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Avner Golov

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DETERRENCE IN THE GULF WAR

Evaluating New Evidence

Avner Golov

A recently published collection of captured Iraqi records offers an opportunity to better understand Saddam Hussein's perception of US and Israeli deterrence signals, affording innovative insights into the reasons behind Iraq's restraint from using weapons of mass destruction against Israeli targets during the 1991 Gulf War. This article tests a wide range of suggested hypotheses, and suggests that US and Israeli deterrence played only a minimal role in dissuading Iraqi use of WMD. The article concludes with some thoughts on the practical implications, particularly on the effectiveness of a "no-first-use" nuclear policy.

KEYWORDS: Iraq; Israel; Gulf War; Saddam Hussein; deterrence; no-first-use; chemical weapons; biological weapons; nuclear weapons

During the 1991 Gulf War, Iraq launched forty-three missiles at Israeli cities, not one armed with unconventional warheads, even though Saddam Hussein threatened to use weapons of mass destruction (WMD) against Israel if he were attacked by the coalition forces. Many Americans and Israelis attribute the lack of Iraqi WMD use to effective US and Israeli deterrence policies. However, since "all deterrence is self-deterrence," Israeli and US deterrence policies—and their effect on Saddam's behavior during the Gulf War—must be linked to evidence from the Iraqi side.¹ In 2003, during Operation Iraqi Freedom, more than 800 Iraqi records were captured, including government documents, videotapes, audiotapes, maps, and photographs from before April 2003.² These records offer a hitherto inaccessible Iraqi perspective on the Gulf War and thus may shed light on how the Iraqi leadership perceived US and Israeli deterrence decisions during this war and afterward, providing an evidentiary basis for assessing deterrence effectiveness.

Deciphering Iraq's motivation for eschewing the use of WMD against Israel could offer a new deterrence case study. Academic efforts to exhaust the knowledge provided by these records for analyzing the Iraqi perception of the Gulf War are only in their preliminary stages, and their main focus is on the bilateral relations between the United States and Iraq.³ Accordingly, the research question of this article is as follows: what is the relationship between US and Israeli deterrence and Saddam Hussein's decision to refrain from launching an unconventional attack during the Gulf War? By focusing on the Israeli arena while expanding the scope to both US and Israeli signals, this research can provide an innovative analysis of existing knowledge about US and Israeli deterrence efficacy during the Gulf War.

This article will argue that although US and Israeli deterrence had some impact on Saddam's decision, it did not play a primary role in his calculus. Hussein assessed that he could hit Israeli targets with unconventional weapons and he planned to do so under certain conditions. Ultimately, he did not give this order because his conditions had not been met. Nevertheless, one should consider the limitation of this research while addressing the proposed conclusions. The new Iraqi data offer several more pieces of evidence, but not the whole picture, of Hussein's decision making: in addition to his previous orders to staff to avoid documenting any actions associated with his secret projects, including Iraq's WMD arsenal, Hussein also appointed a committee responsible for erasing all documentation of Iraqi WMD capabilities.⁴ In view of this limitation, this analysis tests alternative hypotheses in order to widen the range of potential explanations and maximize the validity of this research.⁵

This article begins with common explanations for the Iraqi restraint given by observers who sought to elucidate Iraqi policy during the Gulf crisis, including the popular notion that US and Israeli deterrence succeeded. It then discusses the Iraqi perspective of the war, as can be interpreted from the recently revealed Iraqi data. It concludes with lessons we can learn for contemporary discussion of the effectiveness of a no-first-use nuclear policy. This part examines three key terms in this discussion: ambiguous nuclear policy, existential deterrence, and the stability-instability paradox. In doing so, this article underlines the complexity of using nuclear deterrence against non-nuclear threats, including chemical and biological weapons (CBW) as well as conventional arms. Therefore, this article makes a double contribution: first, it offers an innovative analysis of the Gulf War in order to widen the existing empirical data in the deterrence literature; and second, it offers a theoretical contribution to one of the main contemporary policy debates.

Alternative Explanations of Iraqi Unconventional Restraint

Many observers contend that Israel succeeded in deterring Hussein from launching an unconventional attack.⁶ According to this claim, Israeli threats and deterrent signals during the war had convinced Hussein that if he were to use unconventional weapons, he would suffer massive retaliation. For example, on December 29, 1990, Israeli Defense Forces Chief of Staff Dan Shomron deviated from the standard Israeli policy of deliberate ambiguity and provided a rare reference to the threat of an unconventional Iraqi attack: "Israel would not be the first to use nuclear weapons in the Middle East."⁷ Following Shomron's words, this statement was repeated by Israel's ambassador to the United States, Zalman Shoval, and again by its ambassador to Belgium three weeks later.⁸ Feldman claims that although this statement "could have weakened Israeli deterrence by punishment of an Iraqi chemical strike by indicating that it would not embark upon nuclear retaliation following a non-nuclear attack, it was more widely regarded as enhancing deterrence by seeming to suggest that Israel had already introduced nuclear weapons to the region."⁹

Another contribution to Israeli deterrence came from US Secretary of Defense Richard Cheney. On February 2, 1991, in an interview with CNN, Cheney said: "I assume that he [Saddam] knows that if he were to resort to chemical weapons—that would be an escalation to weapons of mass destruction and that the possibility would then exist—certainly with

respect to the Israelis for example—that they might retaliate with unconventional weapons as well.”¹⁰ Israeli analyst Amatzia Baram also alludes to Israel’s nuclear capability and points out that it was a main consideration in Saddam’s decision to refrain from using WMD against Israel. He concluded that “while Israel’s conventional deterrence suffered a certain setback, its nonconventional deterrence remained intact.”¹¹

A US Central Intelligence Agency document supports this notion but adds that US conventional and unconventional deterrence also played an important role in Saddam’s considerations:

If Iraq did not deploy its chemical weapons ... two possible explanations are likely. First, Iraq believed that both Israel and the Coalition had chemical and nuclear weapons and would use them if provoked. ... Saddam probably concluded that the consequences of attacking with chemical weapons would be too severe to justify their use, and this may have led to an early decision not to use them. Saddam may also have assumed that Iraqi use of CW [chemical weapons] ... would cause Coalition forces to seek his removal as a top priority including the liberation of Kuwait.¹²

Rolf Ekeus, the United Nations Special Commission (UNSCOM) director, supported this notion after finishing his investigation in 1995: “Iraqi officials claimed they decided not to use the weapons after receiving a strong but ambiguously worded warning from the [George H.W.] Bush administration on January 9, 1991, that any use of unconventional warfare would provoke a devastating response.”¹³

It is important to stress that although President Bush decided on a conventional retaliatory doctrine to Iraqi use of WMD, US deterrent signals involved clear hints of nuclear deterrence. James A. Baker, the secretary of state during the Gulf War, called this US policy “calculated ambiguity.”¹⁴ For example, in his January letter to Tariq Aziz, the Iraqi foreign minister, Bush warned that the United States “will not tolerate the use of chemical or biological weapons or the destruction of Kuwait’s oil fields and installations. ... The American people would demand the strongest possible response. You and your country will pay a terrible price if you order unconscionable acts of this sort.”¹⁵ Nevertheless, then-National Security Adviser Brent Scowcroft clarified that

no one advanced the notion of using nuclear weapons, and the President rejected it even in retaliation for chemical and biological attacks. We deliberately avoided spoken or unspoken threats to use them on the grounds that it is bad practice to threaten something you have no intention of carrying out. Publicly, we left the matter ambiguous. There was no point in undermining the deterrence it might be offering.¹⁶

Senior Iraqis also hinted at the influence of joint US and Israeli deterrence. In 1995, General Hussein Kamal, Iraqi minister of military industry and Saddam Hussein’s son-in-law, claimed that, “During the Gulf War ... there was no decision to use chemical weapons for fear of retaliation. They realized that if chemical weapons were used, retaliation would be nuclear.”¹⁷ In an interview, Wafaq al-Samarrai, the head of Iraqi Army Intelligence, stated: “I do not think that Saddam was capable of taking a decision to use chemical weapons or biological weapons, or any other type of weapons against the allied troops, because the warning was quite severe, and quite effective. The allied troops were certain to use nuclear arms and the price will be too dear and too high.”¹⁸ Keith B. Payne of the National Institute

for Public Policy argues that the US threats of the “strongest response” to Iraqi unconventional attack “appear to be a plausible explanation for Iraqi restraint with regard to chemical and biological weapons.”¹⁹

These testimonies strengthen the conclusion that Hussein attributed a high credibility to Israeli and US capability and resolve to cause him intolerable damage if he used WMD against Israeli targets. Some observers only credit US deterrence. Zeev Maoz of the University of California-Davis, for one, suggests that US conventional threats might have influenced Saddam’s decision more than unconventional threats or those by Israel.²⁰ Stanford University’s Scott Sagan, however, claims that “it appears highly unlikely that US leaders’ hints about possible nuclear retaliation were what stopped Saddam Hussein from using his chemical and biological weapons in 1991.”²¹ Whether it was the conventional threat to decapitate the Iraqi regime or the threat of US nuclear retaliation, the motivation behind Iraq’s failure to use WMD is still debated.²²

These arguments were made prior to an analysis of the captured Iraqi documents, an analysis that did not focus on Iraqi policy toward Israel. An assessment of cause and effect between Israeli and US deterrence and Saddam’s unconventional restraint against Israel should use the newly available records to test whether it is a story of deterrence failure or success.

It has always been a great challenge for researchers to determine whether deterrence succeeded or failed; they must show that the strategy of player A prevented the other party from acting as it wished.²³ Sir Lawrence Freedman, noted scholar and a former foreign policy adviser to British Prime Minister Tony Blair, claims that proving deterrence works “is particularly challenging. It is obvious when it fails. B has been told not to do X ... but X is nonetheless done. But when deterrence succeeds, all that is known is that X has not happened.”²⁴ This could be due to a range of factors, including the option that B had never intended to do X. The researcher must have enough data to enable him or her to assess the initial intention of the deterree and determine how the deterrer managed to change that decision. Hence, those who argue that US or Israeli deterrence succeeded are required to prove that Hussein *did* plan to attack Israel under certain conditions, that these conditions had been met, and that US or Israeli deterrence policies were the main factor in Saddam’s calculus when he decided to change his war plan. They should also test the relation between the strategic components: what role Israeli deterrence played in comparison to US deterrence, and to what extent their conventional and unconventional deterrence influenced Saddam’s calculus. Disentangling this complex puzzle would enable a better evaluation of the common notion of unconventional deterrence success and also of the alternative explanations for Saddam’s WMD policy during the Gulf War.

Researchers who challenge the common conjecture of deterrence success offer three main alternative explanations.

No Iraqi Plan to Attack

One reason may be that Saddam was not capable of attacking Israel because his planes could not breach both US and Israeli air defenses in order to reach Israeli cities, and his

"dirty missile" was not yet operational.²⁵ For example, French officers from the UN mission sent to monitor Iraq's chemical capability wrote that Iraqi SCUD missiles ("Al Hussain") designated to carry CW did not seem capable of coping with the high temperature at the point of missile re-entry into the atmosphere.²⁶ According to this rationale, Saddam lacked the capability to hit Israeli cities with CW even if he wished to, and he was aware that an unconventional attack could not be part of his war plan.

Other analysts have offered a different explanation for the absence of an offensive Iraqi unconventional plan against Israel: Saddam sought to deter the United States and Israel from using their unconventional weapons by *threatening* to use his unconventional arms, without ever intending to.²⁷ He thus would "bluff" to preserve the war within conventional boundaries, where he believed he could gain political victory over Bush. Saddam's war plan did not include any unconventional attack on Israel, and neither Israeli deterrence nor US deterrence had anything to do with his decision.

No Iraqi Battle Decision

An additional category of arguments holds that Saddam planned to use his WMD, but did not do so due to an Iraqi calculus which was not influenced by either Israeli or US deterrence policies. One argument postulates that Saddam did not bluff but had used his WMD arsenal as a deterrent tool: he identified red lines defining the conditions under which Iraqi WMD retaliation would be launched against Israel. However, since these red lines were not crossed, Saddam kept to his original war plan and avoided using WMD.²⁸ In fact, Saddam himself claimed during one of his interrogations by the Federal Bureau of Investigation that, "Iraq did not use WMD during the 1991 Gulf War as its sovereignty was not threatened."²⁹ Accordingly, Saddam did not change his plan, and neither US nor Israeli deterrence was relevant.

Another suggested argument supports the notion that Saddam did not use his CW due to inconvenient battle conditions: the US fast advance, along with unfavorable wind conditions, may have prevented the Iraqi leader from resorting to WMD as an offensive tool.³⁰ Analyst Avigdor Haselkorn points to the low Iraqi chemical operation capacity during its fight with the coalition forces, allegedly as a result of the chaos in the Iraqi army: Iraqi troops had "inadequate protection against Chemical Weapons (CW)—in some cases not even a gas mask—and thus could not engage in [chemical warfare]."³¹ If Saddam intended to use CW, his troops should have been equipped for that possibility. The Iraqi army's failure to do so precludes the use of CW against US troops. Although this example is specific to the Gulf arena, it demonstrates the general chaos within the Iraqi Army as a result of the rapid advancement of the coalition forces. Under these circumstances, Saddam's alleged restraint is an outcome of a tactical surprise and an Iraqi calculus independent of Israeli and US deterrence influence.

Iraqi "Lost Order"

Some researchers claim that, even though Hussein had decided to attack Israel with unconventional weapons, his orders were not carried out. General Maurice Schmitt, chief

of staff of the French armed forces, claimed that Saddam decided to use unconventional weapons but that his generals refused his orders.³² Other observers suggest that the battery commanders might not have received Saddam's orders because communications with headquarters were disrupted by the coalition attack.³³ Even though the Iraqi order was sent, it never reached the commanders who operated the chemical weapons in the field.

The Iraqi Perspective

The above explanations are based largely on conjecture derived from perspectives of those *outside* of the Iraqi leadership. However, the newly available Iraqi documents provide vital information to test the explanations for Iraq's failure to use WMD against Israel.

Iraqi Unconventional Resolve and Capability

Saddam's threats before and during the Gulf War indicate that using WMD as a deterrent was part of his war plan. Saddam responded to Israeli and US unconventional threats by seeking to establish a deterrence regime based on Iraqi WMD capabilities. On July 3, 1990, Saddam told a *Wall Street Journal* interviewer that "Iraq is in possession of binary chemical weapons. According to our technical, scientific, and military calculations, this is a sufficient deterrent to confront the Israeli nuclear weapon."³⁴ On January 20, 1991, Saddam claimed on CNN that Iraq could install nuclear, chemical, and biological warheads on its missiles. He promised that he would not hesitate to use these weapons if needed.³⁵

Saddam's public rhetoric was consistent with his conversations and orders before and during the war. Immediately after the war erupted, Saddam instructed his advisers that "Iraq would initially attack with only conventional warheads ... and would use its chemical and biological weapons 'in return for the warheads they use.'"³⁶ Furthermore, Iraqi documents reveal that Saddam ordered his forces to complete all necessary preparations in order to be able to launch an unconventional attack. In Saddam's conversation with General Husayn Khamil on January 2, the general stated: "Sir, we are in an excellent and prepared situation regarding the missile warheads and fighter bombs. They are all modified and ready to launch any time, the chemical and the germ."³⁷ In the second week of January, Saddam asked once again about Iraqi WMD preparation for the war.³⁸

Saddam: I want to make sure that—close the door [door slams]—the germ and chemical warheads, as well as the chemical and germ bombs, are available to the "concerned people," so that in case we order an attack, they can do it without missing any of their targets.

Husayn Khamil: Sir, if you'll allow me. Some of the chemicals now are distributed; ... Chemical warheads are stored and are ready at air bases, and they know how and when to deal with, as well as arm these heads. ... While some of the "empty stuff" is available for us, our position is very good, and we don't have any operational problems. ... Sir, regarding the germs and [he pauses]

Saddam: and the chemicals.

Husayn Khamil: no, we have some of the chemicals available [interrupted].

Saddam: So, we qualify that missiles, by tomorrow, will be ready on the 15th.

Saddam then discussed Iraqi target lists: Riyadh, Jeddah, and "all the Israeli cities, all of them."³⁹

In addition, as part of Iraqi military preparations for the war, significant efforts were made to disperse the Iraqi WMD stockpile in order to defend Iraqi second-strike capabilities against a coalition attack.⁴⁰ This was not a trivial task since it required many resources. For example, the al-Muthanna storage site required, according to defense analyst Kevin M. Woods, "more than 120 trucks to move 1,232 aircraft bombs and 13,000 artillery shells filled with mustard agent. Moreover, 8,320 Grad rockets (122-mm) filled with nerve agent had to be relocated, in addition to the examination and securing of 25 'special warheads.'"⁴¹ Woods concludes that "in early January 1991, operational distribution of chemical weapons, preparing 'special' warheads, and the precautionary movement of chemicals munitions were significant priorities."⁴²

Iraqi confidence in their chemical and biological capability was maintained during the war, as revealed in a meeting on February 2, 1991. In this meeting, General Hazim al-Ayyubi, commander of Iraqi missile forces, submitted a report elaborating on the Iraqi arsenal. This report did not indicate any Iraqi concerns regarding its WMD arsenal:

Iraq started the war with 230 missiles and 75 "special warheads." So far they had fired 52 missiles. Thirty-four of the remaining missiles had maintenance problems. Moreover, there was only enough fuel for 118 missiles total, regardless of type or maintenance status.⁴³

Therefore, it seems that Saddam not only ordered his surface-to-surface missile forces to be ready to launch an unconventional attack, but he was convinced that they were capable of implementing his orders. Thus, Iraqi technical shortcomings did not influence his decision. Post-war data revealed that Saddam was very realistic about his unconventional power. In September 1990, Iraq completed its chemical warhead project. According to Iraqi data given to the International Atomic Energy Agency (IAEA) after the war, in January 1991, Iraq possessed twenty-five biological warheads, fifty chemical warheads, and percussion fuses which enabled 40 percent dispersal effectiveness.⁴⁴

Iraqi documents reveal that Hussein believed his deterrence strategy worked. During his meetings with Iraqi senior commanders, Saddam restated that he had accomplished a relationship of parity with Israel. In one meeting before the war, one of his advisers suggested that "Iraq's acquisition of binary chemical weapons and long-range delivery systems had ended Israel's regional dominance and replaced it with a balance of forces."⁴⁵ Duke University's Hal Brands and National Defense University's David Palkki note that when the war started "Saddam believed that nonconventional (albeit nonnuclear) weapons provided him with the deterrent power he needed to strike Israel."⁴⁶

The coalition's decision not to attack Iraq with unconventional weaponry persuaded Saddam that his deterrent efforts had succeeded. The 2001 report of Iraq's General Military

Intelligence Directorate (GMID) committee—established to distill Iraqi lessons from the war—supported this notion: “The Iraqi retaliation created a new regional ‘balance of power with Israel.’”⁴⁷

Saddam's Red Lines

After strengthening the supposition that Saddam included a use of WMD and limited it to deterrence, we should define the circumstances that would have triggered an Iraqi unconventional attack. By doing so, we can test whether Israeli or US policy caused Saddam to ultimately refrain from a WMD attack.

On April 10, 1990, Saddam shared his strategy regarding unconventional weapons with five visiting US senators, noting that, as his tensions with Israel increased, so did his fear that the Israeli prime minister would use this opportunity to attack his nuclear facilities:

I instructed the commanders of the air bases and of ... the missile units that it is sufficient that [if] you [the air commanders] hear that Israel dropped a nuclear bomb on some places in Iraq, [it] will be your duty to take everything that can carry a binary [chemical weapon] to Israel and send this to their territory. This, because I may be in Baghdad when I am convening a leadership meeting and an [Israeli] nuclear bomb will fall on us [and we shall be unable to order retaliation].⁴⁸

According to the testimony of Iraqi commanders Saddam also predelegated the authority to retaliate with CW during the Gulf War. In 1995, Saddam's son-in-law, General Khamil, defected to Jordan.⁴⁹ In his talks with UNSCOM officials, Khamil claimed that the Special Security Organization (SSO) forces were positioned with Iraqi “special weapons” in western Iraq. General Khamil added that Saddam's orders were the following:

If contact with him were severed, and if SSO officers were to believe that communications had been broken because of a nuclear attack on Baghdad, they should mate the chemical and biological warheads in their custody with missiles in the possession of the regular missile force and launch them against Israel.⁵⁰

In his documented conversations, Saddam was not so precise but his statements presented a very similar picture: in one private conversation with Khamil on January 2, 1991, Saddam instructed his son-in-law to use his WMDs “only in case we are obliged and there is a great necessity to put them into action.”⁵¹ On January 8, Saddam ordered al-Ayyubi to deploy the “special weapons” so they “would be ready to use the moment a pertinent order is given, or in the event of a massive strike against Iraq.”⁵²

In his article, Baram compares how Saddam's commanders on the battlefield perceived their orders. Whereas some officers told UNSCOM officials that these orders were “strictly instructional, were part of a more general psychological preparation by Saddam,” others suggest different meanings.⁵³ Several unit commanders told UNSCOM officials that “Saddam demanded that if communications with ‘the national command authority’ in Baghdad were severed, and missile unit commanders believed that Allied Forces were besieging or attempting to occupy Baghdad, these officers, together with the SSO officers who had custody of chemical and biological warheads, should launch WMD-armed missiles against Israel.”⁵⁴

One general offered a different interpretation as he pointed out that the SSO officers had the "ultimate responsibility to decide if the predelegation conditions had been met. ... That general argued that a breach of communication between Baghdad and the SSO units could happen only if Baghdad was under a nuclear attack. Otherwise, he contended, redundant communications systems including radio, telephone, and messengers were foolproof."⁵⁵

Obviously, the differences between the interpretations of Iraqi commanders and Saddam's original intentions could eventually have had dramatic consequences, had one of the commanders in charge of Iraqi WMD presumed Saddam's conditions had been met. Sagan suggests two events that could have led to such an assessment: the first was the US bombing of a large ammunition bunker near Basra on January 28, which caused a very large explosion and prompted the Soviets and the Israelis to call Washington and ask whether the United States had used nuclear weapons in Iraq. The second event was the US use of a BLU-82 bomb on February 7, a move that British commandos mistook for a nuclear attack in Kuwait.⁵⁶ There are numerous other extreme scenarios which could have led to an Iraqi use of WMD: a US attack on an Iraqi bunker populated with many Iraqi senior officers in early February, or the substantial communications difficulties encountered during Iraq's withdrawal from Kuwait on February 26, 1991, as coalition forces were bombing Iraqi headquarters.⁵⁷ An examination of Iraqi predelegation orders to ignite oil fields in Kuwait as part of "Project Tariq" reveals that using predelegation orders in crucial matters was not unusual in Saddam's command style.⁵⁸

Sagan suggests that by predelegating authority, Saddam wished to deter his enemies from nuclear decapitation.⁵⁹ But although Iraqi documents support the notion that Saddam sought to establish deterrence relations with his opponents, they also reveal that, except for threatening Israel in April 1990 before the Gulf War began, Saddam did not share with either Israel or the United States his "doomsday orders." As a result, US and Israeli decision makers were not aware that by pressing to launch a ground attack they almost started an unconventional war themselves, even as they sought to prevent one. Baram argues that this was "a hole in Saddam's public deterrence strategy" as he did not make his retaliation capabilities and strategy clear.⁶⁰ He suggests that "had these orders been made public, this would have created panic in the rest of Iraq and throughout the Arab world."⁶¹ However, Saddam could have secretly communicated his threats to the United States through the Soviet Union, but neither Iraqi documents nor other sources give any indication that he did so. Baram concludes that "there is no obvious explanation for this omission."⁶²

Sagan also suggests that the ambiguous US threats increased the Iraqi fear of a nuclear first strike, and thus pushed Saddam toward a predelegation policy. Iraqi records indeed reflect an Iraqi fear of a nuclear first strike. For example, after the Iraqi invasion of Kuwait, Iraqi Revolutionary Command Council member Izzat al-Duri claimed, "It is possible that if the United States hits us and after six or seven months does not get the desired result and sees that the war is going to start tearing the [American] people apart, it is possible that it will use nuclear bombs to strike two or three cities."⁶³ Palkki concludes that "Saddam went to war while still believing that American use of nuclear weapons was a real

possibility.”⁶⁴ This evidence emphasizes the “hole” in Saddam’s logic not to use his deadliest weapons to deter his enemies from a first strike.

Iraqi records provide no evidence that either Saddam or his commanders ever gave an order to launch an unconventional attack on Israel. Since neither Israeli Prime Minister Yitzhak Shamir nor President Bush had decided to destroy Saddam’s regime or use unconventional weapons, it seems that Saddam’s conditions were not fulfilled. Even in the last days of the war, when the coalition ground attack successfully broke Iraqi lines and entered Iraq and Saddam could not be sure that Bush would not attempt to expel his regime, Saddam did not conclude that his conditions had been met. Thus, he did not order the use of his weapons of last resort.

Iraqi documents suggest several complementary explanations for this conclusion: first, Hussein did not easily accept new reports concerning coalition victories and Iraqi defeats on the battlefield. Second, Saddam’s commanders did not want to put themselves at risk by telling Saddam the truth; thus, they were giving false reports or very soft reports on what was really happening. Third, as a result of the damage to the communication infrastructure between Saddam and his headquarters, Saddam’s main command was disconnected from the field. For all these reasons, Saddam was not aware that his army was in such bad shape.

For example, on February 22, 1991, Saddam was convinced that the war had reached its final days as he ordered his forces to plan an attack on Doha, Qatar “before the cease-fire takes place.”⁶⁵ Even on February 24, after the coalition ground attack had begun, Saddam and his staff sounded very optimistic:

Saddam: Let them come, on the contrary, let them come [all the way] to Karbala city, it will become their cemetery.

Officer 1: By God, I think it would benefit us politically.

Officer 2: It had a political benefit, I wish their attacks would underestimate Karbala... it is an Islamic city...

Officer 1: They would not be able to bear it.”⁶⁶

Woods notes that “where the Iraqi withdrawal was a total chaos, from Baghdad’s perspective, the orders process went smoothly considering the circumstances.”⁶⁷

Furthermore, on the morning of February 27, two days after Saddam issued withdrawal orders, he received calming reports, although the Iraqi army was literally collapsing on the battlefield.⁶⁸ According to Woods, this day also ended in cautious optimism within the Iraqi regime concerning US military objectives.⁶⁹

From Saddam’s statements, it seems that he did not fully comprehend how close his regime was to being destroyed and thus his conditions to being fulfilled.

An American and Israeli General Deterrence Failure?

Since Saddam’s conditions were not met, it is plausible that Israeli and US deterrent signals during the course of the war had no role in his decision to refrain from a nonconventional

attack. This conclusion underlies the difference between “general deterrence” and “immediate deterrence.” Freedman describes general deterrence as relations between opponent states regulated by the use of armed forces even though neither intends to mount an attack. In times of crises, he notes, states use immediate deterrence, whereby at least one side is “seriously considering an attack while the other is mounting a threat of retaliation in order to prevent it.”⁷⁰ The conclusion that US and Israeli immediate deterrence—their signals during the war—failed to influence Saddam’s war plan raises the question of US and Israeli general deterrence efficacy: did Iraq’s pre-war perception of the US and Israeli threat (if Iraq challenges them or acts against their interests) sustain or change during the war?

Saddam’s approach toward Israel in the Gulf War did not match his former strategy with his other regional enemy, Iran, several years earlier. During the 1980–88 Iran-Iraq War, Saddam did not confine his use of WMD to deterrence. In 1983, the Iraqi army began using chemical weapons against the Iranian army in order to achieve military goals. In that war, Saddam used more than 100,000 chemical munitions against Iranian forces to “compel the Iranian government to accept a cease-fire.”⁷¹ According to Major-General Wafaq al-Samarrai, “sometime in late 1987 or early 1988, Saddam planned to force Iran to stop the war by using al-Husayn missiles with chemical warheads. Had Iran not agreed to a cease-fire, the plan was to bomb Tehran with conventional bombs and missiles to shatter windowpanes throughout the Iranian capital. Then, a barrage of missiles with chemical warheads would follow, allowing the poison gas to penetrate easily into homes.”⁷² Brands and Palkki argue that Saddam attributed the eventual outcome of the war to Iraq’s superior chemical weapons and missile capabilities.⁷³ Saddam believed that “when we attacked Iran with our missiles they came and told us, ‘let’s agree.’”

Others illustrate how Saddam used his CW when he had no other means to block the Iranian attacks.⁷⁴ For example, in his most devastating use of CW in Halabjah on March 16, 1988, Saddam wished to defend his lines against a big Iranian attack.⁷⁵ Lieutenant General Ra’ad al-Hamdani claims that “we used the artillery to launch chemicals on this sector. The attack almost entirely exterminated the Iranian division. ... This had a tremendous psychological effect on the rest of the Iranian soldiers.”⁷⁶ Hence, Saddam’s unconventional weapon was used strategically as a compelling tool and tactically as a defensive weapon. In both cases, it had exceeded the boundaries of deterrence.

Against the United States and Israel, under even more dramatic conditions, Saddam avoided using his WMD and ordered a massive withdrawal—a decision that had no precedent during his war against Iran—and agreed to an unconditional cease-fire. Even if the Iraqi leader did not fully understand his defeat in the battlefield, his decisions during the last days of the Gulf War evince that he believed he confronted more difficult challenges than those Iran had posed. Hence, it seems that Saddam abandoned his successful strategy used in the Iran-Iraq War when he dealt with enemies with attributed nuclear capabilities.

Accordingly, we can conclude that Israeli and US-related unconventional deterrence changed Saddam’s war plan from the outset and that their general deterrence in the unconventional dimension succeeded. Unlike in the war against Iran three years earlier, Hussein did not perceive his WMD as a controlling means, replaced instead with Iraqi

conventional power. In that sense, he changed his strategic use of WMD while preparing for the war. Nevertheless, the Iraqi behavior during the war indicates only a deterrence success in the unconventional dimension. Hussein's decision to challenge Israel and the United States by invading Kuwait, launching conventional missiles on Israeli and Saudi targets, and igniting Kuwait's oil fields, indicate that the US and Israeli deterrence success was confined to the strategic use of Iraqi WMD. Therefore, US and Israeli general—but narrow—deterrence was successful in altering Saddam's general considerations in using WMD.⁷⁷ But, was it only the unconventional threat that deterred Saddam?

Unconventional or Conventional Deterrence Success?

Hussein sought to establish two parallel and independent deterrence regimes—conventional and unconventional. In the unconventional dimension, he used his CBW as a deterrent tool against his adversaries' alleged nuclear weapons. On July 3, 1990, Saddam told a *Wall Street Journal* interviewer that "Iraq is in possession of the binary chemical weapon. According to our technical, scientific, and military calculations, this is a sufficient deterrent to confront the Israeli nuclear weapon."⁷⁸ His strategy was to use deterrence at the unconventional level in order to exploit his alleged superiority at the conventional level.

Hamdani, one of Saddam's trusted subordinates, claims that Saddam was confident if he managed to preclude any use of WMD, his conventional power would enable him to face his Israeli enemy and eventually to eliminate Israel.⁷⁹ So when the Gulf War erupted, Saddam continued with his strategy, instructing his advisers to launch only conventional warheads and to use CW only in very extreme scenarios. Brands and Palkki conclude: "Saddam expected that an unconventional arsenal would permit Iraq to achieve a conventional victory, thereby weakening Israel geopolitically and making him a hero to the Arab world."⁸⁰

The Iraqi distinction between the conventional and the unconventional dimension implies that Israeli and US conventional threats played a very minor role in Saddam's considerations regarding his decision to use only conventional weapons against Israel.

Moreover, it seems that Saddam was convinced that Bush aimed to hit vital Iraqi targets and suspected that the United States intended to replace his regime.⁸¹ Saddam, according to Palkki, was therefore undeterred by US conventional power: if regime change was Bush's war objective, Bush would seek to achieve it, regardless of Saddam's actions. Baram, however, suggests that Saddam was not entirely sure of US intentions.⁸²

Iraqi intelligence suggested that the coalition forces had identified important Iraqi targets, such as nuclear facilities, industrial infrastructures, military headquarters and bases.⁸³ Since Saddam accepted the inevitability of a US conventional attack, it is clear that the role of the conventional threats in Saddam's calculus was very limited. Therefore, the main factor in Israeli and US general (narrow) deterrence success was their attributed nuclear capabilities.

Partial American or Israeli Success?

Iraqi data reveal that, throughout the war, Hussein did little to distinguish between Israel and the United States. During a meeting with a member of the Cuban National Council, Saddam noted that "if Iraq had possessed long-range missiles, we would have hit the White House. Because Israel was a partisan to the United States in the region," he explained, "Iraq attacked Tel Aviv instead to hurt America indirectly."⁸⁴ In his order to retaliate for the coalition attack by striking Israel, Saddam essentially treats the attacker (the United States) and the target (Israel) as a single entity: "Iraq would initially attack with only conventional warheads ... and would use its chemical and biological weapons 'in return for the warheads they use.'"⁸⁵ This lack of distinction between the US attacker and the Israeli target characterized Iraq's attitude toward both countries throughout the war. Iraq's GMID committee offers another example of Saddam's blending his deterrence relations with Israel and with the United States: one of the Iraqi conclusions from the war was that "Iraqi attacks hit the same classes of 'vital targets' being struck by the Coalition in Iraq."⁸⁶ By comparing the coalition attacks to the Iraqi attack on Israeli targets, Saddam virtually refers to Israel as if it were part of the coalition.

Brands and Palkki claim that "because Saddam frequently failed to distinguish US from Israeli policies, he held Israel largely responsible for the conflict and assumed hidden Israeli involvement."⁸⁷ They explain that "Saddam was never entirely clear on whether the United States controlled Israel or vice versa, but he nevertheless perceived a dangerous nexus between US power and Israeli ambitions."⁸⁸ Because Saddam consistently conflated the two allies, it is difficult to substantiate Maoz's argument that it was US, rather than Israeli, deterrence that figured more prominently in Iraqi calculations.⁸⁹

Conclusion

This article provides an innovative analysis of the relations between Israeli and US deterrence and Saddam Hussein's decision to avoid any use of WMD against Israeli cities during the Gulf War. It suggests that the main reason the Iraqi leader did not use WMD was that his conditions to do so had not been met. Alternative explanations for Saddam's decision—such as technical or operational defects, no real Iraqi intention of using WMD, or any kind of Iraqi military disobedience—are discredited. Although this research reveals that Israeli and US general (narrow) deterrence threats were effective before the war erupted, their deterrent signals during the war—immediate deterrence—were unproductive. This historical analysis offers three theoretical insights for contemporary discussion in the efficacy of a declared no-first-use (NFU) policy.

Some advocates of a no-first-use policy argue that, even when the threat to use nuclear weapons in retaliation for a CBW attack is not initially credible, it can compel the leader issuing the threat to ultimately follow through.⁹⁰ Sagan calls this the "commitment trap," and suggests that "nuclear threats increase the likelihood that other states will use chemical weapons and biological weapons by accident, through unauthorized action, or in response to a false warning of attack".⁹¹ Others argue that nuclear weapons can be a credible response to a CBW attack, and doubt the effectiveness of using conventional

forces to deter rogue countries from using CBW.⁹² French analyst Bruno Tertrais suggests, however, that in order to avoid a public promise to use nuclear weapons—and thereby increase the pressure to do so—one can implement a policy of ambiguity. However, he does not address the question of such a policy's credibility.

The Iraqi case in 1991 suggests several interesting insights for this debate, as both the United States and Israel sent ambiguous messages regarding the punishment for Iraq's use of WMD. The first insight highlights the role of threats in assessing one's deterrence credibility. In the Gulf War, Saddam believed that his enemies were resolved to punish him with nuclear retaliation if he used his WMD. Palkki contends that "Saddam's fear of American nuclear use came from pre-existing beliefs" rooted in the US nuclear attacks on Japan in 1945 and the misguided assessment that the United States used WMD in the Vietnam War.⁹³ This analysis strengthens the notion that Saddam's fear of Israel's presumptive nuclear arsenal also persevered, even though Israel had never retaliated against the Iraqi conventional attacks on Israeli cities and its threats remained ambiguous. In fact, Saddam adhered to his pre-war perception of both the United States and Israel, and Palkki's argument implies that it was the crucial element in his calculus when assessing US and Israeli credibility. Although the role of other components in the Iraqi perception of their adversaries' credibility is required, this conclusion emphasizes the limited role that US and Israeli policy played in Saddam's calculus regarding his WMD policy.⁹⁴

The Iraqi case also strengthens the argument that a nuclear retaliatory threat can be a credible deterrent tool against CBW threats. The only successful pillar of the US and Israeli deterrence policy, this analysis suggests, was their unconventional threats. Iraq's decision not to use its WMD arsenal was mainly due to the Iraqi fear of nuclear retaliation. Nevertheless, this analysis does not imply that the conventional threats could not have been a credible tool as well. It was Saddam's perception of the US war targets in Iraq that led Saddam to discount the conventional threat. If the United States could have convinced him that it would do so only in case of a WMD attack, this analysis implies that it could have been a credible tool as well.

This conclusion underlies the question about the relations between ambiguous US and Israeli threats and Saddam's decision to predelegate the authority to launch an unconventional attack to his SSO commanders. Generally, Saddam's behavior matches that in Sagan's mechanism: Saddam was very concerned about a scenario in which his enemies launch a nuclear first strike or continue to Baghdad to decapitate his regime. For that reason, he created an automatic retaliation mechanism. The US and Israeli failure to clarify their nuclear use policies or ultimate war objectives (e.g., regime change or just withdrawal from Kuwait) appear to have encouraged Saddam to predelegate launch authority, increasing the chances Iraq would use WMD. However, the risks created by a policy of nuclear ambiguity may also be posed by conventional threats. In light of this conclusion, Sagan's argument should be studied in respect to the relationship between predelegation policy and conventional threats.

The Gulf War also offers interesting findings regarding the relationship between existential deterrence and rational deterrence theory (RDT). Existential deterrence asserts that "nuclear weapons are able to deter thanks simply to their existence, regardless of the

nature of the nuclear posture."⁹⁵ In that sense, it diminishes the importance of declaratory policy, including NFU. RDT, on the contrary, stresses the role of a credible threat in deterring the challenger, thus emphasizing the magnitude of declaratory policies.⁹⁶ Since Saddam failed to distinguish between the United States and Israel, we cannot conclude whether he viewed their alleged nuclear capabilities differently and whether this difference influenced his decisions. Nonetheless, the existence of nuclear weapons did not prevent Saddam from launching missiles at Israeli and Saudi targets, nor did it dissuade him from predelegating authority to ignite Kuwaiti oil fields and to launch unconventional attacks on Saudi Arabia and Israel had his conditions been met. Hence, we can cautiously infer that the existence of nuclear weapons was not sufficient to deter Saddam, proving the weakness of existential deterrence theory in this case.

The mismatch between the Iraqi perception and the premise of existential deterrence is blatant when testing Israeli and US threat perceptions. Both states were very concerned that Hussein could have launched a chemical or biological attack. The research reveals that Bush's and Shamir's strategies made Saddam's very limited WMD arsenal an "unconventional equalizer." This behavior comports with the analysis of McGill University's T.V. Paul: "WMD could act as 'great equalizers' in the calculations of weaker actors, even though they may not deter the great powers under all circumstances."⁹⁷ In this case, merely the existence of CBW influenced decisions in Washington and in Jerusalem. This is an important finding in light of the two-dimensional Iraqi strategy.

The third conclusion of this analysis addresses another important term when assessing the efficacy of a NFU policy: the stability-instability paradox. This term expresses the influence of nuclear weapons on the stability at the conventional level, "to the extent that the military balance is stable at the level of all-out nuclear war, it will become less stable at lower levels of violence."⁹⁸ Saddam's strategy was to deter his enemies from using their unconventional weapons in order to exploit his perceived superiority in the conventional dimension. This strategy characterizes Saddam's plan for the war as well as his ambitions regarding a future conflict with Israel. The Iraqi strategy provides support for the existence of the stability-instability paradox: unconventional deterrence (though not nuclear) encouraged the Iraqi leader to conventionally undermine his rivals. Together with the previous conclusion, this not only suggests that nuclear deterrence might encourage an aggressive conventional weapons policy, but that even chemical and biological weapons—if used as "unconventional equalizers"—can result in the same dynamic.

This suggests another aspect of the debate about the desirability of a declaratory nuclear policy: whether to give up nuclear deterrence against conventional threats by declaring a NFU policy. As the Iraqi case shows, this might encourage the other party to achieve conventional superiority and to challenge the status quo conventionally. But linking the conventional dimension with the unconventional one by casting the shadow of nuclear weapons over conventional threats risks dragging the world into an unconventional war. First, the equation suffers from a credibility problem, as the cost of unconventional retaliation is disproportional to conventional threats. The weaker side—finding a nuclear threat to conventional attack not credible in the current conditions of a multipolar international community opposed to the use of unconventional weapons—might test the deterrent. An opposite view may be that the deterree would use WMD in a

first strike, having calculated that massive retaliation would follow regardless of whether conventional or nonconventional weapons are used.

This article does not offer any silver bullet. Its main purpose is to draw conclusions from an analysis of Iraq's non-use of unconventional weapons against Israel during the Gulf War, as well as to raise additional questions concerning the debate about the most desirable nuclear posture, and especially the question of the efficacy of a declaratory NFU policy. Israeli and US deterrence failure, as well as the limited deterrent success during the Gulf War, are subject to the particular conditions that characterized that specific war. Nevertheless, as this article suggests, they provide both a historical and a theoretical contribution to contemporary discussion.

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NOTES

1. Lawrence Freedman, *Deterrence* (Cambridge: Polity Press, 2004), p. 30.
2. Saddam Hussein's Regime Collection is held by the National Defense University (NDU). The table of contents can be found at <www.ndu.edu/inss/index.cfm?type=section&secid=138&pageid=4>. Kevin Woods notes that some of the Iraqi narrative was misconstrued. However, despite the language barrier, which should be appreciated, these documents provide a unique observation into Iraqi perceptions, within the limits to which every non-Iraqi observer is subjected. See Kevin M. Woods, "A Note on Sources," in Woods, *The Mother of All Battles: Hussein's Strategic Plan for the Persian Gulf War* (Annapolis, MD: US Naval Institute Press, 2008), pp. xv–xvii.
3. For example, see *ibid.*; see also presentations by David Palkki, Kevin M. Woods, and Amatzia Baram at the conference "Iraqi Decision-Making Under Saddam Hussein," Washington Institute for Near East Policy, Washington, DC, September 20, 2010, <www.c-spanarchives.org/program/id/233237>; Scott D. Sagan, "PASCC Final Report: Deterring Rogue Regimes: Rethinking Deterrence Theory and Practice," Center for International Security and Cooperation, Stanford University, July 8 2013, <<http://hdl.handle.net/10945/34336>>.
4. Woods, "Iraqi Decision-Making Under Saddam Hussein," Woods, *The Mother of All Battles*, p. 136.
5. Alexander George and Andrew Bennett warn that a single case study analysis should be applied to a wide range of alternative hypotheses since omitted variables could threaten the validity of the analysis. See Alexander L. George and Andrew Bennett, *Case Studies and Theory Development in the Social Sciences* (Cambridge, Massachusetts: MIT Press 2004), p. 207.
6. Amatzia Baram, "Israeli Deterrence, Iraqi Responses," *Orbis* 36 (Summer 1992), pp. 385–403; Laura Zittrain Eisenberg, "Passive Belligerency: Israel and the 1991 Gulf War," *Journal of Strategic Studies* 15 (September 1992), pp. 304–29; Shai Feldman, "Israeli Deterrence and the Gulf War," in Joseph Alpher, ed., *War in the Gulf: Implications for Israel* (Jerusalem: JCSS, 1992); Avigdor Haselkorn, *The Continuing Storm: Iraq, Poisonous Weapons, and Deterrence* (New Haven, CT: Yale University Press, 1999); Gerald M. Steinberg, "Parameters of Stable Deterrence in a Proliferated Middle East: Lessons from the 1991 Gulf War," *Nonproliferation Review* 7 (Fall-Winter 2000), pp. 43–60.
7. Feldman, "Israeli Deterrence and the Gulf War," p. 201.
8. *Ibid.*
9. Feldman, "Israeli Deterrence and the Gulf War," p. 202.
10. Cited in *ibid.*, p. 202. CNN Correspondent Wolf Blitzer told Feldman that his impression was that "Mr. Cheney had chosen his words very carefully on that occasion and hence was sending a clear deterrent message." *Ibid.*, p. 208.

11. Baram, "Israeli Deterrence, Iraqi Responses," p. 399.
12. Central Intelligence Agency, "Performance in the Persian Gulf War," March 1991, <www.fas.org/irp/gulf/intel/961031/002mc_91.txt>.
13. R. Jeffrey Smith, "U.N. Says Iraqis Prepared Germ Weapons in Gulf War," *Washington Post*, August 26, 1995, p. A1.
14. James A. Baker and Thomas M. DeFrank, *The Politics of Diplomacy: Revolution, War, and Peace, 1989–1992* (New York: G.P. Putnam's Sons, 1995).
15. George Bush, "The Letter to Saddam (January 9, 1991)," in Micah L. Sifry and Christopher Cerf, eds., *The Gulf War Reader: History, Documents, Opinions* (New York: Three Rivers Press, 1991), pp. 178–79 and <www.wwnorton.com/college/polisci/lenses/protect/bush_letter.htm>.
16. This statement is written in the book he co-authored with former President Bush. George Bush and Brent Scowcroft, *A World Transformed* (New York: Alfred A. Knopf, 1998), p. 463.
17. Keith B. Payne, *The Fallacies of Cold War Deterrence and a New Direction* (Lexington, KY: University Press of Kentucky, 2001), p. 22.
18. Wafaq al-Samarrai, interview on *Frontline*, Public Broadcasting Service, January 25, 2000, <www.pbs.org/wgbh/pages/frontline/gulf/oral/samarrai/3.html>.
19. Keith B. Payne, "On Nuclear Deterrence and Assurance," *Strategic Studies Quarterly* 3 (Spring 2009), p. 49.
20. Zeev Maoz, *Defending the Holy Land: A Critical Analysis of Israel's Security and Foreign Policy* (Ann Arbor, MI: University of Michigan Press, 2009), p. 324.
21. Morton H. Halperin, Bruno Tertrais, Keith B. Payne, K. Subrahmanyam, and Scott D. Sagan, "Forum: The Case for No First Use: An Exchange," *Survival* 51 (July 2009), p. 40. Sagan also explains why we should be very cautious when relying on Iraqi government officials' statements after the war.
22. Keith B. Payne, *The Great American Gamble: Deterrence Theory and Practice from the Cold War to the Twenty Century* (Fairfax, VA: National Institute Press, 2008), pp. 414–16; Scott D. Sagan, "The Commitment Trap," *International Security* 24 (Spring 2000), pp. 85–115; Payne, "On Nuclear Deterrence and Assurance;" Halperin et al., "Forum: The Case for No First Use: An Exchange," pp. 17–46; Sagan, "Deterring Rogue Regimes."
23. Paul Huth and Bruce Russett, "What Makes Deterrence Work? Cases from 1900 to 1980," *World Politics* 36 (July 1986), pp. 496–526; Richard Ned Lebow and Janice Gross Stein, "Rational Deterrence Theory: I Think, Therefore I Deter," *World Politics* 41 (January 1989), pp. 208–24; Keith B. Payne, "Deterring the Use of Weapon of Mass Destruction: Lessons from History," in Stuart E. Johnson, ed., *The Niche Threat: Deterring the Use of Chemical and Biological Weapons* (Washington DC: National Defense University Press, 1997); Freedman, *Deterrence*; T.V. Paul, "Complex Deterrence: An Introduction," in T.V. Paul, Patrick Morgan, and James J. Wirtz, eds., *Complex Deterrence: Strategy in the Global Age* (Chicago: University of Chicago Press, 2009), pp. 1–27; Jeffrey W. Knopf, "The Fourth Wave in Deterrence Research," *Contemporary Security Policy* 31 (April 2010), p. 1.
24. Freedman, *Deterrence*, p. 29.
25. Lawrence Freedman and Efraim Karsh, *The Gulf Conflict, 1990–1991: Diplomacy and War in the New World Order* (Princeton, NJ: Princeton University Press, 1993); Haselkorn, *The Continuing Storm*.
26. Haselkorn, *The Continuing Storm*, p. 58.
27. See, for instance, Haselkorn, *The Continuing Storm*; Freedman, *Deterrence*; and Woods, *The Mother of All Battles*.
28. Derek D. Smith, "Deterrence and Counterproliferation in an Age of Weapons of Mass Destruction," *Security Studies* 12 (2003), p. 184.
29. Federal Bureau of Investigation, Baghdad Operations Center, "Saddam Hussein casual conversation," May 2004, p. 13, <www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB279/23.pdf> .
30. Haselkorn, *The Continuing Storm*, p. 56.
31. Ibid.
32. Ibid.
33. Ibid.
34. Cited in Hal Brands and David Palkki, "Saddam, Israel, and the Bomb: Nuclear Alarmism Justified?" *International Security* 36 (Summer 2011), p. 160.

35. Cited in Efraim Karsh and Inari Rautsi, *Saddam Hussein: A Political Biography* (Tel Aviv: Ma'arachot, 1991), p. 229.
36. Cited in Brands and Palkki, "Saddam, Israel, and the Bomb," p. 160.
37. Palkki, "Iraqi Decision-Making under Saddam Hussein."
38. Cited in Woods, *The Mother of All Battles*, pp. 154–55.
39. Ibid.
40. Harmony document folder CMPC-2003-004325, "Memorandum to Defense Diwan from Ministry of Industry," (Ref no.2/1/35/9/160), Subject: "Munitions Receiving, 31 December 1990" and Subject: "Minutes of Special Warheads." (January 11, 1991).
41. Woods, *The Mother of All Battles*, pp. 155–56.
42. Ibid., p. 155.
43. Cited in Ibid., p. 198.
44. The UN inspectors assessed that the overall Iraqi unconventional arsenal totaled 105 warheads. See Amos Gilboa, "Milhernet Hamifratz Harishona—Hamodi'in Hayisraeli Veparashat Rashei Hakrav Hachimim Hairakim" [The Gulf War—Israeli Intelligence and the Iraqi Chemical Warheads Affair], *Mabat Malam* 62 (2012), p. 38.
45. Brands and Palkki, 2011, "Saddam, Israel, and the Bomb," p. 160.
46. Ibid., pp. 160–61.
47. Harmony folder ISGP-2003-00033136, "Role of the General Military Intelligence Directorate in Um Al-Ma'arik Battle and in Controlling Riots (Iraqi Top Secret), 15 July 2001," cited in Woods, *The Mother of All Battles*, p. 291.
48. Cited in Amatzia and Baram, "An Analysis of Iraqi WMD Strategy," *Nonproliferation Review* 8 (Summer 2001), pp. 30–31.
49. General Khamil was the former Iraqi minister of industry and military industries. He established and directed the SSO during the Gulf War.
50. Cited in Baram, "An Analysis of Iraqi WMD Strategy," p. 34.
51. Cited in Woods, *The Mother of All Battles*, p. 155.
52. Staff Lt. Gen. Hazim Abd-al-Razzaq al-Ayyubi, "Forty-Three Missiles on the Zionist Entity," FBIS translation JN2511082498 (1998), p. 11.
53. Baram, "An Analysis of Iraqi WMD Strategy," p. 35.
54. Ibid.
55. Ibid.
56. Sagan, "The Commitment Trap," pp. 109–10. Nicknamed the "daisy cutter" and containing more than 12,000 pounds of conventional high explosive, the BLU-82 was, at the time, the largest conventional bomb in the US arsenal.
57. Woods, *The Mother of All Battles*, p. 232.
58. By igniting Kuwaiti oil fields, the Iraqi commander was in clear violation of one of Bush's public red lines, thus, it might have led to an escalation in the US response. See Bush, "The Letter to Saddam (January 9, 1991)," pp. 178–79.
59. Sagan, "The Commitment Trap," pp. 108–09.
60. Baram, "An Analysis of Iraqi WMD Strategy," p. 35.
61. Ibid., 36.
62. Ibid.
63. Harmony file ISGQ-2003-M0004609, "Audio recording of a Revolutionary Command council meeting on 2 November 1990."
64. Sagan, *Deterring Rogue Regimes*, p. 9.
65. Cited in Woods, *The Mother of All Battles*, p. 211.
66. Harmony Media file ISGQ-2003-M0001720, "Recording of an Iraqi command meeting on 24 February 1991," cited in Woods, *The Mother of All Battles*, p. 221.
67. Woods, *The Mother of All Battles*, p. 230.
68. One example was the report given by the commander of the Republican Guard to Baghdad: "despite continuous engagements with the enemy and repeated 'heavy helicopter assaults,' 'the status of Nebuchadnezzar, Hammurabi, and Adnan [divisions] was good.' In addition, the Medina division was 'above the center, meaning at more than 50 percent strength.'" Harmony document folder

- ISGQ-2003-000460330, "Portion of official Iraqi history of 1991 war, ca. 1995," as cited in Woods, *The Mother of All Battles*, p. 239.
69. Ibid.
70. Freedman, *Deterrence*, p. 40.
71. Brands and Palkki, "Saddam, Israel, and the Bomb," p. 158.
72. Wafaq al-Samarrai, interview on *Frontline*.
73. Brands and Palkki, 2011, "Saddam, Israel, and the Bomb," p. 158.
74. Karsh and Rautsi, *Saddam Hussein: A Political Biography*, p. 154.
75. Karsh and Rautsi, *Saddam Hussein: A Political Biography*; Kevin M. Woods, Williamson Murray, Thomas Holaday, and Mounir Elkhamri, "Saddam's War: An Iraqi Military Perspective of the Iran-Iraq War," McNair Paper No. 70, National Defense University, Institute for National Strategic Studies, 2009, <www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA500619>.
76. Hamdani in Woods, Murray, Holaday, and Elkhamri, *Saddam's War*, p. 55.
77. Whereas broad deterrence aims to prevent all war rather than a specific action, narrow deterrence "involves deterring a particular type of military operation within a war." See Freedman, *Deterrence*, p. 32.
78. Ibid., p. 160.
79. Brands and Palkki, "Saddam, Israel, and the Bomb," p. 152.
80. Ibid., p. 135.
81. Palkki, "Iraqi Decision-Making Under Saddam Hussein." See also Sagan, *Deterring Rogue Regimes*, pp. 8–9.
82. Baram, "Iraqi Decision-Making Under Saddam Hussein."
83. In its final military assessment on December 26, 1990, the GMID surveyed three likely enemy courses of action. The scenario considered most likely was a coalition attack "against the higher command post." Woods suggests that this actually referred to a "decapitation" strike. Woods, *The Mother of All Battles*, p. 173.
84. Brands and Palkki, "Saddam, Israel, and the Bomb," p. 158.
85. Cited in Brands and Palkki, "Saddam, Israel, and the Bomb," p. 160.
86. Woods, *The Mother of All Battles*, p. 291.
87. Brands and Palkki, "Saddam, Israel, and the Bomb," p. 157.
88. Ibid., p. 144.
89. Maoz, *Defending the Holy Land*, p. 324.
90. See Sagan, "The Commitment Trap;" Halperin et al., "Forum: The Case for No First Use."
91. Sagan, "The Commitment Trap," p. 87.
92. See Halperin et al., "Forum: The Case for No First Use."
93. Sagan, *Deterring Rogue Regimes*, p. 8.
94. For example, Sagan offers three other components of credibility: the perceived interests at stake, the costs of counter-retaliation, and the legitimacy of the response. See Sagan, "The Commitment Trap," p. 97.
95. Tom Sauer, "A Second Nuclear Revolution: From Nuclear Primacy to Post-Existential Deterrence," *Journal of Strategic Studies* 32 (October 2009), pp. 745–67. Also see McGeorge Bundy, "The Bishops and the Bomb," *New York Review of Books*, June 16, 1983, pp. 3–8; Lawrence Freedman, "I Exist; Therefore I Deter," *International Security* 13 (Summer 1988), pp. 177–95; Halperin et al., "Forum: The Case for No First Use."
96. According to RDT, the deterrer must meet three conditions in order to successfully deter its enemy. First, strategic rationality deterrence depends on the actor's ability to behave "on the basis of cost-benefit calculations to advance their self-interest or obtain goods that maximize their utility." Paul, "Complex Deterrence: An Introduction," p. 6. Second, to communicate the threat, the deterrer should identify the unacceptable behavior and communicate its commitment to punish violations to the other party based on its goals and means. And third, the deterrer should possess the capability to punish his opponent or to prevent him from reaching his goals, and demonstrate his resolve to carry out the punishment. The deterrer's credibility is measured by the level of credibility that the deterree attributes to him. For further discussion on RDT's conditions, see Steinberg, "Parameters of Stable Deterrence in a Proliferated Middle East," pp. 44–48; Patrick M. Morgan, *Deterrence Now* (Cambridge:

Cambridge University Press, 2003), pp. 42–79; Freedman, *Deterrence*, pp. 21–25; Robert, L. Jervis, “The Confrontation between Iraq and the US,” *European Journal of International Relations* (June 2003) pp. 315–37; Paul, “Complex Deterrence: An Introduction,” pp. 2–3; and Janice Gross Stein, “Rational Deterrence Against ‘Irrational’ Adversaries? No Common Knowledge,” in Paul, Morgan, and Wirtz, eds., *Complex Deterrence*, pp. 58–61.

97. Paul, “Complex Deterrence: An Introduction,” p. 15.
98. Robert Jervis, *The Illogic of American Nuclear Strategy* (Ithaca, NY: Cornell University Press, 1984), p. 31. See also Michael Krepon, “The Stability-Instability Paradox, Misperception, and Escalation Control in South Asia,” in Michael Krepon, Rodney W. Jones, and Ziad Haider, eds., *Escalation Control and the Nuclear Option in South Asia* (Washington, DC: Henry L. Stimson Center, 2004), <www.stimson.org/images/uploads/research-pdfs/ESCCONTROLCHAPTER1.pdf>; Scott D. Sagan and Kenneth Waltz, *The Spread of Nuclear Weapons: A Debate Renewed* (New York, NY: W.W. Norton, 2003); S. Paul Kapur, “India and Pakistan’s Unstable Peace: Why Nuclear South Asia is Not Like Cold War Europe,” *International Security* 30 (Fall 2005), pp. 127–52; Robert Rauchhaus, “Evaluating the Nuclear Peace Hypothesis: A Quantitative Approach,” *Journal of Conflict Resolution* 53 (April 2009), pp. 258–77.