then passed them along to the Iraqis.[37]

Israel's arming of its nuclear warheads did not deter the Egyptians from launching a massive armored attack on October 14, aimed at capturing the Mitla and Gidi Passes in the Sinai. Nor did it deter the Syrians from firing Frog missiles at an Israeli air force base in Ramat David that also hit civilian targets. Nuclear deterrence failed yet again when Israel responded with conventional force.[38] (Interestingly, the secret nature of the 1967 and 1973 nuclear alerts allowed Israel to back down without significantly damaging its reputa- tion.)

Perhaps the most critical test of Israel's nuclear deterrence occurred in January 1991. Some months before, on April 2, 1990 (four months before Iraq invaded Kuwait), President Saddam Hussein made a speech in which he threatened to hit Israel with binary chemical weapons. Despite debate within the Israeli intelligence community regarding the potential scope of the Iraqi threat, it was well known that Iraq possessed missiles capable of hitting Israeli population centers.[39]

Most observers concur that Iraq's launching of Scud missiles against Israel during the 1991 Gulf War represents a deterrence failure, at least on the conventional level. On the other hand, many claim that Saddam's decision not to fire chemical missiles testifies to the spectacular effectiveness of Israeli nuclear deterrence. According to Gerald Steinberg, "Israeli strategy did not prevent the

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Weapons (Ithaca, N.Y.: Cornell University Press, 2000), pp. 104–124; Avner Cohen, *Israel's Last Taboo* (Hebrew) (Tel Aviv: ZABAM, forthcoming); and Avner Cohen, "The Last Nuclear Moment," *New York Times,* October 6, 2003. Aronson, *The Politics and Strategy of Nuclear Weapons in the Middle East,* pp. 139–149, maintains that the Israelis acted out of panic; he also argues that, after the war, Dayan's critics claimed that he had planned to use nuclear weapons against Damascus if Syrian forces had moved into the Galilee.

37. Cohen, "Nuclear Arms in Crisis under Secrecy."

38. Uri Bar-Joseph, "The Hidden Debate: The Formation of Nuclear Doctrines in the Middle East," *Journal of Strategic Studies,* Vol. 5, No. 2 (June 1982), p. 216, argues that the arming of Israel's nuclear warheads may have provoked the Soviets into sending a military supply vessel carrying nuclear warheads to Port Said on October 25, 1973. Bar-Joseph adds, "If the Soviets did bring these arms in reaction to an Israeli nuclear alert, they disproved the conceptions of Dayan's pro-nuclear group. This demonstrated that even under the threat of an Israeli 'bomb in the basement,' the Arab side could ignore the threat, embark upon a war, and even receive nuclear guarantees from the Soviet Union." Ibid.

39. Moshe Arens, *War and Peace in the Middle East* (Hebrew) (Tel Aviv: Yediot Aharonot, 1995), pp. 146–235.

conventionally armed Scud missile attack, marking the first time since 1948 that Israeli cities had been subject to attack. . . . For Israel this was a failure of deterrence, in a narrow sense, but not one that exacted an intolerable price or endangered national survival." Amatzia Baram's view reflects the near consensus among Israeli scholars on the success of Israeli deterrence: "Once the allied air force had attacked Iraq, the latter could not be deterred from launching a conventional attack on Israel. But Saddam stopped short of using nonconventional weapons, and thus, while Israel's conventional deterrence suffered a certain setback, its nonconventional [i.e., nuclear] deterrence remained intact."[40]

Given the lack of reliable information about Iraq's decisionmaking process, assessing the performance of Israeli nuclear deterrence during the Gulf War remains a difficult task. There are several reasons, however, to question its supposed success. Between April 2, 1990, and January 17, 1991 (the start of the U.S.-led coalition war against Iraq), virtually every Israeli political and military leader vowed the use of extremely destructive power if Iraq struck at Israel. In most of their statements, the pledge was attached to *any* kind of attack, not only to a chemical weapons attack.[41] As Laura Eisenberg writes: "Top-ranking Israelis repeatedly warned that any Iraqi attack, regardless of scope, would provoke an immediate and devastating response."[42]

Nevertheless, the Gulf War represents a deterrence failure, at least in the conventional sense, for three reasons. First, despite the explicit and public nature of Israel's deterrent threats, which may have been accompanied by additional secret threats of massive retaliation, Iraq chose to launch Scud missiles at Israeli military installations and urban centers.[43] Second, Iraq's violation of the status quo was fundamental and persistent. Third, Israel had no effective defense against the Scuds.

Israeli scholars' assessment of the effectiveness of deterrence in the Gulf War may be biased by the relatively minor damage caused by the missiles. At the time, however, nobody knew when or where the next missile would hit, its

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40. Gerald Steinberg, "Parameters of Stable Deterrence in a Proliferated Middle East: Lessons from the 1991 Gulf War," *Nonproliferation Review,* Vol. 7, No. 3 (Fall/Winter 2000), p. 57; and Amatzia Baram, "Israeli Deterrence, Iraqi Responses," *Orbis,* Vol. 36, No. 3 (Summer 1992), p. 399.
41. For examples, see Shai Feldman, "Israeli Deterrence: The Test of the Gulf War," in Joseph Alpher, ed., *War in the Gulf: Implications for Israel* (Hebrew) (Tel Aviv: Jaffee Center for Strategic Studies, Tel Aviv University, 1991), pp. 170–189; and Barak Mendelsohn, "Israeli Deterrence in the Gulf War," M.A. thesis, Tel Aviv University, 1999, especially pp. 120–155.
42. Eisenberg, "Passive Belligerency," p. 307.
43. Cohen, *Israel's Last Taboo;* and Eisenberg, "Passive Belligerency," p. 307, n. 8.

payload, or its destructive potential. Moreover, even though the lack of fatalities may have facilitated Israeli restraint, it does not diminish the deterrence failure. It is difficult to believe that the Israeli government would have taken the same course had there been a large number of fatalities, whether from conventional or chemical missiles.

Israeli recognition of the possibility—indeed the likelihood—of a nonconventional attack is one of the best indications of the government's de facto admission of the failure of nuclear deterrence during the Gulf War. The supporting evidence is compelling. First, statements by Israeli decisionmakers immediately before the war sought to diminish the significance of the Iraqi missile threat, including the threat of chemical weapons.[44] This may have been a defensive mechanism to justify the possibility of Israeli inaction in the event of such an attack. In reality, it indicates an Israeli belief that nuclear deterrence would fail, despite Israel's explicit threats of massive retaliation.

Second, in anticipation of a gas attack, the government instructed Israelis to move into specially prepared rooms (usually in their houses or apartments) in which the windows and doors had been covered earlier with plastic sheets and taped for minimal outside ventilation. This precaution (in addition to keeping gas masks and atropine injections within reach) remains the most effective passive defense measure that civilians could take against a gas attack. Such action would have been useless against conventional warheads—and indeed could have been dangerous for Israelis who had been told to take cover in these rooms. Thus the call to take protective measures implied only one thing: The government believed that a chemical attack was imminent.[45]

Third, since the Gulf War the Israeli government has devoted considerable financial, technological, and human resources to the development of a wide array of offensive and defensive measures, including the establishment of the Home Front Command within the IDF; the creation of an aggressive missile defense program, with the Arrow missile as its flagship project; and the refinement of offensive measures, especially in the Israeli air force, to deal with

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44. For example, in a television interview on December 24, 1990, Defense Minister Moshe Arens stated: "We have no way of intercepting incoming missiles, . . . but the physical damage such missiles would cause is limited." Quoted in *Ha'aretz,* December 25, 1990. Prime Minister Yitzhak Shamir stated that even if chemical weapons were used against Israel, "this is not an existential threat." Quoted in *Ha'aretz,* January 10, 1991. Both cited in Mendelsohn, "Israeli Deterrence in the Gulf War," pp. 144–145.

45. For protective measures in the event of a conventional attack or a chemical attack, see, for example, the instructions provided in the IDF Home Front Command's website at http://www.idf.il/hebrew/organization/homefront/index1.stm.

both short-range and long-range missile threats. In addition, Israel has launched several spy satellites designed to detect nonconventional threats at long range. Combined, these measures reflect a strategic admission that nuclear deterrence cannot be relied on to guarantee Israel's security.

Some observers might argue that these are the kind of measures that any responsible government must take to protect its citizens against a grave threat, even if the likelihood of a state carrying out such a threat seems very low. Yet similar conditions had existed in the Middle East in the mid-1970s, when Arab countries in possession of SSMs (including Egypt) were still in a state of war with Israel. Earlier, Egypt had used chemical weapons during the Yemeni civil war. Later, in the 1980s, Iraq employed similar weapons against Iran. In the latter conflict, Iraq also fired hundreds of conventional missiles at the Iranian capital, Tehran. Thus, even though Arab states had both the capability and the will to use nonconventional weapons and ballistic missiles for some time, only after the Gulf War did Israel begin to invest in an aggressive missile defense program.

There are two common explanations for this shift. The first is that until the Gulf War Israeli intelligence had been unaware of the gravity of the Arab missile threat.[46] The second is that Israel's prevailing assumption was that its nuclear deterrent negated the need for defensive measures against Arab missile and chemical weapons capability. There is no direct evidence to support the latter explanation, although multiple Israeli threats against Iraq from April 1990 to January 1991 may serve as indirect evidence of Israeli decisionmakers' confidence in the effectiveness of nuclear deterrence.[47]

In this context, it is useful to consider Israel's preparations for the 2003 U.S. war against Iraq. In mid-2002, Israeli authorities took steps to increase the

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46. For this argument, see Shlomo Nakdimon, "Black Hole: Israel, the United States, and Iraq, 1981–1991," Tel Aviv, 1996; and Shlomo Nakdimon, "Saddam Is Still Here," *Yediot Aharont,* January 14, 2001. A number of prominent Israelis, including Moshe Arens, *War and Peace in the Middle East,* p. 160, corroborate this argument, although (as noted above) Israeli intelligence did know that Iraq possessed al-Hussein missiles capable of reaching Israel.

47. Until the Gulf War, Israel confronted strategic challenges such as Arab SSMs or nonconventional weapons primarily with offensive measures (e.g., developing the Jericho missile, producing nuclear weapons, and investing in the Israeli air force). The increasing emphasis on defensive measures and the bolstering of home front infrastructure since the Gulf War suggest a growing belief among some Israelis that deterrence is no longer the iron-clad guarantee against attack that they once thought it was. One of the leading proponents of this shift was Yitzhak Rabin, who drew two principal conclusions from the Gulf War: (1) Israel needed to develop a wide array of defensive and offensive weapons to counter the proliferation of missiles in the region, because deterrence was not enough, and (2) the most effective way to increase Israeli security was to sign peace treaties with as many Arab states as possible. See Ephraim Inbar, *Rabin and Israel's National Security* (Baltimore, Md.: Johns Hopkins University Press, 1999), pp. 119–122.

country's preparedness for a nonconventional Iraqi attack. Among these were the inoculation of 15,000 emergency personnel against smallpox and a nation-wide effort to check, and if necessary replace, the emergency gas kits of the entire Israeli population. At the start of the war in March, Israelis were once again ordered to prepare sealed rooms and get their gas kits ready. The activation of measures based on a worst-case scenario suggests a growing belief among Israeli leaders that a nonconventional weapons attack had become a distinct possibility.

THE EFFECT OF ISRAELI NUCLEAR POLICY ON THE SCOPE OF ARAB ATTACKS
Since the start of its nuclear project, Israel has been involved in four wars, two of which Arab states initiated: the 1969–70 War of Attrition and the 1973 war.[48] The military scope of both wars was extremely limited,[49] as Arab leaders hoped to create conditions that would force the superpowers to pressure Israel into making territorial concessions.[50] Even when the first stage of the 1973 war went better than expected, Egypt and Syria did not expand their territorial objectives. Once their early success began to exceed the ambitions of their original strategy, the tide of war shifted in favor of Israel.[51]

At the height of the May–June 1967 crisis, Egyptian rhetoric threatened the annihilation of the state of Israel.[52] Yet on the ground, a number of military and political indicators suggested that Egypt had no intention of attacking Israel,

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48. For similar arguments, see Evron, *Israel's Nuclear Dilemma,* pp. 62–75, 202–214.
49. Shlomo Aronson, "The Nuclear Dimension of the Arab-Israeli Conflict: The Case of the Yom Kippur War, *Jerusalem Journal of International Relations,* Vol. 7, Nos. 1–2 (July 1984), pp. 107–141; and Levite and Landau, *Israel's Nuclear Image,* pp. 42–43, as well as references therein.
50. On Nasser's objectives in the War of Attrition, see Lawrence Whetten, *The Canal War* (Cambridge, Mass.: MIT Press, 1974), p. 141; Yaacov Bar-Simantov, *The Israeli-Egyptian War of Attrition, 1969–1970* (New York: Columbia University Press, 1980), pp. 43–71; Dan Schueftan, *Attrition: Egypt's Postwar Political Strategy, 1967–1970* (Hebrew) (Tel Aviv: Ma'arachot, 1989), pp. 39–147; Janice Gross Stein, "The View from Cairo," in Robert Jervis, Richard Ned Lebow, and Janice Gross Stein, *Psychology and Deterrence* (Baltimore, Md.: Johns Hopkins University Press, 1985), pp. 38–49; and David A. Korn, *Stalemate: The War of Attrition and Great Power Diplomacy in the Middle East, 1967–1970* (Boulder, Colo.: Westview, 1992). For Egypt's objectives during the 1973 war, see Gamassy, *The Ramadan War;* Sa'ad Shazly, *The Crossing of the Canal* (San Francisco, Calif.: American Mideast Research, 1980), pp. 172–181; Anwar Sadat, *In Search of Identity: An Autobiography* (New York: Harper and Row, 1977), pp. 234–237; Raphael Israeli, *Man of Defiance: The Political Biography of Anwar Sadat* (London: Weidenfeld and Nicolson, 1985), p. 29; and Meital, *Egypt's Struggle for Peace,* pp. 111–112.
51. On the relationship between the lack of operational planning for expanding the war and its consequences, see Maoz, *Paradoxes of War,* pp. 186–190.
52. The combination of Egyptian military escalation and hostile rhetoric threw the Israeli nuclear project into crash mode on the eve of the war. Cohen, *Israel and the Bomb,* pp. 259–276, argues that between May 15 and the outbreak of war on June 5, the Israelis built two crude nuclear devices that were ready to launch had Israel determined that the doomsday scenario was about to unfold.

let alone engaging in all-out war.[53] Moreover, according to several Egyptian sources, Nasser hoped that outside diplomatic intervention could defuse the crisis before it escalated any further.[54] Thus Egypt's defensive deployment of its forces, Nasser's crisis diplomacy, and inflammatory rhetoric designed for domestic and inter-Arab consumption would suggest that Israel's nuclear potential had deterred the Egyptians if not from fighting, then certainly from a naïve belief that they could destroy the Israeli state in a war.

Indeed proponents of Israel's nuclear policy blame the failure of Israeli conventional deterrence for the Arab attacks/escalation, while crediting Israeli nuclear deterrence with limiting both. The 1967 case is not relevant here because, at the start of the escalation, the Arabs did not yet suspect Israel of possessing nuclear weapons. Israeli scholars do, however, consider the 1973 war and the 1991 Gulf War as conflicts whose scope was limited due to Israel's nuclear threat.

Available evidence suggests that two principal factors constrained the scope of the 1973 Egyptian and Syrian attacks: (1) the limited political aims of both countries, and (2) Israel's conventional military capability. The nuclear factor was not instrumental in restricting the scope of the war, insofar as there is no evidence that it played an explicit role in the decisionmaking processes of either the Egyptian or Syrian leadership.[55] From the Egyptian perspective, the crucial date for the 1973 war was October 24, 1972, when the Egyptian National Security Council made the key decisions on the military strategy vis-à-vis Israel. At least two Egyptian sources have published verbatim transcripts from this meeting,[56] and others have provided details from it.[57] In the meeting, Pres-

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53. The IDF knew that the Egyptian army in the Sinai was defensively deployed. At the same time, Israeli generals argued that the longer the government waited to act, the more difficult it would be to draw the Egyptian forces out of their trenches. In addition, the continued concentration of Egyptian forces in the Sinai would force Israel to maintain a large-scale mobilization of reserves beyond its economic capacity. See Rabin, *Personal Service File,* pp. 157–158; Dayan, *Story of My Life,* p. 331; and Weizman, *Yours Is the Sky, Yours Is the Land,* pp. 258, 260.
54. Riad, *The Struggle for Peace in the Middle East,* pp. 14–23; Gamassy, *The Ramadan War,* pp. 31–33; Nutting, *Nasser,* pp. 406–408; and Mor, "Nasser's Decision Making in the 1967 Middle East Crisis," pp. 359–375.
55. Aronson, *The Politics and Strategy of Nuclear Weapons in the Middle East,* p. 143, notes that the Syrian army stopped short of entering Israel proper in the first days of the war because Asad believed that a limited offensive would minimize (or even neutralize) the risk of Israeli nuclear retaliation. Aronson does not provide sources for this claim, however. For an analysis of Asad's military calculus, see Seale, *Asad,* pp. 194–200. This biographical volume, which is based on interviews with the Syrian leader, does not mention the nuclear issue. See also Levite and Landau, *Israel's Nuclear Image,* pp. 42–43.
56. This was the so-called Giza meeting. Gamassy, *The Ramadan War,* pp. 149–152; and Shazly, *The Crossing of the Canal,* pp. 176–181.
57. Mohammed Hassanin Heikal, *The Road to Ramadan* (New York: Penguin, 1975), pp. 183–184; Sadat, *In Search of Identity,* pp. 234–236; Moshe Maoz, *Syria and Israel: From War to Peacemaking?*

ident Anwar al-Sadat stated that the principal aim of the war was to break the diplomatic impasse in the Middle East and reignite the peace process. The discussion focused on the operational contours of the war. At no time did Israel's nuclear capability come up as a factor. On the other hand, the meeting's participants repeatedly mentioned Israeli conventional capability as a constraint on Egypt's ability to achieve military success.

The modus operandi of Egypt's attack plan says more about the principal concerns of Egyptian strategists than does their silence on the nuclear issue. The plan called for two armies to capture and hold on to a limited stretch of land east of the Suez Canal. Surface-to-air missile (SAM) batteries stationed along the west bank of the canal would shield the Egyptian troops from the Israeli air force, and Sager missiles would protect them from Israeli armored attacks. Because the Egyptians considered the SAM missile shield essential, the original plan had been to refrain from moving beyond its range. This suggests that what most concerned Egyptian strategists, and what deterred them from launching an all-out attack, was not Israel's nuclear capability but its conventional air force and armored forces.[58]

As argued above, most Israeli scholars believe that Iraq refrained from firing chemical warheads at Israel during the Gulf War for fear of nuclear retaliation.[59] As Baram argues: "If, as pointed out by the Iraqi sources, it is Israel's nuclear force that has for so long 'paralyzed the Arab will [to eliminate Israel],' then there is no reason why, until the Arabs themselves have similar weapons, that it should not continue to paralyze it."[60] As noted earlier, the lack of any direct evidence on Baghdad's decisionmaking process prior to or during the Gulf War allows only cautious remarks on Iraqi behavior. What is known is that (1) Iraq launched forty-four Scud missiles at Israel, some of them targeted at the Dimona nuclear reactor, but none getting close,[61] and (2) Iraq refrained

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(London: Oxford University Press, 1995), pp. 122–123; and Uri Bar-Joseph, *The Watchman Fell Asleep: The Surprise of Yom Kippur and Its Sources* (Hebrew) (Tel Aviv: Zmora Bitan, 2001), pp. 121–126.

58. Gamassy, *The Ramadan War,* pp. 185–202, especially pp. 185–186, 192–193; and Shazly, *The Crossing of the Canal.* During the Giza meeting, Sadat debated with several military commanders their claim that Egypt even lacked the capability for a limited attack and that it needed more modern weapons from the Soviet Union. Sadat's decision to dismiss the minister of war, Muhammad Sadeq, reflects his disagreement with this assessment. See Bar-Joseph, *The Watchman Fell Asleep,* pp. 127–139.

59. Feldman, "Israeli Deterrence"; Eisenberg, "Passive Belligerency"; Steinberg, "Parameters of Stable Deterrence in a Proliferated Middle East"; and Baram, "Israeli Deterrence, Iraqi Responses." Perhaps the most ardent support for this notion appears in Aronson, *The Politics and Strategy of Nuclear Weapons in the Middle East,* especially pp. 131–137, 143.

60. Baram, "Israeli Deterrence, Iraqi Response," p. 399 (quotes and brackets in original).

61. Mohammad-Mahmoud Muhamedou, *Iraq and the Second Gulf War: State Building and Regime Se-*

from launching chemical weapons against either Israel or Saudi Arabia, a coalition ally. The aim of Iraq's decision to fire Scud missiles, some argue, was to prompt Israeli retaliation, in the hopes of splitting the U.S.-led coalition.[62] Proponents point to the second fact as evidence of the effectiveness of Israeli nuclear deterrence.

This explanation of Iraqi motives and the effectiveness of Israeli deterrence has two major flaws. First, Israeli statements in 1990 threatened massive retaliation against *any* kind of attack. The contention that Israeli nuclear threats limited the scope of the Iraqi assault assumes that Israeli decisionmakers made an explicit distinction between a conventional missile attack and a chemical attack. The evidence does not support this assumption. As shown earlier, most statements suggest that Israel would respond regardless of the nature of the Iraqi attack. This applies to Israel's secretly communicated threats as well: It is unreasonable to suppose that Israel would have made such a distinction between its public and private statements, because doing so would have given de facto legitimacy to Iraq's firing of conventional warheads.[63]

Second, this explanation incorrectly assumes that Israeli decisionmakers interpreted deterrence success or failure as hinging on the potential lethality of the weapons themselves. This is also unsupported by the evidence. If Israeli fatalities had been significant, public and political pressure to act would have been enormous. Although Saddam Hussein could not have known just how much damage the missiles would inflict, by instructing that the Scuds be targeted at Israel's largest population centers, he was obviously hoping for as many fatalities as possible.

Saddam's decision not to use chemical weapons against Israel may have another explanation. Following the conflict, UN Special Commission (UNSCOM) inspectors discovered that Iraq's chemical warheads were quite primitive. In addition, most of the chemical warheads carried sarin nerve gas,[64] which is

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curity (San Francisco, Calif.: Austin and Winfield, 1998), p. 159, claims that Iraq fired six missiles at the Dimona reactor in retribution for the 1981 Israeli attack on the Osirak reactor.

62. See Majid Khadduri and Edmund Ghareeb, *War in the Gulf, 1990–91: The Iraq-Kuwait Conflict and Its Implications* (New York: Oxford University Press, 1997), pp. 171–172; Bernard Reich, "Israel and the Persian Gulf Crisis," in Ibrahim Ibrahim, ed., *The Gulf Crisis: Background and Consequences* (Washington, D.C.: Center for Contemporary Arab Studies, Georgetown University, 1992), p. 234; Feldman, "Israeli Deterrence," p. 174–176; and Mohamedou, *Iraq and the Second Gulf War,* p. 159.
63. See sources on Israeli statements in note 41.
64. Arens, *War and Peace in the Middle East,* p. 160; Baram, "Israeli Deterrence, Iraqi Responses," p. 400; and Steinberg, "Parameters of Stable Deterrence in a Proliferated Middle East," p. 55. For numbers and types of warheads, see UNSCOM, "Comprehensive Review on Iraq," January 25, 1999, http://cns.miis.edu/research/iraq/ucreport/index.htm. Annex C of the review acknowl-

generally ineffective against populations equipped with emergency gas kits such as those in the possession of the Israelis. The destructive potential of a missile packed with 500 kilograms of TNT (such as the al-Hussein missile) is far greater than that of a chemical warhead against a protected population. Thus, if the missiles targeted at Israel had carried chemical warheads, the most significant effect would probably have been psychological, not physical. Because Saddam's main objective in this regard appears to have been to draw Israel into the conflict by producing a large number of Israeli fatalities, his greatest chance for success was the use of conventional warheads.

To support the argument that Israeli nuclear deterrence was a causal factor in shaping Iraq's military calculus in the Gulf War, two facts must be determined: (1) that Israel—not the United States—deterred Iraq from using chemical weapons, and (2) that Israel's nuclear deterrent, and not some other factor, compelled Iraq to rely solely on conventional warheads. No Israeli scholar who argues that Israeli nuclear deterrence was successful provides evidence to support either of these claims. Yet even if nuclear deterrence did prevent Iraq from using chemical (or biological) weapons, there is sufficient evidence to cast doubt on both the uniqueness of the source of deterrence (i.e., Israel, not the United States) and the uniqueness of the type of retaliation (i.e., Israel's nuclear, not conventional, capability).

The key evidence against the uniqueness of the source argument is that Iraq did not use chemical (or biological) weapons during the Gulf War—either against the coalition forces or against other Arab states. Moreover, it refrained from using chemical (or biological) weapons even when coalition ground forces entered Iraq, and when for several days it was unclear whether these forces would stop short of Baghdad.[65] Indeed it is more plausible that the U.S. threat of retaliation exerted the greater influence over Saddam because, unlike Israel, the United States did not have the same constraints.[66]

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edges that far less is known about Iraq's biological weapons capabilities. In addition, the UNSCOM teams were unable to verify most of the Iraqi reports or to develop independent assessments of Iraq's bioweapons capabilities. The discrepancies between the Iraqi reports and UNSCOM verification statements are especially significant in this area. The reports found no evidence, however, that Iraq had conducted field tests of its biomissiles.

65. On the course of the Gulf War, see Lawrence L. Friedman and Ephraim Karsh, *The Gulf Conflict: Diplomacy and War in the New World* (Princeton, N.J.: Princeton University Press, 1993); and Dilip Hiro, *Desert Shield to Desert Storm: The Second Gulf War* (London: HarperCollins, 1992).

66. An important source of confusion is the statement by then-U.S. Secretary of Defense Richard Cheney that Israel would retaliate to a chemical weapons attack with nuclear weapons. Cheney interview with Wolf Blitzer, CNN's *Evans and Novak,* January 2, 1991. This also ignores, however, the more obvious threats by the United States that it would retaliate with brute force if Iraq used

Second, it is unclear whether a nuclear retaliatory strike would have been Israel's only option had Iraq launched chemical (or biological) weapons. In fact, given Israel's successful air strike on Iraq's Osirak nuclear reactor on June 7, 1981, the Iraqis were well aware of the broad range of military options available to the Israelis, most of which did not involve nuclear weapons.[67] Moreover, in none of the writings on this issue is there evidence to suggest that Israel's *nuclear* threat was responsible for Iraq's decision not to employ chemical weapons. Thus the argument that Israeli nuclear deterrence proved effective in the Gulf War is not only seriously flawed, but is also based on weak and inconsistent evidence.

A NUCLEAR PEACE?

The widely held belief among Israeli scholars, journalists, and politicians that Israel's nuclear policy was instrumental in bringing the Arabs to the negotiating table is based not on citations of actual Arab statements, but on statements attributed to Arab leaders and spokespeople.[68] It also appears in arguments that Israel's nuclear capability decreases the likelihood of the Israeli-Palestinian conflict ever expanding into a regional conflagration or even seriously threatening the peace between either Israel and Egypt or Israel and Jordan.[69]

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chemical weapons against anybody, not just Israel. It is more likely that Saddam knew that U.S. stakes in the conflict would have increased tenfold if he used such weapons.

67. For example, the Begin Doctrine, announced following the 1981 attack, stated, "Under no circumstances would [Israel] allow the enemy to develop weapons of mass destruction against our nation." Quoted in Feldman, *Nuclear Proliferation and Arms Control in the Middle East*, p. 109. Since then, virtually all of Israel's enemies have developed weapons of mass destruction. Evron, *Israel's Nuclear Dilemma*, pp. 211–212, argues that technological and operational problems, rather than Israeli threats of nuclear retaliation, prevented Saddam from using chemical weapons. Khadduri and Ghareeb, in *War in the Gulf*, p. 171, make a similar case: "The Scud missiles, however, are known for being highly inaccurate and quite an ineffective weapon . . . nor do they contain very powerful warheads; indeed, in one case it was found that an Iraqi warhead was made of cement." Evron suggests that Saddam saw Iraq's chemical weapons more as a deterrent against threats to his regime.

68. Levite and Landau, *Israel's Nuclear Image*, pp. 44–45. This text is the most extensive study of Arab perceptions of Israel's nuclear policy. The evidence the authors provide for this argument consists of indirect references to the "terrible alternative to peace" and comments by Israeli politicians (Yigael Yadin and Shimon Peres) that Sadat had told them: "Dimona was also a factor in his decision to visit Jerusalem in 1977." Ibid., pp. 66–67. Levite and Landau also seem to accept the notion that Israel's nuclear image had a significant effect on the turn toward peace in the Arab world. Ibid., pp. 170–172. See also Levin, "Should Israel Build a Nuclear Bomb?" In a lecture at Tel Aviv University on January 14, 2002, Zeev Schiff, the military analyst at the Israeli daily *Ha'aretz*, also suggested the Arab shift as a possible side effect of Israel's nuclear policy.

69. Unnamed "experts," for example, are quoted as saying: "Their [Israelis'] renewed regional isolation will strengthen their case, should they want to join the European Union, and they can always keep the Arabs at bay by shaking the nuclear stick and the Masada Complex which the

The key event in the Arab-Israeli peace process was Sadat's visit to Jerusalem in November 1977, which led to the signing of an Egyptian-Israeli peace treaty on March 27, 1979. These momentous events were followed by the signing of the Oslo accord between Israel and the Palestine Liberation Organization in September 1993 and the Israeli-Jordanian peace treaty of July 1994. In addition, since the Madrid conference of November 1991, Israel and Syria have continued to engage in direct negotiations. More recent events that mark a dramatic shift in Israeli-Arab relations include Israel's establishment of diplomatic relations with Morocco, Oman, Qatar, and Tunisia, as well as discussions on a framework for multilateral talks on economic issues, the environment, and arms control and regional security. These events also suggest a fundamental change in Arab attitudes toward Israel that is unlikely to reverse itself despite the ongoing Israeli-Palestinian conflict and fallout from the 2003 U.S. war in Iraq. If, as its adherents suggest, Israel's nuclear policy was a key factor in producing this shift, then it has had unintended consequences that may have even surpassed the intended objective of deterring an all-out Arab attack.[70]

A hidden assumption in the argument that Israel's nuclear policy has helped to bring Arab leaders to the negotiating table is that Arab states had resisted serious negotiations with Israel until its development of a nuclear capability. However, a close review of the public and secret diplomacy over the last half-century or so reveals a number of Arab peace initiatives, including the 1949 Husni Za'im peace proposal,[71] secret talks between Israel and Syria in the early 1950s,[72] and secret negotiations between Moshe Sharett (Israeli foreign minister and prime minister) and President Nasser from 1953 to 1955.[73] There are

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Arabs know is a very ominous combination." "Mideast Brinkmanship: The Masada Complex and the Camel That Roared," Deutsche Presse Agentur, October 13, 2000. Also, in discussing the publication of Shai Feldman and Yiftah Shapir, eds., *The Middle East Military Balance, 2000–2001* (Cambridge, Mass.: MIT Press, 2002), Feldman, head of the Jaffee Center for Strategic Studies, noted: "Israel's deterrent power remained robust, serving as a barrier against escalation to a regional war." He also stated that "in addition to its superior conventional weapons, . . . Israel had an edge because of Arab assessments that Israel possesses nuclear weapons." Quoted in "Israel's Military Might Prevents Intifada Escalating to Regional Conflict: Study," Agence France-Presse, June 11, 2001.

70. Aronson, *The Politics and Strategy of Nuclear Weapons in the Middle East,* pp. 160–164, argues that Sadat was not only convinced of the futility of pursuing the destruction of Israel, but was also concerned with the possibly destructive implications of a future war in the Middle East.

71. Itamar Rabinovich, *The Road Not Taken: Early Arab-Israeli Negotiations* (Oxford: Oxford University Press, 1991); Aryeh Shalev, *The Israel-Syria Armistice Regime, 1949–1955* (Boulder, Colo.: Westview, 1994); and Maoz, *Syria and Israel,* pp. 21–26.

72. Maoz, *Syria and Israel,* pp. 29–37; and Shalev, *The Israel-Syria Armistice Regime,* pp. 99–161.

73. Gabriel Sheffer, *Moshe Sharett: Biography of a Political Moderate* (New York: Oxford University Press, 1996), pp. 654–655, 667. Haim Handweker, "Twenty-four Years before Sadat," *Ha'aretz,* February 1, 2002, reports on top secret documents found in the West German foreign ministry that in-

many reasons why none of these peace initiatives advanced very far, not the least of which was their rejection by Israeli decisionmakers.[74] In addition, Israeli military operations supported by hard-liners such as Ben-Gurion and Moshe Dayan proved successful in derailing the diplomatic efforts of moderates such as Sharett.[75]

Actions such as the Gaza raid of February 28, 1955, the military escalation along the Israeli-Jordanian border in 1955, the 1956 Sinai War, Israel's 1957–67 periphery policy (which included military and intelligence interventions in the internal affairs of Arab and Muslim states),[76] and possible leaks about the development of the Israeli nuclear project posed significant challenges to Arab-Israeli diplomacy in the late 1950s and first half of the 1960s. These did not, however, preclude a number of secret exchanges between Israeli and Egyptian diplomats, as well as between Israeli officials and Jordan's King Hussein.[77] Moreover, following the 1967 war, Arab and Israeli diplomats chose to renew their negotiations. In contrast to the prevailing Israeli perception at the time, the Egyptians saw the Khartoum Resolution of September 1967 as a signal to Israel of a possible agreement on the basis of the pre-1967 war boundaries.[78] Other examples of Arab willingness to work toward a peaceful settlement include Nasser's positive response to the Rogers peace initiative of 1969, the terms of the August 1970 cease-fire agreement that ended the War of Attrition, and Sadat's initiative of February 4, 1971, aimed at a limited agreement with Israel.[79]

cluded a July 1953 request by Nasser for assistance from German diplomats on mediating between Egypt and Israel.

74. See Rabinovich, *The Road Not Taken,* p. 68; Maoz, *Syria and Israel,* pp. 24–26, 29–31; Shalev, *The Israel-Syria Armistice Regime,* p. 35; and Sheffer, *Moshe Sharett,* pp. 789–790.

75. Sheffer, *Moshe Sharett,* pp. 760–761; Benny Morris, *Israel's Border Wars, 1949–1956: Arab Infiltrations, Israeli Retaliation, and the Countdown to the Suez War* (Oxford: Oxford University Press, 1993), p. 335; and Zeev Maoz, "Israeli Intervention in Intra-Arab Affairs," in Abraham Ben-Zvi and Aharon Klieman, eds., *World Politics: Essays in Honor of David Vital* (London: Frank Cass, 2001), pp. 141–143.

76. Maoz, "Israeli Intervention in Intra-Arab Affairs," pp. 142–143.

77. Avi Shlaim, *The Iron Wall: Israel and the Arab World* (New York: W.W. Norton, 2000), provides an extensive survey of many of these diplomatic exchanges, including the secret diplomacy of the early 1950s. Shlaim discusses an Egyptian initiative by Marshall Amer, the minister of war, to invite Meir Amit, head of the Mossad (Israel's intelligence agency), to Cairo in 1965. He also discusses meetings between King Hussein and Yaacov Herzog, director-general of the prime minister's office in 1963, and with Golda Meir in 1965. The meetings resulted in several important agreements on intelligence cooperation and water sharing. See ibid., especially pp. 226–228.

78. Meital, *Egypt's Struggle for Peace,* pp. 41–46; and Riad, *The Struggle for Peace in the Middle East,* p. 57.

79. Meital, *Egypt's Struggle for Peace,* pp. 86–97; Riad, *The Struggle for Peace in the Middle East;* Sadat, *In Search of Identity,* pp. 259–260; and Gad Yaacobi, *On the Razor's Edge* (Hebrew) (Tel Aviv: Yediot Aharonot, 1990).

A growing amount of documentary and secondary evidence involving numerous secret meetings between King Hussein and various Israeli policy-makers, as well as extensive intelligence cooperation on a range of issues, suggest that Israel and Jordan have been in a de facto state of peace since the late 1960s.[80] None of this evidence indicates that the nuclear issue was ever a subject of these discussions. Indeed the factors that explain this de facto peace seem unrelated to the nuclear issue, as do those explaining the absence of a peace treaty between the two countries. Rather, most of the factors that contributed to peace between Tel Aviv and Amman involved changes in the two countries' policies toward the West Bank and the Palestinians.[81]

Overall, the evidence suggests a pattern of Israeli hesitation—and, on occasion, intransigence—that was rooted in mistrust of the opponent as well as in a reluctance to make the necessary territorial concessions.[82] In addition, Israeli leaders' self-confidence in their ability either to dictate better peace terms or to prosper without peace caused them to consistently assume uncompromising positions.[83] Israel's nuclear policy may have been a factor here, but there is no evidence thus far linking Israeli-Arab diplomacy and Israel's nuclear policy.

Israel became an undeclared nuclear weapons state in 1967, the same year as another watershed event: Israeli occupation of the West Bank and Gaza Strip during the Six Day War. These territories have provided Israel with a valuable bargaining chip in the land-for-peace formula that continues to be the basis for negotiations.[84] The roots of the peace process before and after the 1973 war are found in Israeli policy toward these territories, rather than in the effect of Israel's nuclear program on the Arab states.

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80. Shlaim, *The Iron Wall*. On September 20, 1973, Golda Meir met King Hussein who warned her of an impending Egyptian-Syrian attack on Israel. The Israelis discounted or ignored this information, viewing it as unreliable. See Bar-Joseph, *The Watchman Fell Asleep*, pp. 243–244.

81. Shlaim, *The Iron Wall;* Moshe Zak, *Hussein Makes Peace: Forty Years and Another Year on the Road to Peace* (Hebrew) (Ramat Gan: Bar-Ilan University Press, 1996); and Mark Tessler, *A History of the Israeli-Palestinian Conflict* (Bloomington: Indiana University Press, 1994).

82. On Israeli attitudes and responses to these initiatives, see Yaacobi, *On the Razor's Edge,* pp. 80–86, 101–143; Mordechai Gazit, *The Middle East Peace Process, 1969–73* (Hebrew) (Tel Aviv: Ha'Kibbutz Ha'Meuchad, 1984); and Meron Medzini, *The Proud Jewess: Golda Meir and the Vision of Israel* (Hebrew) (Tel Aviv: Edanim, 1991), pp. 397–402. See also the sources in note 81.

83. The key expression to this attitude is reflected in Dayan's statement: "We [the Israelis] would rather have Sharm a-Sheikh without peace, than peace without Sharm a-Sheikh." Shlaim, *Israel and the Arab World,* especially pp. 283–318, provides a penetrating insight into Israel's policy during this period.

84. The centrality of this agenda is perhaps best illustrated by the fact that all peace negotiations are based on UN resolutions 242 and (after the 1973 war) 338, which adopt the land-for-peace formula. The subscription of all actors in the region to these resolutions suggests that the willingness to make the land-for-peace trade-off helped to create the shift toward peace in the post-1973 era.

There is also no explicit admission in any of the Arab documents, memoirs, studies, or media reports on Sadat's peace initiative or on other states' decisions to enter the peace process that Israel's nuclear status was a factor. On the other hand, there are clear indications that Israel's conventional capabilities influenced Egyptian and subsequent Syrian decisions to enter into negotiations.

The outcome of the 1973 war created a twofold incentive for peace. First, it enabled the Egyptians to depict the outcome as a major victory, thereby removing the banner of shame from their armed forces. In addition, Sadat could portray Egypt's military accomplishments as evidence of the destruction of the myth of the Israeli army's invincibility and the reassertion of Egyptian self-confidence. In effect, these successes allowed Sadat to negotiate from a position of honor.[85]

Second, and more important, the Egyptians and Syrians realized that despite their militaries' favorable starting positions, the costs of the 1973 war had been substantial. Together, the two countries lost more than 13,000 soldiers, 2,500 tanks, and 500 planes.[86] In addition, Israeli forces succeeded in penetrating deep into Egyptian and Syrian territory. Indeed, had it not been for the U.S.-Soviet imposition of a cease-fire, substantial segments of Egypt's and Syria's armed forces would have likely been destroyed. Ultimately, the leaders in Cairo and Damascus reasoned that the chances of recapturing the occupied territories by force were slim. Their only viable option therefore was to regain them through peace. Israel's nuclear capability was irrelevant to this calculus.[87]

The 1973 war also forced a fundamental shift among Israelis, as they came to realize the limits of their state's military power and the costs of continued conflict. The war also shook their confidence. Indeed, if the nuclear option had any impact, it is because it convinced already-skeptical leaders such as Prime

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85. Sadat, *In Search of Identity,* p. 289; Meital, *Egypt's Struggle for Peace,* pp. 125–126; Gamassy, *The Ramadan War,* p. 150; and Heikal, *The Road to Ramadan,* pp. 208–210.

86. Dupuy, *Elusive Victory;* Anthony H. Cordesman, *After the Storm: The Changing Military Balance in the Middle East* (Boulder, Colo.: Westview, 1993), pp. 5–6; and Michael N. Barnett, *Confronting the Costs of War: Military Power, State, and Society in Egypt and Israel* (Princeton, N.J.: Princeton University Press, 1992), pp. 128–152.

87. Aronson, *The Politics and Strategy of Nuclear Weapons in the Middle East,* pp. 162–163, bases this argument on Egyptian demands that Israel sign the NPT as a condition of a peace settlement. The failure to accomplish the latter objective formed the basis for criticism of Sadat's initiative. Among the critics were Ismail Fahmy, a prominent Egyptian diplomat, and Gen. Sa'ad Shazly. Ibid., p. 163. The fact remains, however, that the Egyptian-Israeli peace treaty survived Israeli refusal to join the NPT regime.

Minister Yitzhak Rabin that nuclear deterrence was irrelevant to issues of war and peace. (This is why Rabin sought interim agreements with Egypt.[88])

In sum, it is more likely that Israeli conventional deterrence—or what some observers have called Israel's "cumulative deterrence"—was instrumental in changing Arab attitudes toward reaching a peaceful settlement. Contributing, perhaps decisively, to this shift were the following factors: repeated Arab military defeats in major wars; the cumulative impact of human, material, and territorial losses inflicted by these wars and short-of-war confrontations; and the growing image of Israeli resolve and superior conventional capabilities.[89] Moreover, the willingness of the Israeli leadership to pay a territorial price for peace, much more so than the Arab willingness to negotiate, may have been a decisive factor in contributing to the 1973 postwar peace process. Israel's nuclear policy was, at best, marginally relevant in this respect.

Domestic Implications of Israel's Nuclear Policy

The Israeli security establishment may try to seek comfort in the belief that the doctrine of nuclear ambiguity is secure, having supposedly allowed Israel to develop and maintain its nuclear arsenal while resisting international pressures either to disarm or to allow inspection of its nuclear facilities.[90] Israel, however, is not an ambiguous nuclear power, but rather an undeclared nuclear power. Apart from ample evidence based on publicized intelligence estimates, as well as statements by Arab and Western officials, the Israeli public has been overwhelmingly convinced of this fact. In a 1986 survey, 92 percent of respondents were either certain or "pretty sure" that Israel possessed nuclear weapons.[91]

Although the Israeli public has generally supported its country's nuclear posture, this support has eroded over time. In a 1987 poll, 80 percent of respon-

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88. Inbar, *Rabin and Israel's National Security,* pp. 119–122.
89. See Doron Almog, "The Israeli Strategy of Deterrence as a Model of Accumulated Deterrence," M.A. thesis, University of Haifa, 1995; and Uri Bar-Joseph, "Variations on a Theme: The Conceptualization of Deterrence in Israeli Strategic Thinking," *Security Studies,* Vol. 7, No. 3 (Spring 1998), pp. 145–181.
90. In a television program entitled "A Bomb in the Basement," aired on November 11, 2001, Shimon Peres stated: "Had Israel performed a nuclear test, it would have invited tremendous [international] pressure. You know, there is some pleasure in the [nuclear] ambiguity, just as there is deterrence in the ambiguity. We have chosen ambiguity—deterrence towards the Arabs, and pleasure towards friends."
91. Asher Arian, *Security Threatened: Surveying Israeli Opinion on War and Peace* (New York: Cambridge University Press, 1995), p. 71.

dents backed Israeli nuclear ambiguity, whereas in 2002 only 61 percent did.[92] Israeli opinions varied, however, on scenarios that would justify the use of nuclear weapons. For example, in a 1999 survey, 26 percent of respondents opposed the use of nuclear weapons in the event of a chemical or biological attack on Israel; nearly 56 percent rejected the use of nuclear weapons even if Israel were facing a potentially overwhelming conventional military threat; more than 80 percent would not support the use of nuclear weapons if the Golan Heights were taken by force; more than 83 percent would not want Israel to use nuclear weapons "to save many lives"; and 90 percent opposed using nuclear weapons "instead of the regular army."[93]

These figures strongly suggest that most Israelis would justify the use of nuclear weapons only as a last resort. The secrecy surrounding the development and deployment of nuclear weapons, however—especially in light of the deliberate (as well as unintended) leaks regarding Israel's nuclear capability—suggests a potential disconnect between the public's perception of the purpose of Israel's nuclear weapons and their purpose as understood by the Israeli leadership.

This difference in perception raises three questions. First, are the quantity and types of Israel's nuclear weapons consistent with the public image of them as weapons of last resort, which in turn helps to legitimize the policy of ambiguity? Second, is there effective political control over both the doctrine and development of these weapons? Third, is the Israeli public aware of the potentially destabilizing effects of offensive nuclear weapons, and would they support the development of such weapons?

Some sources indicate that Israel's nuclear arsenal includes both a significant overkill capacity as well as tactical nuclear weapons.[94] Given that the Israeli

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92. Asher Arian, *Israeli Public Opinion on National Security,* Memorandum No. 49 (Tel Aviv: Jaffee Center for Strategic Studies, Tel Aviv University 1998), p. 31; and Asher Arian, *Israeli Public Opinion on National Security*, Memorandum No. 61 (Tel Aviv: Jaffee Center for Strategic Studies, Tel Aviv University, 2002), p. 34.
93. Asher Arian, *Israeli Public Opinion on National Security,* Memorandum No. 53 (Tel Aviv: Jaffee Center for Strategic Studies, Tel Aviv University 1999). For a distribution of such opinions over the 1986–93 period, see Arian, *Security Threatened,* pp. 72–73. In the 2002 survey, only 16.75 percent favored nuclear retaliation to a chemical or biological missile attack. Arian, *Israeli Public Opinion on National Security,* Memorandum No. 61, p. 34.
94. See Hersh, *The Samson Option,* pp. 199–200; and Farr, "The Third Temple's Holy of Holies." See also the Federation of Atomic Scientists, http://www.fas.org/nuke/guide/index.html; the Monterey Institute of International Studies Report on Weapons of Mass Destruction in the Middle East, http://cns.miis.edu/research/wmdme/israel.htm#2; and the related sources on which these reports rely. On the possible use of tactical weapons on the battlefield, see Timothy Garden, *Can Deterrence Last? Peace through a Nuclear Strategy* (London: Buchan and Enright, 1984), chaps. 8–9. Garden describes Israel's current posture as "deterrence by denial of victory."

public opposes the use of tactical nuclear weapons, how does the government justify their production? What are the doctrinal requirements for which these weapons were produced?

The possibility that Israel possesses a wide range of tactical and strategic nuclear weapons grossly distorts the notion of the "Samson option" that the government has disseminated to the Israeli public. The regime of secrecy surrounding Israel's nuclear policy makes this distinction possible. Nuclear ambiguity may not only keep the Arabs guessing; it may also foster public support for the policy in the naïve belief that a logical consistency exists between the deterrent role of these weapons and the quantity and types of weapons produced.

There are two possible explanations for the discrepancy between the professed aims of Israel's nuclear policy and the quantity and types of weapons systems that Israel has produced. The first explanation is that Israel has shifted from a deterrence-oriented nuclear policy to one that is more offensively oriented, with perhaps even an imperialist strand.[95] This explanation adds another rationale to Israel's policy of nuclear ambiguity: It is presumably designed to mask not only the weapons but also the doctrine of nuclear deployment and use. An examination of Israel's foreign policy since the 1973 war indicates, however, that this explanation is inconsistent with Israel's demonstrated willingness—regardless of the party in power—to make territorial concessions on all fronts. Indeed, the tactical nuclear weapons attributed to Israel are not in keeping with the willingness or ability of Israel to hold on to the territories it has occupied in 1967.[96]

The second explanation asserts that technological considerations and bureaucratic inertia, rather than an overarching strategic logic, have driven Israeli research, development, and production of nuclear weapons. In other words, Israeli scientists set out to develop the most sophisticated weapons systems that their technological capabilities could afford, while the bureaucrats in the defense establishment sought to maximize their budgets. As in other types of

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95. See Levite and Landau, *Israel's Nuclear Image,* pp. 24, 52–53, 56; Emily Landau, *Egypt and Israel in ACRS: Bilateral Concerns in an Arms Control Process,* Memorandum No. 55 (Tel Aviv: Jaffee Center for Strategic Studies, Tel Aviv University, 2001), p. 23; and Yair Evron, *Weapons of Mass Destruction in the Middle East* (Washington, D.C: Henry L. Stimson Center, 1998), p. 18.

96. In fact, several scholars as well as left-wing politicians strongly support Israel's nuclear posture as a means for ensuring the peace once the occupied territories are returned. See Feldman, *Israeli Nuclear Deterrence,* pp. 237–243. See also the statement by Shimon Peres in a press conference on July 13, 1998, in which he said that Israel "built a nuclear option not in order to have a Hiroshima but an Oslo." Cited in Michael Barletta and Christina Ellington, *Israel's Nuclear Posture Review,* CNS Issue Brief on WMD in the Middle East (Monterey, Calif.: Monterey Institute of International Studies, December 1998), http://cns.miis.edu/research/wmdme/israelnc.htm.

military-industrial complexes, this coalition exaggerated the threat, "romanti-cized" the weapons and delivery systems, and used other ploys to create a re-ality that was inconsistent with or even contradicted the strategic logic of deterrence and the use of nuclear weapons only as a last resort.[97] Yet unlike many other military-industrial complexes, the Israeli nuclear community en-joyed almost absolute freedom of operation, for three reasons: (1) the secrecy surrounding the project, (2) the almost nonexistent doctrinal discussion in po-litical and academic forums, and (3) the lack of political control and oversight. Furthermore, some of the politicians responsible for Israel's nuclear policy were themselves infatuated with the technology. As a result, they may have been tempted by the scientists and weapons developers into supporting efforts to explore the frontiers of weapons development. Others may have had more political motivations.[98]

The disconnect between the public image of Israel's nuclear capabilities and the government's nuclear doctrine requires more elaboration than is possible here. Nevertheless, the public should be aware of the potentially destabilizing implications of Israel's possession of nuclear weapons other than as weapons of last resort—especially given that Israel's strategic competitors may already have this knowledge. If Arab leaders believe that Israel possesses tactical nuclear weapons, and if they believe that Israel would use them on the bat-tlefield, then their incentive to target these weapons at the outset of a con-frontation would be very high. The escalatory potential of such weapons runs contrary to the professed aim of deterrence. The Israeli public and their politi-cal institutions may nonetheless decide to support the development and pos-session of tactical nuclear weapons. Such support must be the result of open

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97. Given the secrecy that surrounds this issue, direct evidence on this point is difficult to obtain. Indirect evidence, however, is available. See, for example, Munya Mardor's *Rafael* (Hebrew) (Tel Aviv: Defense Ministry Publishing House, 1981). Mardor, a former director-general of the Israeli Weapons Development Authority, lists a large number of "initiatives from below" regarding the development of sophisticated weapons systems. Cohen, *Israel and the Bomb,* especially pp. 223–235, and Hersh, *The Samson Option,* pp. 216–218, also mention several bureaucratic struggles and initia-tives that suggest that efforts to miniaturize weapons and diversify delivery systems were not nec-essarily consistent with the logic of deterrence.
98. Rabin, *Personal Service File,* p. 526, recounts an episode in 1976 when Defense Minister Peres was seeking to increase the defense budget, stating that the IDF could not be held responsible for any consequences resulting from a cut in the budget. In *Battling for Peace,* p. 149, Peres noted that "every defense minister fights for [a] higher budget," and that he did not intend to subvert Rabin's authority. It is not inconceivable that nuclear weapons production and delivery systems were among the items being debated. Cohen, *Israel's Last Taboo,* notes that when Benjamin Netanyahu was prime minister, he too was taken with nuclear weapons–related technology and gave a broad mandate to experts in the nuclear research and development community.

discussion, however, not a bureaucratic fait accompli made in secrecy with little or no governmental, parliamentary, or public oversight.

Israel's nuclear policy has never been subject to a comprehensive evaluation. As a result, some of the major implications of this policy, such as its effect on the nonconventional arms race in the Middle East, have been all but ignored.[99] Most Israeli studies of nonconventional weapons in the region depict the development and acquisition of such weapons as almost independent of Israel's other capabilities. Moreover, Israeli strategists often minimize or ignore the impact of Israel's nuclear capability on Egyptian and Syrian nonconventional weapons development.

Israeli scholars typically interpret the desire of Arab states to acquire weapons of mass destruction as being motivated by considerations other than concern about Israel's nuclear status.[100] One Israeli analyst views Egyptian concerns in this regard as "not entirely born of the direct threat that these presumed weapons pose to Egypt." According to Emily Landau, "Egypt's quest for a nuclear weapons–free zone (NWFZ) in the Middle East may be grounded in its interest in leading the Arab world on the nuclear issue, i.e., using the nuclear issue as a means of consolidating its leadership position in the Arab world. . . . [as well as] Egypt's interest in the nature of the Middle East once peace agreements have been achieved—in this future Middle East, Israel would most likely be Egypt's foremost rival for regional power, and Egypt was reluctant to reach this stage with Israel as a nuclear power."[101]

Other accounts suggest that the ultimate goal of Egypt's NWFZ proposal is to force Israeli nuclear disarmament, thereby freeing the Egyptians to renew hostilities without fear of nuclear retaliation. These notions are driven by the assumption that Israel's nuclear policy has been phenomenally successful, and hence any effort to change it would severely threaten the country's security. In sum, Israel's policy of ambiguity and the cloud of secrecy surrounding it pre-

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99. In 1998, Defense Minister Yitzhak Mordechai authorized a comprehensive study of Israel's security doctrine. Public sources suggest that the study's participants concluded that Israel's nuclear policy—including the issue of ambiguity—did not require fundamental changes. See Barletta and Ellington, "Israel's Nuclear Posture Review." The study ended in February 1999, when Mordechai resigned from the defense ministry.

100. See, for example, Feldman, *Nuclear Proliferation and Arms Control in the Middle East;* and Danny Shoham, *Chemical and Biological Weapons in the Arab Countries and Iran: An Existential Threat to Israel?* (Hebrew) (Shaarei Tikva: Ariel Center for Policy Research, 2001). Two exceptions that consider Israeli nuclear weapons as part of the threat perceptions of both Egypt and Syria are Evron, *Weapons of Mass Destruction in the Middle East;* and Evron, *Israel's Nuclear Dilemma.*

101. Landau, *Egypt and Israel in ACRS,* p. 24.

vent any serious discussion of the relationship between the strategic logic of Israel's nuclear strategy and its actual capabilities.[102]

Conclusions and Policy Implications

Israel's nuclear policy is fraught with paradoxes, one of which is particularly noteworthy. From the mid-1950s to the early 1960s, when Israel's nuclear option was still only an option, there was considerable debate in the Israeli policy and security communities regarding the advisability of developing a nuclear deterrent and its potential implications for the Arab-Israeli conflict. A number of prominent Israeli strategists—including Yigal Allon, Yitzhak Rabin, and possibly Ariel Sharon—opposed the investment in nuclear weapons on both financial and strategic grounds. This debate occurred when the conventional military balance was only slightly in Israel's favor. A key argument of the opponents of the nuclear option was that Israel's conventional capabilities were sufficient to deter an Arab attack, and if deterrence failed, to decide the war in Israel's favor.[103] Four decades later, when Israel possesses a significant conventional edge over any possible Arab coalition—in both quantitative and qualitative terms—there is virtually no debate in Israel concerning the wisdom of maintaining its nuclear capability.[104]

There is, however, an even more perplexing paradox. One possible reason for the decline in the substantive discussion of Israel's nuclear policy is that the Israeli policy establishment, the Israeli academic community, and the Israeli public have by and large come to consider Israel's nuclear policy as an

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102. Other domestic implications of the ambiguity surrounding Israel's nuclear status involve questions of morality, legality, and the potential effects on the environment and public health. For a provocative and comprehensive discussion of the policy of ambiguity, both in the nuclear realm and in the realm of Israeli chemical and biological weapons programs, see Cohen, *Israel's Last Taboo*.

103. For the key arguments in this debate, see Cohen, *Israel and the Bomb,* pp. 148–151; Evron, *Israel's Nuclear Dilemma,* pp. 5–7; and Evron, "Israel and the Atom." Hersh, *The Samson Option,* p. 65, also mentions Levi Eshkol and Pinhas Sapir as opposing the nuclear project on financial grounds.

104. On the military balance, see Shai Feldman and Yiftah Shapir, *The Middle East Military Balance, 2000–2001* (Cambridge, Mass.: MIT Press, 2001); and Shmuel Gordon, The Military Capability Project, presentation at the annual Herzeliyah conference, "The New Strategic Landscape," December 2, 2002. For the Hebrew PowerPoint presentation, see http://www1.idc.ac.il/ips/content/2002m1Gordonheb_files/frame.htm. The only debate in recent years regarding the nuclear issue is if, when, and under what circumstances Israel should abandon its nuclear ambiguity posture. See Barletta and Ellington, "Israel's Nuclear Posture Review"; and Zeev Schiff, "How Long Can Nuclear Ambiguity Last?" *Ha'aretz,* August 24, 2000, http://www.fas.org/news/israel/000824-israel.htm. I thank an anonymous reviewer for pointing out this paradox.

unqualified success.[105] Nevertheless, on the eve of the 2003 U.S. attack on Iraq, the Israeli public as well as many in Israel's security community saw an Iraqi missile strike, perhaps with chemical or biological warheads, as a real possibility. So, nuclear deterrence is believed to be second to none when it comes to security, except when it is put to the test. Then there is general agreement that Israel's nuclear capability cannot deter a committed adversary.[106]

Several conclusions flow from this analysis. First, the notion that Israel's nuclear policy has provided an effective deterrent against an all-out attack by an Arab coalition is tenuous. There is no evidence that any of the likely members of such a coalition has expended the human and material resources required for such an attack. This lack of evidence suggests that Ben-Gurion and his followers overplayed the potential threat and that skeptics such as Allon, Gallili, and Rabin were correct in their belief that Israel's conventional capability was a sufficient deterrent.

Second, there is no direct evidence that Israel's nuclear capability worked to limit Arab operational plans. Nor did the arming of Israeli nuclear weapons have a noticeable effect on Arab actions at times of war. Available evidence suggests, however, that political objectives and Israel's conventional capability were prime considerations in the Egyptian and Syrian calculations in the 1973 war. It also indicates that technical considerations or U.S. deterrence (or perhaps both) possibly had a more pronounced effect than Israeli threats of nuclear retaliation on the Iraqi decision to refrain from firing chemical warheads at Israel during the 1991 Persian Gulf War.

Third, there is no direct evidence connecting Israel's nuclear capability to the willingness of the Arab states and the Palestinians to negotiate with Israel. Numerous peace initiatives had their origins in either Syria or Egypt prior to the

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105. Avner Cohen, *Israel's Last Taboo*, cites journalist Zeev Schiff as having said: "If I had to choose a single idea that deserves the Israel Prize [a prestigious prize given by the Israeli government to individuals and institutions for their contribution to science, society, and security], I would choose whoever invented the policy of nuclear ambiguity without hesitation." In a survey conducted in the spring of 2002, the Israeli daily *Yediot Aharonot* asked readers to rank order the fifty most successful decisions in Israel's history. The decision to build the Dimona reactor came first with a large margin from the second most successful decision.

106. Iraq did not fire any missiles at Israel during the 2003 engagement. At the time this article went to press, however, there was no evidence that Iraq possessed long-range missiles capable of hitting Israel. Nor is there evidence that Iraq possessed meaningful stockpiles of chemical and biological warheads for long-range missiles. I do not have sufficient information to discuss this war in terms of Israeli nuclear policy. Israeli preparations for the war do indicate, however, a lack of confidence among the public and the government in the deterrent potential of Israel's nuclear arsenal.

inception of the nuclear project, during the initial phases of this project, or after the project had reached operational status. The holdout in many of these cases was Israel, not the Arab states. What brought about not only direct negotiations but also a series of agreements was the eventual willingness of Israeli leaders to trade territory for peace, a result due in part to the realization that neither the occupied territories nor Israel's nuclear weapons bolster security.

Fourth, the regime of secrecy surrounding Israel's "ambiguous" or "undeclared" nuclear status precludes balanced and open debate about this policy. Furthermore, most scholarly work in this area has been uncritical and self-serving, championing the establishment's view of the decidedly positive balance sheet of this policy and discounting calls for nuclear disarmament.

Fifth, this lack of self-examination has prevented open and frank discussion of the logical and operational pitfalls of Israel's nuclear policy. Even if one supports a nuclear deterrence posture, there are many ways to go about implementing such a policy. It is far from clear whether the contours of Israel's nuclear policy and its doctrinal and operational components are consistent with the goals of nuclear deterrence.

So what are the policy implications of this analysis? Should Israel renounce nuclear weapons? The answer I suggest is yes, but for a price. In return for greater regional security, Israel must give up its nuclear weapons.[107]

To explain this thesis, it is useful to consider Israel's policy vis-à-vis the occupation of Arab territories following the 1967 Six Day War. Since the occupation, many Israelis have developed a cult-like devotion to these territories. Followers adhere to the belief that the territories have significantly enhanced Israeli security: Not only do they prevent or limit the likelihood of war, but they increase the prospects for a peaceful settlement to the dispute.[108] Since the

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107. Only a few members of Israel's security community have called for reconsideration of Israel's approach to disarmament. See, for example, Shmuel Gordon, "The Iranian Threat," *Yediot Aharonot*, May 28, 2002, http://www.ynet.co.il/articles/1,7340,L-1914319,00.html; Oded Balaban, "A Recipe to Regional Conflagration," *Ha'aretz*, June 6, 2002, p. 82; and Meir Pa'il, "Israel's Wars: Toward the 50th Anniversary of the State of Israel," in Sara Aharoni and Meir Aharoni, eds., *People and Deeds in Israel* (Hebrew) (Tel Aviv: Miksam, 1998). These voices represent a small minority within Israel's security community.
108. The Israeli right's notion of continued occupation of the territories as a foundation for peace is based not on the land-for-peace formula, but on the peace-for-peace formula, wherein Israel agrees not to attack the Arab states or defeat them in war in exchange for peace treaties, diplomatic relations, and open borders. For an example of this vision, see Benjamin Netanyahu, *A Durable Peace* (New York: Warner Books, 1993), pp. 321–352. See also Shlaim's discussion of this conception in his historical survey of Israeli policy toward the Arab world, *The Iron Wall*, especially pp. 447–457, 564–575.

1973 Yom Kippur War, however, this has not been the prevailing view. A growing conviction has developed among Israelis that the occupation has not contributed to Israel's security; it has not prevented war; and it has not made war less costly. Indeed Israelis are increasingly concluding that (1) the occupation is decreasing Israel's security, and (2) it is having a corrupting influence on Israeli society and its value system.

As a security asset, the territories are a tradable commodity. Indeed, since the Sadat peace initiative, most Israelis have come to embrace the land-for-peace formula, despite a variety of setbacks—including, most recently, the second intifada, which began in September 2000.[109] In the end, trading territories for peace will increase Israel's security, its international standing, and its well-being.

Once the link between nuclear capability and security is broken, Israel should be willing to use its nuclear card as leverage to achieve verifiable conventional and nonconventional arms control and disarmament agreements with its Arab neighbors as well as Iran and states in North Africa. These agreements should be part of a regional security regime that would not only guarantee a weapons of mass destruction–free zone, but would also include a number of institutions and arrangements that would enable the peaceful resolution of disputes, ensure transparency, and guarantee the security and territorial integrity of all members. The regime should be comprehensive and involve as many states as possible.

Paradoxically, just as Israel's nuclear policy paved the way for a massive arms race in the region, it can be used as the trump card in a regional agreement on arms control and disarmament. If there is a lesson to be learned from the peace process thus far, it is that Israel would be better off to engage in this kind of trade now, rather than being forced into it later, perhaps after these weapons have been used in combat.

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109. See the Peace Index, *Ha'aretz,* March 5, 2002, p. B3; Asher Arian, *Israeli Public Opinion on National Security, 2001,* Memorandum No. 60 (Tel Aviv: Jaffee Center for Strategic Studies, Tel Aviv University, 2001), p. 12. In the wake of the most recent wave of terrorist suicide attacks against Israeli citizens, however, many Israelis have begun to seriously question the land-for-peace formula.