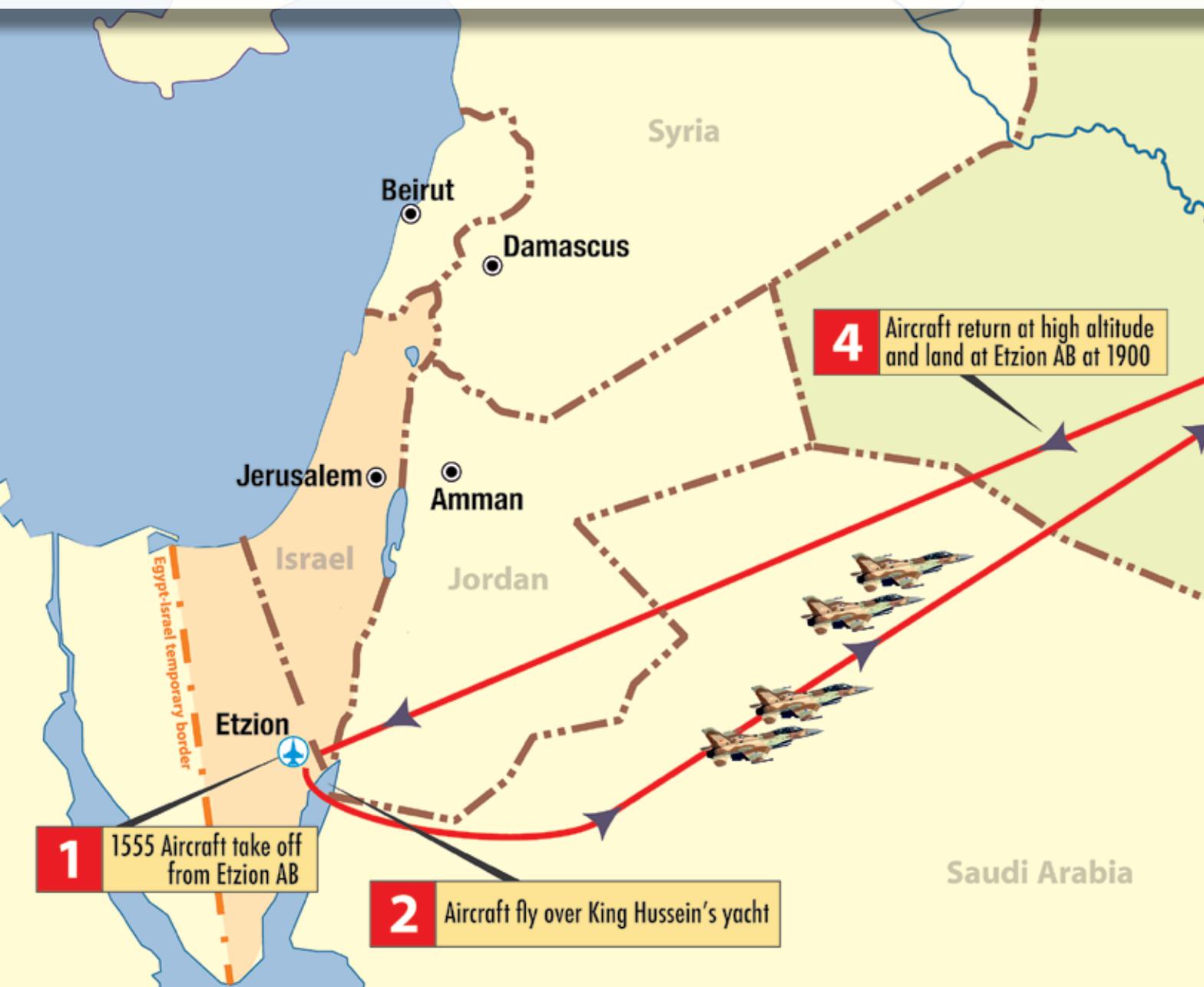


Air Strike at Osirak



Rumors have been circulating for years that Israel was getting ready to launch a pre-emptive attack on Iran's emerging nuclear weapons capability. The speculation intensified as Iran prepared to move its uranium enrichment plant into a hardened mountain bunker. Iran continued to resist diplomatic and economic pressures to cease its quest for an atomic bomb.

In February, Israel warned that the window of opportunity for a successful military operation was closing, and an attack could not be delayed much longer if it was to be done at all. News reports said the Pentagon believed Israel might attack as early as April.

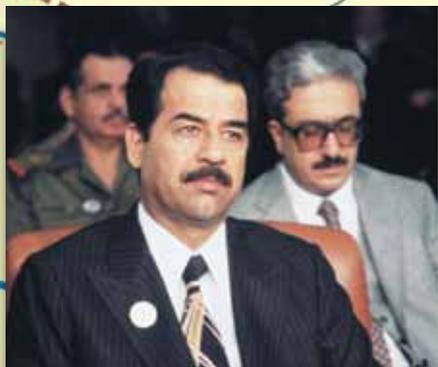
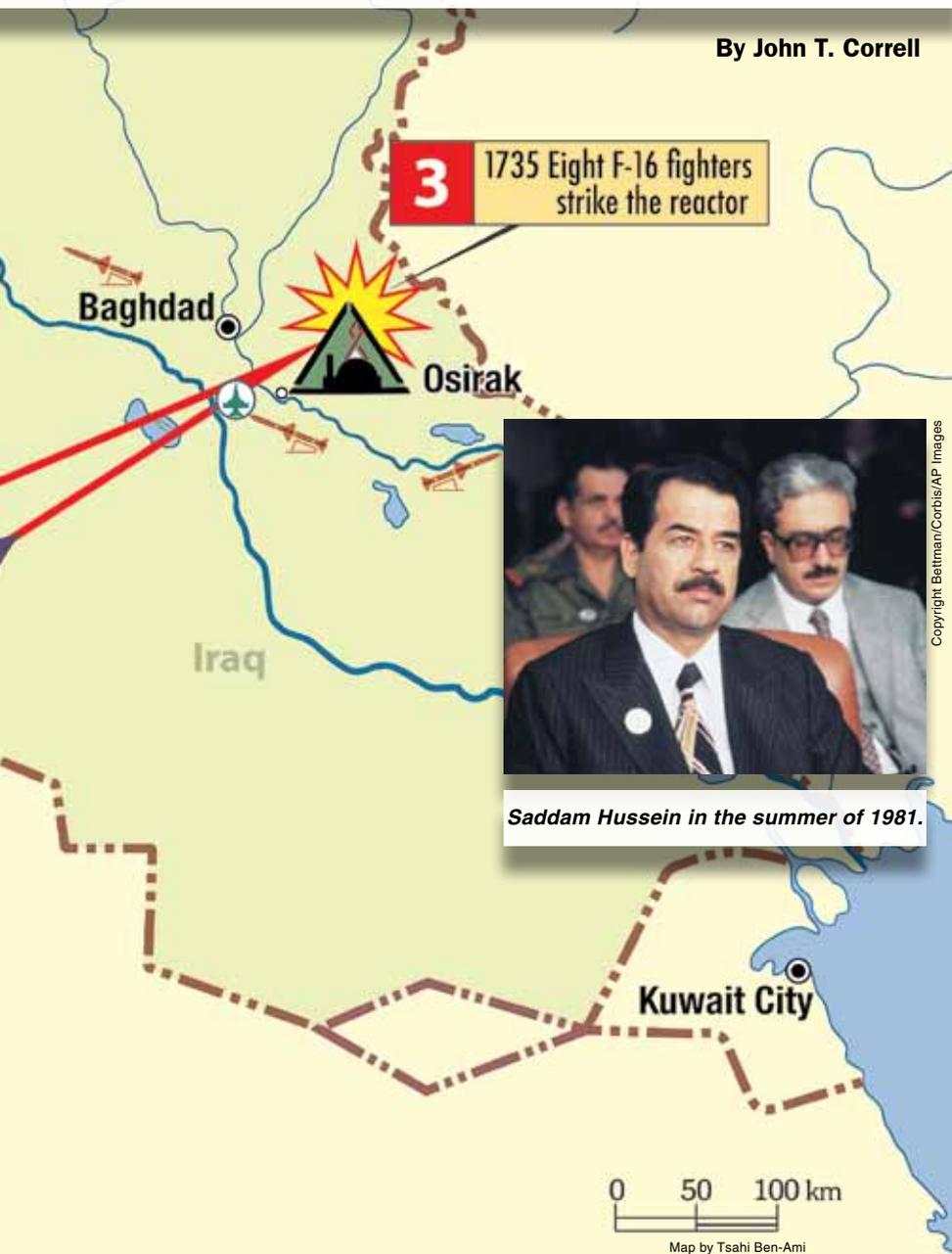
There were inevitable comparisons to a situation with marked similarities 30 years ago, when the Israeli Air Force wiped out a nuclear reactor in Iraq just before it was to be activated. This is the story of the air strike at Osirak.

In the fall of 1980, Israeli military intelligence reported that the Osirak nuclear reactor, 12 miles southeast of Baghdad, would become operational between July and November of 1981. Iraqi dictator Saddam Hussein had no need for a reactor for electric power production or other peaceful purposes; Iraqi oil reserves were ranked sixth in the world.

What Saddam really wanted from the reactor was the spent atomic fuel, from which plutonium could be extracted to manufacture the core of an implosion-

Iraq's nuclear reactor was about to go hot. If the Israelis were going to take action, it had to be soon.

By John T. Correll



Saddam Hussein in the summer of 1981.

relations with the Arab world. In the wake of severe gasoline shortages in the United States and Western Europe following the Arab oil embargo of 1973-1974, France was eager to obtain a secure supply of oil.

When Iraq came shopping for a nuclear reactor, France found the offer of oil at favorable prices too good to pass up. Potential profit from weapons sales was another consideration. In 1975, the French agreed to sell Iraq a 70-megawatt Osiris reactor and a low-grade one-megawatt Isis training reactor. Italy, with similar motivations, agreed to provide a plant to reprocess the nuclear fuel and separate the plutonium.

In 1976, work began on a nuclear complex at al Tuwaitha, near a bend in the Tigris River. The French name for the large reactor was "Osirak," combining "Osiris" and "Iraq." Saddam and the Iraqi leaders renamed the reactors Tammuz I and II, after Tammuz 17 (July 17), the date of their takeover in 1958 from the previous regime. Outside of Iraq, both the large reactor and the nuclear complex continued to be known as Osirak.

In 1978, France agreed to Iraq's demands for highly enriched uranium, suitable for military purposes, to fuel the reactors, refusing an Israeli appeal to substitute lower grade "caramel" fuel. In April 1979, two reactor cores were destroyed by sabotage in France, just before they were to be shipped to Iraq. This set the project back by six months; many blamed the Israeli intelligence agency Mossad.

The small Isis/Tammuz II reactor was activated in February 1980. In June

Below: The first Israelis trained on American F-16s were (l-r) Maj. Dubi Yaffe, Lt. Col. Zeev Raz, Capt. Haggai Katz, and Capt. Yisrael Shaphir. All told, 12 Israeli pilots trained at Hill AFB, Utah. Left: The route taken into Iraq by the F-16 strike force that took out the Osirak nuclear site. Raz flew as the mission leader.

style atomic bomb. The target for his bomb would be Israel.

If Israel was going to act, it had to be soon. Once the reactor was in operation and "hot"—fueled with uranium—a bombing attack would spread radioactive fallout across Baghdad.

Saddam's Reactor

Saddam had gotten his reactor from France, which had also been the source of Israel's nuclear technology in the 1950s. Since then, the French had made a policy switch and sought to improve



Photo via Tsahi Ben-Ami



Photo Via Tsahi Ben-Ami

An F-16 is fueled just before taking off on the Osirak raid—called Operation Opera by the Israelis.

1980, the first shipment of enriched uranium arrived in Iraq.

Israel appealed to France and Italy to cut off assistance and sought support without much result from the US and others, as Saddam Hussein was not yet the international pariah he would become after the invasion of Kuwait in 1990.

Even the United States, Israel's greatest ally, was somewhat favorably disposed toward Saddam, who went to war with Iran in September 1980. The US regarded Iran, which had recently held 52 Americans hostage for more than a year, as its main enemy in the area. Bucking the trend, CIA director William J. Casey gave Israel almost unlimited access to imagery of al Tuwaitha from the US KH-11 reconnaissance satellite.

The International Atomic Energy Agency reported that the Iraqi reactor was not being used for military purposes. However, IAEA inspections were patently worthless. Inspected nations could veto visits from inspectors they did not like, and Soviets and Hungarians did all inspections in Iraq. Further, inspected nations could choose which facilities to show. In the Osirak case, inspectors were not permitted to see the Italian reprocessing lab.

Plan of Attack

Menachem Begin, the hard-line prime minister of Israel, believed the Osirak reactor had to be eliminated, but faced divided opinion in his own Cabinet. Among those against a military attack was the defense minister, Ezer Weizman, and Labor Party leader Shimon Peres—a former defense minister and challenger to Begin in the upcoming June 1981 election. The opponents feared even a successful strike would only postpone the problem and would have a disastrous effect on Israel in international public opinion.

Begin's principal supporters were Ariel Sharon, retired general and war hero, and at the time agriculture minister in Begin's Cabinet, Foreign Minister Yitzhak Shamir, Lt. Gen. Rafael Eitan, Chief of Staff of Israeli armed forces, and Maj. Gen. David Ivry, commander of the Israeli Air Force.

Weizman resigned, and Begin took over the defense ministry portfolio himself.

In July 1980, Israel raised the issue of the Iraqi reactor in public and warned that Israel would react to the threat. The decision to strike was made in secret by Begin and the Cabinet in October 1980.

Tentative planning to destroy the reactor had begun in 1978. One possible model was Israel's long-distance Entebbe raid that rescued captives held in Uganda in 1976, but that approach—requiring ground action and large numbers of troops and big, slow-moving aircraft—was scratched as too complicated and risky. The US disaster, Desert One, in April 1980, when an Entebbe-style effort failed to free hostages in Tehran, was also taken into account.

Osirak would be an air operation. It was more than 600 miles to the nuclear complex at al Tuwaitha, with the adversarial nations of Saudi Arabia and Jordan in between. The IAF had never flown a mission at that range. Most of its aircraft could not carry a full bomb load that far without refueling en route, and refueling would increase the danger of discovery or intercept.

The aircraft chosen for the job became available by chance. Israel had F-16s on order from the United States with delivery due in 1982. However, Israel leapt at an offer to buy F-16s earlier when a sale to Iran was canceled when the Shah was overthrown. These aircraft began arriving in July 1980, and Israel had 53 of them on hand at the time of the Osirak mission.

The speed and small size of the F-16 limited its vulnerability to enemy fire. With internal fuel capacity plus centerline and wing tanks, the F-16 could go the distance without refueling.

Israel had precision guided munitions, but "smart" weapons introduced complications, such as the effects of weather and the requirement to fly a stabilized pattern for delivery. Planners decided to keep the mission simple. They calculated that eight bombs directly on target would destroy it, and that 16 well-aimed gravity bombs dropped at low level would have a 99 percent probability of success.

The F-16's superb computerized bomb sighting system supported the decision to conduct the attack with conventional gravity bombs. The strike force would consist of eight F-16s, each carrying two Mk 84 2,000-pound bombs, with F-15s flying air cover for them.

A 60-foot concrete dome several inches thick covered the Osirak reactor. Delivered as planned, a 2,000-pound bomb could punch through that easily.

The Special Squadron

The F-16s were assigned to a new squadron formed at Ramat David Air Base, north of Tel Aviv in the Jezreel Valley. The squadron commander and base commander was Col. Iftach Spector, revered in the Israeli Air Force for having shot down 15 MiGs in the 1973 Yom Kippur War. (Spector was not a hero in the eyes of everyone. In 1967, he led the squadron that strafed USS *Liberty* in international waters, supposedly by mistake, killing 34 Americans during the Six-Day War.)

Twelve Israeli pilots trained in F-16s at Hill AFB, Utah, prior to delivery of the first aircraft. Back in Israel they flew low-level, long-distance exercises. They were not told the mission they were training for, but it was easy to guess.

The marginally competent Iranian Air Force made the first attempt to destroy the Osirak reactor, in September 1980. Two F-4s attacked with rockets and guns, but did little damage. Saddam sent word that the nuclear effort was directed against "the Zionist foe," not Iran.

Crews to carry out the Israeli attack were hand-picked by Eitan and Ivry. The strike force F-16s were grouped into two flights of four. Lt. Col. Zeev Raz would head the mission and fly the lead aircraft and Lt. Col. Amir Nachumi would lead the second flight.

Training was well under way when Spector decided he wanted to fly on the mission. Ivry turned him down,

Four of the Israeli F-16s line up before takeoff. The strike force comprised eight airplanes, in two flights of four.



Photos via Teahi Ben-Ami

but Spector appealed to Eitan, who supported him.

Spector replaced one of the junior pilots on the team, and flew some F-16 missions from Ramat David, but did not receive the full training.

Raz remained mission leader. Spector would fly as Nachumi's wingman, putting him sixth in order on the bomb run.

The strike would be on a Sunday, based on an assumption—erroneous as it turned out—that the French and Italian technicians would be taking their day of rest. The F-16s would attack from west to east, late in the day, with the setting sun at their backs.

The raid was initially scheduled for May 17, but canceled on an appeal from Peres, who urged Begin to wait until after the upcoming French elections. Socialist Francois Mitterand, likely to be the new president of France, had assured his friend Peres that he would “excise the Iraqi reactor of its military potential.” After the elections, however, President Mitterand sadly concluded that he was bound to abide by the previous agreement with Iraq.

Begin, furious, rescheduled the strike for Sunday, June 7. Peres led Begin in the public opinion polls. Figuring he would lose the election, Begin believed that removal of the Osirak reactor, critical to the security of Israel, must be accomplished before the reluctant Peres took office.

The F-16s and F-15s deployed to Etzion Air Base on the Sinai Peninsula, from where the attack would be launched. Security was tight. Telephone lines from the base, except for a few for official use, were cut off. Ground crews and technicians were not told what the mission was.

The eight F-16s were heavily laden for the attack. Each carried two Mk 84 bombs, two AIM-9L Sidewinder missiles, a 300-gallon centerline fuel tank, and two 370-gallon wing tanks. They rolled down

the runway and struggled into the air at 3:55 p.m., which was 4:55 p.m. in Iraq.

80 Seconds Over Osirak

King Hussein of Jordan, aboard his yacht in the Gulf of Aqaba, saw the F-16s pass by, headed east. Hussein, a pilot himself, recognized what they were. He sent a warning message to Iraq, but it was never received by anyone in authority.

The F-16s and F-15s did not follow a straight line to the target. Their dogleg course was plotted to best avoid detection by Jordanian radar to the north and the Saudi E-3 Airborne Warning and Control System operating to the south. They maintained radio silence, flying on the Saudi side of the border at 360 knots (414 mph) and about 150 feet above the desert floor.

Shortly before crossing into Iraq, about 55 minutes into the flight, they dropped their wing tanks, which was risky with bombs mounted alongside on the wings, to lighten their load and improve their range.

The initial point for the attack, critical to the approach, was supposedly an unmistakable terrain feature, an island in the middle of a lake. Recent rains had covered the island with water, however, and Raz missed it momentarily, putting his calculations slightly off.

Fifty miles out, the F-15 escorts broke away and climbed to 25,000 feet to fly patrol and provide air cover. The strike force had been briefed to expect challenge from Iraqi air defenses after they crossed the Euphrates, but there was none. The Israelis turned northeast toward the target.

The nuclear complex came into view ahead on the banks of the Tigris. It was a quarter-mile square, the white concrete dome of the Osirak facility in the middle, with the Italian lab, the Isis reactor, and various shops and buildings off to the side.

The F-16s released their flares and chaff to confuse heat-seeking missiles and radar.

Four miles from the target, the F-16s climbed sharply to 5,000 feet. The tactic was to dive from altitude on the target at a speed of more than 600 mph at a 35-degree angle, releasing the bombs at high velocity from 3,500 feet. The bombs were fuzed with just enough delay to punch through the concrete dome to the reactor before exploding.

Because of the glitch at the initial point, Raz began his dive late and had to loop around to realign with the target. This meant his wingman, Maj. Amos Yadlin, bombed first, with Raz dropping second. The other F-16s followed close behind.

The F-16s swooped down on the Osirak complex at 6:35 p.m. Iraqi time. From first bomb to last, only 80 seconds elapsed. Smoke and flames rose into the air as 14 of the 16 bombs hit inside the dome and destroyed the reactor. The two bombs that missed were both dropped by Spector. The Isis reactor and the Italian lab were not damaged.

The attack caught the air defense gunners flat-footed. They were in the cafeteria for supper, the radars shut down and cold. The defenders got a few shots off at the last of the F-16s,

After the successful raid, one of the pilots had this mission symbol painted underneath the cockpit of his F-16.





The former site of the Osirak nuclear reactor building was photographed during Desert Storm. The reactor was located next to the narrow smokestack in the far center of the photograph.

but they were shooting wildly and manually, without radar or computers. Attempting to pick off the diving F-16s, the gunners raked their own forces across the way.

As the F-16s came off the target, they broke left and made a fast departure from al Tuwaitha before climbing to altitude to rendezvous with the F-15s. After verifying that they had taken no losses, Raz led them on a beeline southwest to the Saudi border and then across Jordan to Etzion. They met no resistance on the way home and landed at Etzion just after 7 p.m.

They had been in the air for three hours and 10 minutes.

Contrary to expectation, the foreign technicians had taken the Muslim Sabbath on Friday as their day off, but most of them had already left work when the attack happened on Sunday. One French technician was killed. Reports of Iraqi deaths ranged from zero to 10, and the low-shooting Iraqi gunners inflicted some of the casualties.

Saddam ordered the execution of the air defense zone commander and all officers in his command over the rank of major. Twenty-three other officers and pilots were sent to prison.

Outrage at the UN

Iraq and France complained bitterly. The Soviet Union and other nations chimed in. A *New York Times* editorial stated, "Israel's sneak attack on a French-built nuclear reactor near Baghdad was an act of inexcusable and short-sighted aggression."

In the immediate aftermath, the US suspended deliveries of F-16s to Israel "for the time being." However, President Reagan soon announced, "There is no fundamental re-evaluation of the United States' relationship with Israel, nor does

the United States government anticipate any change."

UN Secretary-General Kurt Waldheim of Austria denounced the Osirak attack as a "clear contravention of international law." In 1976, he had likewise assailed the Israeli raid to rescue its hostages in Entebbe. Waldheim's credibility on the subject of Israel took a nose dive when it was later revealed he had been a Nazi party member in World War II, serving in German units that executed partisans and sent Jews to death camps.

Jeane J. Kirkpatrick, US delegate to the UN, said the "diplomatic means available to Israel had not been exhausted," and the UN Security Council "strongly condemned" Israel's destruction of the reactor in a unanimous vote.

William Safire reached a different conclusion in a *New York Times* column. He declared that the Osirak strike "has enabled the rest of the world to indulge in an orgy of hypocrisy." Elimination of the reactor was to the benefit of all, he wrote, including the Arab world, which had feared domination by a nuclear-armed Iraq.

Begin's political fortunes rebounded. His Likud party won the June election and he remained prime minister until October 1983, when Yitzhak Shamir, who had staunchly supported him in the Osirak crisis, succeeded him.

Much of the international anger toward Israel soon faded. F-16 deliveries to Israel resumed Sept. 1, and France declined to sell Iraq a replacement for the destroyed reactor.

In time, the world had reason to be glad Saddam did not have nuclear weap-

ons. Even his Arab neighbors joined the coalition against Iraq when he invaded Kuwait in 1990.

During the 1991 Gulf War, coalition forces destroyed what was left of the al Tuwaitha complex. After the war, US Defense Secretary Richard Cheney told Ivry the Osirak operation had "made our job much easier in Desert Storm."

Sequels

Years later, Israel carried out a preemptive attack against another nuclear site, but this time the world paid much less attention. In 2007, Israel and the US were aware of a nuclear reactor—and probably a nuclear weapons program—under development in Syria with North Korean assistance. That September, Israeli F-15s and F-16s destroyed the facility using Maverick missiles and 500-pound bombs.

News reports of the attack said the most likely targets were "weapons caches" supporting missile attacks on Israel. Syria, not eager to acknowledge it was working on nuclear weapons, said only that Israel had bombed a building "related to the military." More than a month later, US officials said the target was a partially constructed nuclear reactor. No other Arab nation criticized the raid, and the main international complaint came from North Korea.

Iran's nuclear program, known to the public since 2002, has been of greater substance and concern. Although the first target for an Iranian atomic bomb would be Israel, such a weapon would also be a threat to Europe and the United States.

The US itself has considered a military option against Iran's nuclear weapons program, and such a response was still under discussion in recent months. Meanwhile, diplomatic efforts bogged down in the face of Iran's defiance.

In September 2009, the US disclosed that Iran had carved a nuclear facility out of a mountain near Qom, 100 miles southwest of Tehran. This January, Iran acknowledged it had begun uranium enrichment there.

Israeli Defense Minister Ehud Barak warned Feb. 2 that if Iran proceeded with its nuclear program, the window of opportunity for a military operation was closing.

"Whoever says 'later' may find that later is too late," he said. ■

John T. Correll was editor in chief of Air Force Magazine for 18 years and is now a contributor. His most recent article, "The Man From Thud Ridge" appeared in the March issue.