Israel's Quest for Satellite Intelligence

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> **"The value of satellite imagery was not unknown to the Israelis before the Yom Kippur war."**

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In the spring of 1995, the successful orbiting of *Ofeq*-3 (the name is the Hebrew word for "horizon") represented the initial satisfaction of a longstanding Israeli desire: an independent space reconnaissance capability. For more than 20 years before they began receiving imagery from the satellite, Israeli defense officials had recognized that spacecraft offered unique capabilities to intensify information gathering in adjacent countries while extending their intelligence reach to more distant lands. After the nation was almost overwhelmed in 1973, Israeli intelligence officers further focused their efforts on preventing future surprise attacks. Satellite photography was seen as a vital tool, able to provide unprecedented warning about the movement of enemy troops and equipment in preparation for war, as well as the movement of enemy forces once hostilities were underway.

The value of satellite imagery was not unknown to the Israelis before the Yom Kippur war. Faced with invading armies on two fronts in October 1973, Israeli military attachés in Washington urgently requested satellite information from the United States about the disposition of the Egyptian and Syrian forces. According to former Israeli Defense Forces (IDF) Chief of Staff Gen. Mordecai Gur, who had been one of those attachés, US authorities responded that the information was unavailable due to "damage" to the satellite.[1] An unnamed CIA analyst subsequently recalled that the United States had acquired "wonderful coverage, but...didn't get the pictures until the war was over."[2] Even those photos showed the positions of invading forces only during the earliest part of the war.[3] The findings of the House Select Committee on Intelligence (the "Pike Committee") in its recommendations to the Final Report in 1976 also indicate that the United States was unable to obtain adequate imagery and other information about the conflict while it was underway. As part of its criticism of US intelligence activities, the committee concluded that the United States had gone "to the brink of war" with the Soviet Union during the 1973 war because it lacked timely intelligence.[4]

Israeli Dissatisfaction

If the United States was unable to obtain the satellite photography necessary to satisfy its own intelli-

[1] Interview in *Ha'aretz* (Tel Aviv), 3 September 1992, quoted in Dan Raviv and Yossi Melman, *Friends in Deed: The U.S.-Israel Alliance* (New York: Hyperion, 1994), p. 161.

[2] Quoted in Representative George E. Brown, Jr. (D-CA),"'The Spies in Space'—(By Jeffrey T. Richelson) (Extension of Remarks—November 26, 1991)," Congressional Record (26 November 1991): E4120. URL: <http://www.fas.org/irp/congress/1991_cr/h9111126- richelson.htm>, accessed 14 February 1999.

[3] Jeffrey T. Richelson, *America's Secret Eyes in Space: The U.S. Keyhole Spy Satellite Program* (New York: Harper & Row, 1990), p. 117.

[4] Brown, Jr. (D-CA), "'The Spies in Space'—(By Jeffrey T. Richelson) (Extension of Remarks—November 26, 1991)."

gence needs during the conflict, then it logically follows that it was likewise unable to provide any information derived from satellite intelligence to Israel. Faced with the possibility of imminent military defeat at the hands of enemies whose avowed purpose in past conflicts had been the total annihilation of the so-called Zionist entity, however, the Israelis were distrustful of US statements that it was unable to respond with desperately needed intelligence assistance. As Gur noted in 1992, "How could I know if [the satellite] was really damaged? The bottom line was that we didn't get the information."[5]

The general had expressed himself far less ambiguously as Israeli technicians were completing the final preparations for the launch of *Ofeq-1*, an experimental satellite, in September 1988: "The United States did not give us enough information [during the October 1973 war].[6] When I say not enough, I mean less [than] what we got before the war."[7] Exactly how long "before the war" Gur meant is unclear, because he is also said to have asserted that the United States had actually withheld satellite data from Israel immediately before the war.[8]

Presumably, the information which Gur believes had been held back

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by the United States would have revealed the true scope of Egyptian and Syrian preparations for war, thus providing adequate warning for the Israelis to prepare properly for the Arab attack. Instead, the Israelis found themselves in such a desperate situation that they deployed long-range missiles capable of delivering nuclear warheads on Cairo and Damascus after then-Minister of Defense Moshe Dayan warned that the nation might be on the verge of destruction at the hands of the Egyptians and Syrians.[9]

In their examination in 1991 of US and Soviet high-altitude aerial and space reconnaissance during the October 1973 war, Michael Russell Rip and Joseph F. Fontanella dismissed Gur's statements as "specious" and "probably made to help justify the Israeli space venture."[10] In fact, Gur's sentiments merit far more serious consideration. Just as the war itself marked a defining moment for Israelis, so too did Gur's experiences in trying to obtain satellite intelligence from the United States clearly leave a deep and lasting impression on him. From Gur's perspective, the United States had kept critical satellite warning data from the Israelis before the two-front attack. Shortly thereafter, when Israel was threatened with imminent annihilation by the invading Arab armies, the United States had demonstrated to the Israelis that it could not be relied on to provide information vital to Israel's survival. Given Gur's assignment at that time and his later positions of influence, there seems little question that he would have been able to share his views with other Israeli security officials and decisionmakers.

Going It Alone

For the Israelis, the lesson was immediate and unmistakable: they would have to acquire an independent space reconnaissance capability. Details about the earliest Israeli investigations into an indigenous satellite program are extremely limited, but the little information available unambiguously indicates that it was at this time that Israeli scientists and engineers first seriously explored the possibility of launching a satellite. In little-noticed remarks following the launch of *Ofeq-1* in 1988, Israel Space Agency (ISA) chairman Yuval Ne'eman disclosed that Israel had been working on the satellite since the early 1970s.[11] Even more tell-

[5] Interview in *Ha'aretz* (Tel Aviv), 3 September 1992, quoted in Dan Raviv and Yossi Melman, *Friends in Deed: the U.S.-Israel Alliance* (New York: Hyperion, 1994), p. 161.
[6] John Kifner, "Israel Launches Space Program and a Satellite," *The New York Times*, 20 September 1988, p. A1
[7] *Ibid.*, A12.
[8] "Israeli Satellite Is 'Threat' Say Arabs," *Jane's Defense Weekly* 10, No 13 (1 October 1988), p. 753.

[9] Danny Gur-arieh, "Israel Deployed Nuke-Capable Missiles in 1973 War," *Reuters*, 26 October 1998.
[10] Michael Russell Rip and Joseph F. Fontanella, "A Window on the Arab-Israeli 'Yom Kippur' War of October 1973: Military Photo-Reconnaissance from High Altitude and Space," *Intelligence and National Security*, No. 1 (January 1991), p. 76.

[11] Juan O. Tamayo, "Israel Launches Satellite With Military Potential," *Miami Herald*, 20 September 1988, p. 14A.

ing, as part of a legal action against a former employee, Israel Aircraft Industries (IAI) revealed in March 1995 that it had in 1973 examined its capability to launch an *Ofeq*-style satellite using a *Shavit*-type (the name is the Hebrew word for "comet") launcher, and that it had determined that such a project was feasible.[12]

The documentary evidence thus indicates that the Israeli desire for a photoreconnaissance satellite did indeed originate with the October 1973 war. Further, the information supports the view that the Israeli need was not a consequence of having received timely satellite photography from the United States, but rather the result of the failure of the United States to provide satellite intelligence to Israel just when it was required most. Unfortunately for the Israelis, however, desire and theoretical capability were not in and of themselves sufficient basis for a space program. The large scale and expense of the project kept a reconnaissance spacecraft beyond their reach as they continued to rely on the United States for their satellite intelligence needs.

The Postwar Years

Israel efforts to gain access to United States satellite imagery after the October 1973 Yom Kippur War proved more successful than they had during the conflict, although perhaps only marginally so in the Israeli view. As part of an ongoing intelligence exchange with Israel, the United States supplied Israel with intelligence information based on satellite collection following the war, and has continued to do so in one form or another ever since.[13]

Israel began seeking greater access to US satellite intelligence to augment its early warning capabilities immediately after the 1973 war. Ne'eman, then Israel's chief defense scientist, included a request for intelligence satellite "services" in Israeli demands to be presented to the United States following the negotiation of the interim agreement at the conclusion of the 1973 war.[14] According to late Prime Minister Yitzhak Rabin, then-Minister of Defense Shimon Peres formally presented the United States with the Israeli request for a $1 billion satellite system in December 1975. Some months later, while testifying before members of Congress who were concerned that such a measure would hurt prospects for peace in the Middle East, Rabin indicated that Israel really did not require the satellite, after all.[15]

United States policy with regard to providing satellite intelligence to Israel was uneven throughout the remainder of the 1970s, and seemed to the Israelis to vary with each Director of Central Intelligence (DCI). George Bush was said to have approved providing actual satellite photographs to Israel while he was the DCI in 1976 and 1977.[16] When Stansfield Turner replaced Bush in 1977, he allowed the Israelis to receive only information based on satellite imagery, but not the images themselves.[17] The Israelis would grow increasingly concerned over these and other inconsistencies in United States policy.

William Casey's arrival as the DCI in 1981 proved a positive experience for the Israelis, at least initially. Casey permitted them to requisition actual satellite photography once again. The imagery to be provided, however, was to be limited to that depicting potential direct threats to Israel's security.[18] Having regained entrée to the imagery, Israel then asked the United States in early April 1981 for direct access to a US reconnaissance satellite. Israeli officials justified the request as "compensation" for the planned sale by the United States of airborne warning and control system (AWACS) surveillance aircraft to Saudi Arabia. Israel also voiced its increased need for real-time intelligence data and improved surveillance and warning capabilities due to its scheduled withdrawal from the Sinai peninsula in April 1982.[19]

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[12] Sharon Sade, "IAI Confirms Having Satellite-Launching Capability in 1973," TA1603171095 in Tel Aviv *Ha'aretz* (16 March 1995), p. A6. FBIS Tel Aviv IS, 161710Z March 1995.

[13] Jeffrey T. Richelson, *The U.S. Intelligence Community*, 4th ed. (Boulder, CO: Westview Press, 1999), p. 300.

[14] Yuval Ne'eman, "New Horizons—A Personal View," *Jerusalem Post*, 23 September 1988, p. 5.

[15] Joshua Brilliant, "A Peek Under the Shroud of Secrecy," *Jerusalem Post*, 23 September 1988, p. 4.

[16] Bob Woodward, "CIA Sought 3rd-Country Contra Aid," *The Washington Post*, 19 May 1984, p. A13.

[17] *Ibid.*, A13.

[18] "Transcript of the Statement by Inman on His Decision to Withdraw," *The New York Times*, 19 January 1994, Final Ed , A14

The precise details of the Israeli requirement are not clear. A contemporary account, citing unnamed US and Israeli sources, notes that the Israelis had indicated that they would be satisfied with either a new satellite and ground station to be provided by the United States for Israel's exclusive use or with "full and equal access" to an existing US satellite.[20] A later report asserts that Israel had "demanded" exclusive access to a United States satellite already in orbit as the alternative to receiving its own new satellite.[21] In either case, United States officials considered the Israeli request seriously. The Israelis, however, soon damaged their own cause.

Setting Limits

In early June 1981, Israeli Air Force aircraft successfully bombed an Iraqi nuclear facility near Baghdad. Curious about how the Israelis had obtained the necessary targeting information to carry out the dramatic long-range strike, Deputy Director of Central Intelligence (DDCI) Bobby Inman asked for a review of imagery and other materials that had been provided to Israeli intelligence officials. As previously noted, policies in effect at the time called for limiting Israeli access to satellite imagery to those photos showing potential direct threats to Israel. Inman quickly found that the Israeli and United States concepts of what constituted such threats differed substantially. During their nearly six months of renewed access to US satellite imagery, the Israelis had obtained "a lot" of information not only about Iraq, but also about Libya, Pakistan, and other countries lying at considerable distances from Israel.[22] The DDCI immediately restricted future distribution of satellite photography. The Israelis were to be allowed to receive imagery only of areas within 250 miles of Israel's borders. They could, however, make specific requests for any other coverage desired, to be approved or denied by the DCI on a case-by-case basis.[23]

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Israel's then-Minister of Defense Ariel Sharon, according to Inman, was "furious," and immediately protested the decision directly to Secretary of Defense Caspar Weinberger,[24] who backed the DDCI. DCI Casey, who had been traveling abroad, disagreed with his deputy's decision, but did not reverse it on his return. Instead, he effectively ignored it. Retired Israeli Maj. Gen. Yehoshua Saguy, who served as the head of Israeli military intelligence from 1979 to 1983, confirmed that "Casey [said] 'yes' all the time" to Israeli requests for satellite photography of areas lying farther than 250 miles from Israel's borders.[25] An unnamed Israeli official has been quoted as saying that the level of support in furnishing satellite intelligence provided by DCI Casey was considered extremely valuable by the Israelis, and that they referred to it among themselves as "Casey's gift."[26]

The Israeli attack on the Iraqi nuclear facility became a significant factor in the continuing debate among United States officials over whether to grant Israel's earlier request for a reconnaissance satellite. Advocates on both sides of the argument cited the raid to justify their positions. Proponents argued that satisfying the desire would reduce the likelihood of future preemptive strikes by helping to soothe Israel's insecurities about its ability to detect Arab preparations for a surprise attack. Opponents noted that Israeli officials might use unhampered access to satellite intelligence to plan and execute even more attacks throughout the region. They also raised the matters of expense and the transfer of sensitive technologies. Finally, they pointed out that Arab concerns about the advantages that a satellite afforded Israel might prompt

[19] Bernard Gwertzman, "Israel Asks U.S for Gift of Jets, Citing Saudi Sale," *The New York Times*, 4 April 1981, p. 2.
[20] *Ibid.*, p. 2.
[21] (No title), UPI, International Section, 26 November 1982 (LEXIS-NEXIS, n.d.).
[22] *Ibid.*
[23] *Ibid.*
[24] *Ibid.*
[25] Woodward, "CIA Sought 3rd-Country Contra Aid."
[26] Bob Woodward, "Probes of Iran Deals Extend to Roles of CIA, Director," *The Washington Post*, 28 November 1986, p. A33.

the Soviet Union to provide similar capabilities for Syria, Libya, or other nations in the region.[27]

Israel and the United States were expected to discuss the Israeli request and other facets of satellite intelligence during talks in September 1981 aimed at strengthening strategic ties between the two countries.[28] The sessions reportedly included discussions about sharing intelligence as part of a broader joint effort to counter Soviet expansion and influence in the Middle East.[29] According to US defense officials, however, there was no specific mention of satellites during the conference.[30] As a result, the Israelis did not receive their own reconnaissance satellite system from the United States, nor were they given direct access to a US spacecraft already in orbit. In November, Weinberger and Sharon signed a memorandum of understanding for "strategic cooperation" between the two countries.

The agreement proved extremely short-lived. President Ronald Reagan ordered it suspended in December 1981 after the Israelis formally annexed the Golan Heights. Israel's invasion of Lebanon in mid-1982 even further provoked the ire of US officials. It would be November 1983 before the United States, trying to make headway with its Middle East peace initiatives, offered to renew "strategic cooperation" with Israel.[31]

Continuing Complaints

Israeli officials grew increasingly impatient with the manner in which the United States responded to their needs for satellite intelligence. When the Israelis took actions that they considered to be in the best interests of maintaining their own security and protecting the Israeli people, the United States replied by further restricting access to the information or by abrogating existing agreements. The Israelis apparently perceived themselves as victims of the vagaries of United States policy. They could not depend on the United States to provide satellite intelligence. Indeed, some Israeli officials, most notably Sharon, concluded that the United States was not a reliable ally, period.[32]

Even in the best of times, the Israelis had found fault with the arrangements for their access to US satellite intelligence. They complained that their requests for information based on satellite photography were often delayed or denied outright, or that the information that they did receive was frequently incomplete or dated.[33] They objected that when actual satellite photos were provided to them, the image quality was intentionally degraded, sometimes rendering them useless for the purposes desired.[34] Finally, they protested that US intelligence authorities frequently refused their requests for specific collection against targets of special interest to the Israelis.[35]

Immediately after the September 1988 launch of *Ofeq-1*, retired General Saguy, head of military intelligence from 1979 to 1983, compared Israel's limited access to United States satellite information to the relationship between "a patron and his dependent."[36] On the same occasion, another former head of military intelligence—who had also served as the head of Mossad, the Israeli secret service—described the situation in even less flattering terms: Meir Amit told Israeli radio that, "If you are fed from the crumbs of others according to their whim, this is very inconvenient and very difficult. If you have your own independent capability, you climb one level higher."[37]

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[27] Bill Roeder, "A U.S. Spy Satellite for Israel?" *Newsweek*, 7 September 1981, p. 17.
[28] Bernard Gwertzman, "U.S.-Israeli Talks on Military Links Are Reported Set," *The New York Times*, 6 September 1981, p. 1
[29] John Brecher, with Milan J. Kubic and John Walcott, "Begin Wins Round One," *Newsweek*, 21 September 1981, p. 61.
[30] John M. Goshko, "Reagan, Begin Hold 'Warm' Meeting; No Decisions Reached on Closer Ties," *The Washington Post*, 10 September 1981, p. A13.
[31] Bernard Gwertzman, "Reagan Turns to Israel," *The New York Times Magazine*, 27 November 1983, p. 84.
[32] Seymour M. Hersh, *The Samson Option: Israel's Nuclear Arsenal and American Foreign Policy* (New York: Random House, 1991), p. 16.
[33] "Israeli Spy Satellite Suspected," p. 46
[34] Gerald M. Steinberg, "Middle East Space Race Gathers Pace," p. 20.
[35] "Military Eye-in-the-Sky Over Syria, Iraq, Iran, and Libya," *Mideast Mirror*, 6 April 1995 (NEXIS, 7 April 1995).
[36] Yehoshua Saguy in *Hadashot* (Tel Aviv), n.d., quoted in Masha Hamilton, "Israel Launches Test Satellite," Associated Press, International Section, 19 September 1988 (LEXIS-NEXIS, n.d.).
[37] Glenn Frankel, "Israel Puts Its First Satellite Into Orbit," *The Washington Post*, 20 September 1988, p. A16.

Clearly, Israeli authorities would have preferred to have bypassed these difficulties altogether with an independent space intelligence capability. Twice, in 1975 and again in 1981, they had tried to obtain from the United States either a complete photoreconnaissance satellite system of their own or unfettered access to an existing system. In both instances, their requests were refused.

An Independent Capability

Intelligence officials continued to press for an indigenous Israeli photoreconnaissance satellite. Then-Chief of the Israeli Military Intelligence Branch Shlomo Gazit in 1979 included a "spy satellite" on a list of military intelligence needs for the following decade. Gazit later noted that his request had been met by "a mixture of astonishment and scorn" by other Israeli officials.[38] There could have been no other reaction. The Israelis had made little substantive progress toward developing a satellite, a launcher, or any of the infrastructure necessary to support a space program in the years following IAI's 1973 study. Alon Ganei, a senior Israeli researcher in rocket propulsion, indicated in 1998 that even "in the [early] 1980s there was still considerable debate over whether to enter the aerospace field at all."[39]

Those favoring an Israeli space capability finally triumphed in

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November 1982, when Ne'eman, then Israeli Minister of Science and Technology, announced that Israel was establishing a space agency to build and launch satellites, including reconnaissance satellites.[40] Later statements by ISA officials, including ISA Chairman Ne'eman, emphasized the commercial and scientific nature of the Israeli space program, denying outright that Israel intended to field a "spy" satellite.[41] There was little question, however, that Israeli officials had reached their own conclusions about how best to satisfy Israel's satellite intelligence needs.

A recent ISA description of the *Ofeq* satellite program indicates that the project began in 1982, with "parallel efforts [in] research and development, construction of the necessary infrastructure, training [of] hundreds of engineers and technicians, and then designing, building, testing, and finally launching the satellites."[42] It goes on to describe briefly the characteristics of each of the satellites successfully orbited so far, and accompanying materials provide an informative overview of the Israeli space program and the sophisticated products and technologies supporting it.

From a distance, Israel's expectations for United States satellite intelligence support may seem excessive, even preposterous. For the Israelis, however, the enhanced warning capabilities provided by satellites meant survival. Where the preservation of the state and the people were concerned, there could be no compromise. Unfortunately, the United States could not be trusted to furnish all of the satellite intelligence that Israel needed to meet its security requirements. In November 1982, Israeli officials committed to the development of a space program and a reconnaissance satellite.

The Israeli decision came nine years after Egyptian and Syrian forces attacked on separate fronts while Israeli citizens observed their most holy day. Not quite another six years later, Israel launched its first satellite. That the launch of *Ofeq-1* occurred just two days before Yom Kippur was almost certainly no coincidence.

[38] Shlomo Gazit, "Gaps in Satellite Intelligence Collection," 95P50108B in Tel Aviv *Yedi'ot Aharonot* (10 April 1995), p. 5. FBIS Reston VA, 260345Z April 1995.

[39] Amnon Barzilai, "Outer Space—Clean Up Your Act," *Ha'aretz* (Tel Aviv), 28 July 1998, B3. URL: <http://www.fas.org/irp/news/1998/07/980728-space.htm>, accessed 11 August 1998.

[40] (No title), UPI, International Section, 26 November 1982.

[41] "Israel: A Communications Satellite" (text), ME/W1230/B1 Israel Home Service, 1500 GMT (22 March 1983). BBC Summary of World Broadcasts: The Middle East, Africa, and Latin America, 5 April 1983 (LEXIS-NEXIS, n.d.); and Dan Fisher, "Israeli Space Program Sets Lofty Goals; Security, Industrial Development Are Prime Concerns," *The Los Angeles Times*, 10 June 1985, Home Ed., Section 4, 1 (LEXIS-NEXIS, n.d.).

[42] Israel Space Agency, "The Ofeq Satellites Program," 16 March 1999 URL: <http://www.most.gov. il/isa/OFEK.html>, accessed 18 March 1999.