Chapter 3

An Israel-Iran Balance of Nuclear Deterrence: Seeds of Instability

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Introduction

The following essay takes as its starting point the assumption that efforts to contain the Iranian nuclear effort will fail and Iran will eventually acquire a nuclear weapons capability. This is not to suggest that this development is unavoidable. In fact, there is still a good chance that international efforts to contain the Iranian project (either diplomatic or through sanctions, or possibly even military action) might ultimately succeed, or at least keep Iran at a low level of nuclear development for a long time. However, an analysis of the possible consequences of Iran's becoming a nuclear state can lead to several policy-oriented conclusions regarding different steps that could be taken to minimize the dangers resulting from such nuclearization.

An assessment of the potential ramifications of Iran becoming a nuclear power is by definition a speculative effort with many uncertainties. Furthermore, there are many difficulties in developing an analytical framework designed to assess decision making in a future Israeli-Iranian nuclear relationship. In the analysis that follows, the approach is first, to take as a starting point the superpowers' nuclear relationship during the Cold War and identify its basic structure and mechanisms; second, to consider briefly another regional nuclear relationship, the Indian-Pakistani dynamic and its lessons for the Israeli-Iranian relationship; and third, to assess to what extent the superpowers model is applicable to the Middle East in general and the Israeli-Iranian relationship in particular.

It is likewise still difficult to come to a definitive conclusion regarding the effects of proliferation on international stability or specific regional contexts, and many fundamental uncertainties remain.[1] The fact that since

Hiroshima and Nagasaki no nuclear device has been used in the course of hostilities might lead to the tentative conclusion that a third use of a nuclear weapon in war is of very low probability. This conclusion is based on the superpowers relationship during the Cold War – the only historical example of a relatively stable and long nuclear deterrence balance. But would this pattern recur in various regional nuclear conflicts?

Many decision makers and observers assume that a nuclearized Iran would contribute to instability. There is a need, however, to analyze in more detail the causes of such expected instability and on this basis derive policy oriented conclusions.

The Superpowers' Central Balance of Nuclear Deterrence

The superpower mutual nuclear relationship evolved gradually from the early 1950s and persisted for some forty years, until the end of the Cold War and the disappearance of bipolarity. It developed over time and underwent several phases. The notion of stable mutual deterrence developed slowly, and a search for measures designed to enhance nuclear stability began only in the late 1950s and continued thereafter through the development of second strike capabilities and advanced elaborate command and control systems on the one hand, and arms control and Confidence and Security Building Measures (CSBMs) on the other hand. But during the 1960s and 1970s there were several major superpowers crises that could have led to nuclear exchanges. Indeed, even in the phase of relative stability there were periods of severe competition – both political and also in arms buildup. And, in the first half of the 1980s, tensions yet again led both rivals to seek capabilities that would allow them to "win" the arms race, though these efforts appeared not unlikely to change the basic balance of deterrence.

Thus, one of the main lessons of the nuclear era has been that it was replete with dangerous points and that at various times decision makers on both sides erred and misconstrued the intentions of their rival. The stability of the "central balance of deterrence" has, therefore, always been a product of trial and error and of continued efforts to overcome dangerous situations and manage crises as they arise.

Voluminous literature has been devoted to the nature of nuclear weapons and their effects on politics and strategy, and fundamental disagreements remain on almost every aspect of these subjects. However, a structural

analysis of the superpowers' balance of deterrence suggests that there were several basic characteristics that contributed to its stability. Some of them were specific and context conditioned, some technical, and some related to the nature of societies and regimes. Altogether these could be divided into several subsets: political relations between adversaries; historical conditions; stability of societies and regimes; technical systems; characteristics of the nuclear weapon systems; strategic doctrines; and cognitive issues. There is broad agreement that some of these factors were essential and in their absence, the likelihood of escalation to the nuclear level would have been high. In contrast, there are many disagreements concerning first, whether the central balance of deterrence was indeed all that stable; second, which factors were essential for the creation of deterrence stability and whether they – or some of them – were dependent on the specific context of the superpower relationship; and third, whether regional nuclear deterrence relationships could be stabilized, were similar factors to obtain therein.

The following, in various degrees of importance, is a list of the conditions for stability**,** as derived from the "central balance of deterrence": bipolarity; stability of regimes and effective control over nuclear systems; socialization as to processes of learning in the nature of nuclear weapons; second strike capability; command, control, and intelligence systems (the current full title is command, control, communications, computers, intelligence, surveillance, and reconnaissance – C^4ISR); no direct territorial friction; elaborate systems of decision making in situations of crisis; open channels of communication; and arms control agreements and various CSBMs.

Lessons from the Indian-Pakistani Nuclear Relationship

India and Pakistan apparently succeeded in developing small arsenals of nuclear weapons already in the late 1980s or early 1990s (with India having fissile materials and components for the assembly of nuclear weapons much earlier). More precisely, it was assumed they had these capabilities though they did not explicitly admit it. In 1998 India and Pakistan tested nuclear weapons and thus became declared nuclear powers. En route to this status several major crises bordering on escalation to the nuclear threshold took place between them. In 1990, because of the situation in Kashmir, limited military confrontation began escalating and the possibility of a

major war was imminent. At the height of the crisis, Pakistan took initial steps towards the assembly of some nuclear weapons. Only substantial and intensive American diplomatic intervention defused the crisis.

In the post-crisis analysis, two interpretations emerged. One, it was the nuclear moves Pakistan undertook that ultimately deterred India from attacking.[2] Conversely, and more convincing, India was not deterred by Pakistan's nuclear signaling. Rather, India in any event was not seeking war, but was drifting towards it in response to Pakistani terrorism in Kashmir and extreme domestic pressures. Thus, once the US intervened and succeeded in convincing Pakistan to stop backing military activity in Kashmir, India was ready to forgo the military option. Furthermore, the Indian leadership was not at all aware of the Pakistani nuclear signaling, and to the extent that the nuclear issue was raised, Indian leaders did not consider it a sufficient deterrent against military action.

Several conclusions can be drawn from the 1990 crisis. First, the existence of some nuclear capabilities did not deter the escalation that led to the crisis. Second, the two adversaries had different interpretations of the effects of Pakistan's nuclear moves. Third, the crisis was managed only through very active outside diplomatic intervention, which led to limited resolution of its overt cause, namely, the Pakistani backing of the insurgency in Kashmir. Fourth, the existence of democratic regimes does not guarantee against miscalculations. On the contrary, weak democratic governments such as those the two countries had at the time are less likely to behave rationally than strong authoritarian regimes.

In 1999, after the two states were already open nuclear powers, the Kargil crisis erupted, some of whose basic characteristics were present four years later when the 2002 crisis erupted. The crisis escalated rapidly and the concern over it prompted Washington once again to intervene diplomatically to defuse the crisis.[3]

A post-crisis analysis suggests that the two adversaries interpreted the implications of the nuclear factor differently. The Pakistani military leadership assumed that its nuclear capability would deter India from escalation and would allow it to conduct limited war in Kashmir and support a terror campaign in India. The Indian leadership assumed that the only way to force Pakistan to halt its military campaign in Kashmir was by military escalation, and was not deterred by the potential Pakistani

nuclear threat. India thus planned a limited war, which presumably would not cross the assumed Pakistani tolerance threshold. However, there was no common understanding concerning the red line whose violation would trigger Pakistan's use of nuclear weapons. In addition, and contrary to the 1990 crisis, both before and during the evolution of the crisis Pakistan had an authoritarian regime, while India remained a democracy. This change of regime in Pakistan, however, was not necessarily a factor leading to instability. Indeed, during the crisis itself, the Indian government was under increased domestic pressure to toughen its stance and escalate. The common factor was the strong American intervention. Its ability to influence and pressure both India and especially Pakistan was greater than in the former crisis. Both adversaries moved closer to the US, and Pakistan became even more dependent on it.[4]

The Iranian Nuclear Posture

Iranian strategic leaders likely perceive security threats from different directions, some of them emanating, at least potentially, from nuclear powers: Iraq (until 2003 perceived as a potential nuclear power), the US, Israel, Pakistan, and Russia.

Until the American occupation of Iraq in 2003, the primary strategic threat that Iran faced was from Iraq, and this was probably the principal cause for the renewal of its nuclear project. Since the American invasion of Iraq and the destruction of the Iraqi armed forces, coupled with the fact that the Iraqi WMD capability ceased to exist, the potential Iraqi threat has disappeared in the short and medium terms. Iran's current nuclear development is probably aimed at deterring the US, balancing other nuclear regional threats, and deterring Israel. However, beyond deterrence Iran is pursuing an aggressive regional foreign policy and issuing threats vis-à-vis Israel, and is most likely searching for a dominant role in the Middle East. This is already perceived by several regional states – including the Gulf countries, Egypt, Israel, and Turkey – as a threat to their national interests.[5]

Since Iran denies its effort to obtain nuclear weapons capability, it has not as yet intimated what might be its nuclear strategic doctrine. However, an analysis of the history of the Iranian project coupled with the geo-strategic environment of Iran could lead to several tentative conclusions

as to the Iranian posture. One major constraint governing Iranian nuclear behavior is that for quite some time its nuclear arsenal and delivery systems would be limited. Hence it will face difficult choices in the allocation of capabilities for different missions.

Israeli-Iranian Nuclear Deterrence

Presently, Israel and Iran – as leading regional powers – perceive each other as major adversaries. The extreme ideological stance that Iran has adopted vis-à-vis Israel, Iran's support and encouragement of armed hostilities against Israel, and its effort to sabotage the peace process has turned Iran into one of Israel's staunchest enemies. Iranian nuclearization, therefore, appears as a major existential threat to Israel. In turn, the Israeli international diplomatic efforts against Iranian nuclearization and the implied military threats to destroy the Iranian nuclear facilities have enhanced Iranian hostility toward Israel. A potential source for confrontation might result from a clash between Israel and a neighboring state allied to Iran, or between Israel and a sub-state armed organization (Hizbollah).

There is no scientific way of assessing the probability that an extreme Iranian regime would attempt the first use of Iranian nuclear weapons out of an ideological drive to destroy Israel. Hypothetically, a regime that is totally devoted to the pursuit of its extreme ideological objectives and is even ready to sacrifice part of its population might entertain this option. This presumably might become a more viable option if Iran accumulated an arsenal with several dozens of bombs and credible delivery vehicles, and on this basis, might hope that using all of them against Israel would destroy all of Israel's nuclear capabilities. If some remained, then Iran would be ready to absorb a limited Israeli counterstrike. However, in view of Israel's widely assumed large nuclear arsenal and numerous delivery vehicles, including various protected platforms that form a second strike capability, it appears highly improbable that even a fanatic leadership would choose such a policy. The dangers are enormous, not only to Iran as a country but first and foremost to the regime itself. No regime, even if endowed with the most extreme ideology, chooses to commit suicide.[6] Moreover, Iran must consider not only Israel's second strike capability, but also the high probability of a devastating American response.

Putting this scenario aside, therefore, the following analysis focuses primarily on the nature of a possible deterrence relationship between Israel and Iran.

Main Determinants Affecting Stability of an Israeli-Iranian Nuclear Balance

Regional political context. It is a commonplace that the Middle East has long suffered from political instability in the form of conflicts, arms accumulation, and wars – between Arab states, between Israel and the Arabs, and between Iran and Iraq – as well as intensive domestic instability in many areas. However, certain long term and mid range processes have introduced important modifications to the regional system, which thus departs in some significant ways from what existed until the 1980s. The Arab state system has undergone radical changes, and Arab states as a group have lost much of their influence over regional developments. Among Arab states, the influence of Syria has deteriorated. The United States has gained an unprecedented power position in the region. Most of the Arab regimes are clearly oriented towards the West; Egypt and Jordan have peace treaties with Israel; and in general Arab nationalist radicalism has declined as a mobilizing and unifying force. All the Arab regimes presently perceive of radical militant Islam as their main threat and share a vital interest in resisting it. These trends appear to enhance the prospects for greater political and strategic stability. On the other hand, the continued Israeli-Palestinian conflict, the pressure of domestic forces backing militant Islam, the rise of Iran under a radical fundamentalist Islamic regime, the uncertain future of Iraq, and the possibility that region-wide terrorism would increase following the expected withdrawal of American forces from Iraq all continue to serve as sources of instability.

Currently, the only neighboring Arab state hostile to Israel is Syria. It is of course difficult to predict what Syria's international orientation and its relationship with Israel will be in several years time, once Iran acquires a nuclear capability. But if it maintains its current foreign policy and if it establishes a defense alliance with Iran, the potential for Israeli-Iranian escalation will increase.

Number of Main Actors. The deep suspicions that most regional actors have about Iranian intentions might lead to further proliferation were Iran

to nuclearize. Saudi Arabia (with possible help from Pakistan), Egypt, and Turkey are considered possible nuclear contenders. Multipolar "anarchical" systems (namely devoid of a central power imposing stability) would severely complicate rational decision making during nuclear crises.

Territorial Contiguity. Similar to the superpowers context, Israel and Iran do not have common borders and have no direct conflicting territorial claims. This reduces to an extent the potential level of friction between the two states and the potential for direct military friction. A possible future deployment of Iranian forces in Syria as part of a defense alliance might increase the danger of direct conflict.

Regime, Society, and Socialization in Nuclear Affairs. At issue is to what extent the type of regime and the degree of social coherence affect control over nuclear systems and the nature of decision making. Past experience suggests that authoritarian regimes can have as effective control over nuclear systems as democratic ones. The problem with Iran regarding control, therefore, is not its lack of democracy, but the possibility of violent domestic political changes and also frictions between different regime agents regarding control of nuclear assets. Extreme ideological positions and distorted and paranoid perceptions of the adversary's intentions might lead to irrational decisions during times of crisis. Finally, it is not clear to what extent the Iranian leadership and the high level bureaucracy in charge of defense policy have undergone a process of socialization (i.e., education) in the nuclear "facts of life." This usually takes a long time, and – as the Indian-Pakistani crises demonstrated – opponents' diverse interpretations of events could lead to quite different understandings of the role played by nuclear weapons.

It can be assumed that after almost forty years of purportedly having a nuclear capability Israel has adopted effective means of control over its nuclear systems. However, there is still a broad need for further effort to be invested in the socialization in nuclear affairs and the study of various contingencies involving nuclear affairs. Furthermore, the extreme ideological positions of Iran coupled with continued existential concerns that haunt the Israeli public and leadership might adversely affect rational decision making.

Second strike capability is an issue that has been enshrined in the theory and practice of nuclear deterrence. In its absence by one side, a nuclear rival

might entertain the hope of destroying completely the nuclear assets of its opponent and consequently expose it to unlimited military and political demands. At the same time, the party lacking second strike capability might be tempted to strike first, in the hope that it would at least curtail the expected damage that might be caused by the inevitable first strike by its adversary. Thus, theoretically, for the balance to be stable both sides need a second strike capability. Under conditions of uncertainty about the second strike assets of both sides, mutual anxieties might lead to first strikes.

At the same time, there is no need to emulate the superpowers model exactly for a regional nuclear balance to be stable. The classic triad of strategic forces with all its components is not essential. Rather, what is surely necessary is that each side has sufficient known or assumed capabilities to create a significant measure of certainty by its adversary that it has the capability to strike back and thus cause unacceptable damage to the other side. Conditions for accomplishing this vary from one context to the other. In the Israeli-Iranian case, unacceptable damage would mean a high level of destruction to the main urban centers and especially to the centers of government and the command and control facilities. There is possibly an asymmetry between Iran and Israel in regard to the effect of second strike capabilities. In view of repeated declarations by Iranian leaders that Israel should disappear from the map, versus the complete absence of interest on the part of Israel in causing devastating damage to Iran and its people per se, the need for an Israeli second strike capability is more emphasized for mutual deterrence stability. The absence of an Iranian second strike capability would not therefore "invite" an Israeli first strike per se.

The mutual images the parties have of second strike capabilities would be based on some calculations, be they even crude, about the survivability of the rival's nuclear systems. Israel maintains a veil of ambiguity over all its nuclear capabilities, but international sources have suggested that it has a large arsenal of warheads (60-80, according to one American official estimate, up to 200 according to the IISS, and more according to other possibly less reliable sources).[7] In addition, it has been widely suggested by foreign sources that Israel's warheads are carried by both aircraft and missiles, with sufficient ranges to hit Iran. Both the airports and the missile silos are presumed to be hardened. Thus, it can be assumed that no rational

decision maker would doubt the Israeli capability to strike back at Iran if the latter decided to launch a counter force first strike.

Command and control comprises two dimensions: the technical systems for early detection, warning, and control; and the decision making process responsible for the activation of nuclear weapons.

It has become a common assessment in the context of the superpower model that reliable C^4ISR systems are critical for the stability of nuclear deterrence. On the most elementary level, if early warning systems do not operate correctly, there is the danger of an undetected nuclear surprise attack. Conversely, if these systems mistakenly signal an incoming nuclear strike when in fact nothing occurred, decision makers in the target country might try to respond with the nuclear capability under their command before being hit first. This might lead to a nuclear war by mistake. Another possibility is that nuclear launching systems would be activated but no actual attack would be executed. However, if these preparations are detected by the other side, they might raise undue alarm there and lead it to dangerous nuclear moves.

In the Israeli-Iranian context, the dangers of early warning failures are much higher than was the case in the superpower context. First, because of the short distances, the warning lead time is much shorter, and therefore the scope for mistakes is wider. This might be even worse were Iranian nuclear missiles or aircraft to be deployed in areas nearer to Israel. Second, while Israeli early warning systems are developed and sophisticated, this cannot be said about the Iranian counterparts. Third, since additional actors might be involved in an Israeli-Iranian crisis, the ability of early warning systems to carefully detect and differentiate incoming flights or missile launches from the outside would be much more complicated than was the case in the superpowers context. Fourth, it would be virtually impossible to determine what kinds of armaments are carried by incoming aircraft or missiles: conventional, biological, chemical, or nuclear. Different munitions, however, require different responses.

These points relate primarily to the technical dimension of early warning systems. Equally important is the ability of decision makers to make rational decisions upon receiving early warning signals. Misperceptions about the intentions of nuclear adversaries could easily lead to disastrous consequences. Thus, for example, the image of Israel as the "small Satan"

that is invoked regularly among the current Iranian leaders might lead to mistaken conclusions about Israeli military steps.[8] Any early warning of incoming flights from the assumed direction of Israel might be construed as an Israeli nuclear attack, or alternatively of a conventional attack designed to neutralize Iran's nuclear capability.

It is likely that the conceptual background of Israeli decision makers would be at least partly affected by images of Iran's presumed desire to destroy Israel. This might provoke an Israeli decision to launch a preemptive counterforce nuclear strike against Iran if there are signals that an Iranian first strike is imminent. Extremely short time spans for making such decisions and the possible built-in technical problems involved in any early warning system coupled with the relatively short distances involved might cause very significant difficulties for rational and cautious decision making.

Interactions. Any miscalculation in a crisis situation will be further aggravated against the background of previous threats by decision makers calling for the annihilation of their opponents on ideological grounds (while Iran's president has not said as much, his repeated assertions that Israel is doomed to disappear could be construed as implied threats to use Iran's capabilities for that purpose). These threats might in reality be empty rhetoric, but their utterance could naturally be perceived as representing real intentions.

The danger involved in loss of control over nuclear forces is enormous. In addition there is a critical danger that rivals or even neighbors of the nuclear power might react preemptively against nuclear forces of the rival when its regime appears to be under threat of violent domestic change, for fear that an irresponsible group within the rival party is likely to make miscalculations that might affect decisions of the other party. If party A assumes that there is a high likelihood that its opponent (party B) would miscalculate or behave irresponsibly, party A might take precautionary actions, such as, for example, striking first.

The Israeli Nuclear Posture: Effects of Iranian Nuclearization

Because of its official strategy of ambiguity, the Israeli nuclear posture has never been formally articulated. Indirect evidence, however, coupled with

a body of observations and speculation based on rational analysis leads to several assumptions about it.[9] In the first place it comprises *general deterrence*, that is, deterrence against a general Arab attack on Israel that constitutes an existential threat. A second component is *a weapon of last resort posture*, either as a deterrent or in actual use under conditions of imminent defeat. The application of such a strategy raises tremendous problems: definition of the threshold where "last resort" uses should be invoked; to what extent effective deterrence could be achieved at a very last stage; and most problematic, the implications of the actual use of nuclear weapons. Third, there are various possibilities of *specific* or *immediate deterrence*, namely direct deterrence in times of crisis. Finally, there is deterrence against the use of other types of weapons of mass destruction.

Currently, the probability of situations in which nuclear general deterrence is relevant and even more so the posture of weapons of last resort is extremely low. On the political level, Egypt and Jordan have peace treaties with Israel; Syria is isolated and very weak; and Iraq has no military power. In addition, due to many developments, Israeli conventional superiority over its opponents is highly defined. Finally, the American-Israeli strategic cooperation contributes considerably to Israel's overall deterrence. Given this background, general deterrence could be based primarily on conventional superiority. The nuclear capability should be considered as an additional safeguard against major adverse changes (though apparently at present with very low probability) in regional politics.

However, the situation might become more complicated were Iran, for example, to become involved in defense commitments in conjunction with an Arab military coalition. Here specific deterrence is relevant. Adversarial regional actors might perceive the role of Iranian nuclear threats as a component in their armed conflict with Israel. They might assume that an Iranian deterrent "umbrella" would undercut Israel's "escalation dominance" capabilities. Consequently, they might assume that Israel would be constrained in its responses to Arab military attacks. Were deterrence to fail and should Israel escalate with all its military might under conditions of military superiority, escalation to the nuclear level might ensue.

In this context, Israel might be less confident in either employing highly offensive measures to bring about the complete destruction of adversary

forces or deeply penetrating its territory. To be sure, such exercise of Israeli force may in any event not be beneficial from Israel's point of view, since the experience of all prior Israeli-Arab wars has already demonstrated that an Israeli total victory is very problematic. Israel has always found it difficult to translate military victory into a major political achievement. (The Israeli-Egyptian peace process did indeed take place following the occupation of the Sinai by Israel in 1967, but only after Israel agreed to withdraw from the Sinai and with the convergence of additional conditions).

In all these potential situations mutual nuclear deterrent threats might be invoked. Preventing escalation to the nuclear level would depend on several factors, many of them described here. Delineating some rules of engagement accepted by both regional nuclear powers might become necessary in order to prevent dangerous escalation.

Israeli nuclear deterrence against the use of chemical and biological agents would become much more dubious. If deterrence failed, it would be irrational for Israel to use nuclear weapons and thus cross a dramatic threshold, providing legitimization for the use by opponents of similar weapons.[10] This line of reasoning could be followed by adversaries and lead to the conclusion that Israel's nuclear deterrence against the use of chemical and biological agents is not credible. This implies that Israel should develop a posture of escalation dominance where nuclear deterrence is limited only to deterrence against adversarial use of nuclear weapons.

Measures to Enhance Stability

The first measure to enhance stability involves political relations. There are sufficient reasons why Israel should have an interest in securing peace with Syria and managing its relationship with the Palestinians, but in addition such developments would considerably curb the dangers resulting from a nuclearized Iran. The second measure involves American and international efforts that could contain further proliferation in the Middle East, including the extension of American defense guarantees to regional countries and the strengthening of the global non-proliferation regime, which might constrain proliferation inclinations. On the other hand, global drifting towards wider proliferation, be it even to status quo powers, might enhance regional tendencies towards proliferation.

In addition, establishment of direct communications between Israel and Iran could serve as an important mechanism in redressing dangers involved in the nuclearization of Iran. This presumably will have two functions: first, improving the overall relationship between Israel and Iran in order to reduce threats of friction leading to escalation. Whether such an improvement is possible given the significant gaps between the two countries remains to be seen. Second, even in the absence of political improvement, communication designed to manage critical crises should be developed. Third parties could also play a role in communicating between the parties. Were American-Iranian relations to improve, the US could act as a crisis manager, receiving and delivering messages between the two adversaries. Alternatively, a neutral organization might act as a conduit.

There is a difference between two types of crisis management: first, when an impending potential crisis is monitored and attempts are made to defuse it before it materializes; second, dangerous escalations in which there is an immediate development requiring response. The hot line established between the superpowers was designed to contend primarily with the second type. Ultimately, in order to preempt potential catastrophic results of the second type, direct lines of communications are necessary.

In addition – and the following comments touch only on the Israeli dimensions – is the issue of nuclear socialization. It is important for decision makers to consider much more intensively the various scenarios and possibilities that might arise within the context of an Israeli-Iranian nuclear relationship. Indeed, under conditions of crisis, decision makers tend first to rely on standard operating procedures that were already formulated beforehand. A doctrine for nuclear behavior will then gain high prominence in the decision making process. A "bounded rationality" model fits this crisis behavior.

Formulating various contingency plans and an overall doctrine is also part of the socialization of decision makers on nuclear issues. There are some very general issues that merit more extended discussion. First, the actual use of nuclear weapons is such a momentous event with many unexpected and potentially devastating consequences that it should be avoided in almost all circumstances. Therefore there should be a gap between deterrence threats and the actual exercise of the threats. While Israel might find it necessary to issue deterrence threats that could be

interpreted as nuclear, the actual exercise of such threats should be left to further discussion should deterrence fail. At the same time, the realization of this critical gap between threat and its exercise should also inform the nature of the deterrence signals. Second, Israel should not automatically emulate the strategies and their underlying rationales adopted by the United States. For example, in contrast to current American strategy, Israel should not threaten nuclear retaliation for adversarial use of chemical and biological weapons.

Deterrence relies to a certain extent on uncertainty. However, both sides should perceive the other as primarily a rational actor. Contrary to the famous formulation of the "rationality of irrationality" and to notions of "crazy states," nuclear deterrence should be conducted primarily as a rational instrument, and hence exercised only in the most critical circumstances. These observations should reflect also on various scenarios for "last resort" and battlefield uses.

The possibility of an American-Israeli defense treaty requires a separate analysis. Such a treaty could probably enhance deterrence against Iranian irrational behavior. Finally, there is the question of "no first use," which also requires a separate analysis. An agreement for no first use would arguably serve the strategic interests of both parties. It could materialize either through formal agreement or through unilateral steps such as declared doctrine for no first use.

Concluding Observations

Nuclear relations between Israel and Iran would be inherently unstable due to several contextual conditions Chief among them are: the nature of the Middle East state system in a conflict-ridden region with several foci of violence; the extreme ideological position of the current Iranian leadership against Israel and the likelihood that it would also try to apply coercive diplomacy vis-à-vis its neighbors; the lack of socialization in nuclear affairs primarily on the part of Iran, though to a lesser extent on the part of Israel as well; the inherent problems of C^4ISR systems in the Middle Eastern context; the difficulties in successfully communicating nuclear tolerance thresholds and consequently in formulating rational strategic responses; the absence of any direct channels of communications; and the lack of crisis management mechanisms.

The example of the India-Pakistan nuclear relationship demonstrates, first, that the introduction of nuclear weapons does not by itself lead to more cautious behavior on the part of adversaries. Second, the existence of nuclear weapons might even encourage irresponsible behavior, on the assumption that the adversary would be deterred from conventional retaliation for fear of crossing a nuclear threshold. Third, there is a high probability that nuclear signals will not be understood and that mutual misperceptions would lead to nuclear escalation. Fortunately for both India and Pakistan, the United States intervened and helped the parties to deescalate. Moreover, both India and Pakistan are currently trying to establish various CSBMs designed to reduce the fear of another dangerous escalation.

Nuclear optimists argue that the introduction of nuclear weapons immediately or ultimately stabilizes conflict relations (though some suggest that such stabilization depends on several additional conditions). In contrast, nuclear pessimists regard nuclear weapons as not inherently stabilizing conflict relationships, with life in a nuclear world (or regions thereof) as necessarily permeated by the threat of nuclear escalation. Only great and focused efforts could contain such threats.

Notes

1 There is a rich body of literature on nuclear proliferation. For some initial theoretical contributions as to the structure of the international system see the various chapters in Alastair Buchan, ed., *A World of Nuclear Powers?* (Englewood Cliffs, NJ: Prentice Hall, 1966); and Richard Rosecrance, "International Stability and Nuclear Diffusion," in *Problems of Nuclear Proliferation*, Security Studies Papers no.7, UC, 1966. For early work on the potential stabilizing effect of proliferation see Pierre Gallois, *The Balance of Terror: Strategy for the Nuclear Age* (Boston, 1961). For a well known debate on the effects of proliferation, see Kenneth Waltz and Scott Sagan, *The Spread of Nuclear Weapons: A Debate* (New York: Norton, 1995).

2 Several observers have argued that nuclear deterrence in fact operated in the crisis and led to its diffusion. See for example Devin T. Hagerty, "Nuclear Proliferation in South Asia: The 1990 Indio-Pakistani Crisis," *International Security* 20, no. 3 (1995-96): 79-114. For an opposed view see George Perkovich, *India's Nuclear Bomb* (Berkeley: University of California Press, 1999).

3 There have been many accounts of the Kargil and 2002 crises. For a very good account of the 2002 crisis see Steve Coll, "The Stand Off," *The New Yorker*, February 13, 2006 and the interview with him, "The Nuclear Edge," *The New Yorker*, February 13, 2006. For an argument that the nuclearization of the Indian subcontinent has contributed to the crises, see for example Pervez Hoodbhoy and

Zia Mian, "The Indian–Pakistani Conflict: The Failure of Nuclear Deterrence," *Znet*, November 24, 2002. For an assessment of the Indian-Pakistani nuclear relationship see Michael Quinlan, "India-Pakistan Deterrence Revisited," *Survival* 47, no. 3 (2005): 103-16. For an account of the American diplomatic effort in the crises, see Strobe Talbot, *Engaging India* (Washington D.C. Brookings Institution Press, 2004).

4 For some general accounts of the Indian and Pakistani nuclear programs and strategies see the various contributions in Jasjit Singh, ed., *Nuclear India* (Delhi: IDSA, 1998); Perkovich *India's Nuclear Bomb*; Peter Lavoy, "Pakistan's Nuclear Posture: Security and Su*rv*ivability" (Washington, D.C.: Nonproliferation Policy Education Center, 2007); Syed Rifaat Hussain, "Analyzing Strategic Stability in South Asia with Pathways and Prescriptions for Avoiding Nuclear War," *Contemporary South Asia* 14, no. 2 (2005): 141-53; Waheguru Pal Singh Sidhu, "India's Nuclear Use Doctrine," in Peter Lavoy, Scott Sagan, and James Wirtz (eds.), *Planning the Unthinkable* (Ithaca: Cornell University Press, 2000).

5 There have been several attempts to gauge the intentions of the Iranian leadership in pursuing its nuclear program. See for example Ephraim Kam, *A Nuclear Iran: What Does it Mean, and What Can be Done*, Memorandum no. 88 (Tel Aviv: Institute for National Security Studies, 2007).

6 For some analyses pointing out the rationality and pragmatism of the Iranian leadership, see David Menashri, *Post Revolutionary Politics in Iran: Religion, Society and Power* (London: Frank Cass, 2001), chs. 7 and 8; Shireen T. Hunter, *Iran after Khomeini* (New York: Praeger, 1992).

7 See *The Military Balance* (London: IISS, 2007).

8 On the perceptions of the radical conservatives led by Ahmadinejad concerning the outside world, see Ali Ansari, *Iran Under Ahmadinejad* (London: Adelphi Paper 393, IISS, 2007).

9 For studies of the Israeli nuclear posture see Shai Feldman, *Israeli Nuclear Deterrence* (New York: Columbia University Press, 1982); Yair Evron, *Israel's Nuclear Dilemma* (Ithaca: Cornell University Press, 1994); Yair Evron, *Weapons of Mass Destruction in the Middle East*, Occasional Paper 39 (Washington D.C.: The Henry Stimson Center, 1998); and Zeev Maoz, *Defending the Holy Land* (Ann Arbor: University of Michigan Press, 2006). For the history of the Israeli nuclear project see Avner Cohen, *Israel and the Bomb* (New York: Columbia University Press, 1998); for the history of the diplomatic relations between Israel and the US on the nuclear project, see Zaki Shalom, *Israel's Nuclear Option: Behind the Scenes Diplomacy between Dimona and Washington* (Brighton: Sussex Academic Press and Jaffee Center for Strategic Studies, 2005).

10 It is not clear to what extent the Israeli ambiguous threats against Iraq during the 1991 Gulf War deterred Iraq from launching chemical weapons against Israel. Shai Feldman has argued that Israel's implied nuclear threat did indeed deter Iraq from attack. See Shai Feldman, "Israeli Deterrence: The Test of the Gulf War," in Joseph Alpher, ed., *War in the Gulf: Implications for Israel* (Tel Aviv: Jaffee Center for Strategic Studies, Tel Aviv University, 1991), pp.170-89. For a counter argument see Yair Evron, *Israel's Nuclear Dilemma*.