The Boats of Cherbourg

The Navy That Stole Its Own Boats and Changed Naval Warfare

by Abraham Rabinovich, 1928–

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Illustrations attached

Preface

It was two years after the Yom Kippur War that I first heard about the Israeli missile boats. The media had until then reported nothing about the navy's activities in the war. With the fate of the country hanging on the fierce tank battles raging in Sinai and on the Golan, and on the air force's desperate attempts to stem the Arab tide, the navy had clearly played a marginal role at best.

I was part of a Jerusalem Post team that covered a symposium on the war in 1975 which was addressed by Israel's top military commanders and political leaders. Although it was not part of my assignment, I stopped by to hear a lecture by the navy commander, Admiral Binyamin Telem, out of curiosity about what the navy had in fact done.

His talk was a revelation. There had been battles at sea, which the public was unaware of, and they had been fought—for the first time in history—not with guns but with missiles which pursued enemy vessels with their own radar. Israel had employed a new kind of warship, missile boats, and so had the Arab navies. The Egyptian and Syrian missile boats, acquired from the Soviet Union, outnumbered the Israeli vessels by more than two to one and their missiles had more than twice the range of the Israeli missiles. Yet the Israeli missile boat flotilla came through the war without losing a boat or a man while sinking almost every Arab vessel it encountered and driving the Arab fleets into harbor. Israel had itself conceived and developed its missile boat and its sea-to-sea missile. No other country in the West had anything similar.

This, then, was not some irrelevant skirmishing of gunboats on the margins of a bloody land war but a turning point in the history of naval warfare. A nation of three million had developed an advanced weapon system that not even the United States possessed and it had proved superior to the only other missile boat system in the world, developed by the Soviet superpower.

Several years later, in an idle moment of reflection triggered by a random remark as I walked down Ben-Yehuda Street in downtown Jerusalem, I thought of Telem's talk. Before I reached the corner, I had an epiphany—a sudden recollection of the arrival in Haifa on New Year's eve 1970 of newly built patrol boats that Israeli sailors had run off with from Cherbourg after the boats were embargoed by the French government. The world had chuckled at the time at Israel's audacious "theft" of vessels which it had ordered and paid for. They had escaped on Christmas eve into the teeth of a Force 9 gale and made it to Haifa after a week-long run. Might those innocent-looking patrol boats, I now wondered, have been the platforms for the missile boats which performed so spectacularly three years later, the ones Telem had talked about? Might that have been the reason that Israel went to such lengths, endangering its relations with France, to get them out of Cherbourg?

Taken together, the two episodes made for a tale greater than its parts, a tale of national will that surpassed conventional bounds.

I wrote to the Israeli Defense Ministry to express my interest in writing a book on the subject and to request access to relevant military sources. The request was kicked up to Defense Minister Ezer Weizman himself who sent me a letter saying

that the matter was still too sensitive to be written about, particularly the Cherbourg aspect. When Weizman was replaced by Ariel Sharon I tried again and received a similar reply from his office. In 1983, Sharon stepped down as defense minister and the defense portfolio was temporarily taken over by Prime Minister Menahem Begin. I wrote once more. This time I received a reply from naval headquarters in Tel Aviv inviting me to a meeting. Apparently no one in Begin's office knew what to do with my request and it had been passed on to the navy. A friendly captain behind a desk questioned me about my background and about the kind of book I intended to write while a female officer took notes and asked me to send them a copy of a book I had previously written.

A month later I was invited back. Looking solemn this time, the captain informed me that after consideration the navy had decided it could not cooperate. Crestfallen, I was about to take my leave when he added, "But we won't stand in your way if you want to interview people on your own. We could even provide telephone numbers of any specific persons you ask for."

"But where would I begin?" I said. "I don't know who to ask for."

The officer wrote something on a piece of paper and handed it to me. On it were the names of two persons and their telephone numbers. He did not tell me who they were.

I left the office uncertain whether to be depressed or elated. It took me a while to understand what was happening. The navy did not want to get involved in the project officially but it was interested in seeing the book written. The captain had mentioned that after seeing a recent movie about Israel's naval commandos the naval command had regretted cooperating with the film company that made it. On the other hand, evidently, it wanted to have the story of its missile boat exploits told – exploits unknown even to the Israeli public. The navy would help me with my project, but from a discreet distance.

The names on the slip of paper given me by the captain were Hadar Kimche and Moshe Tabak. I called Kimche first and traveled to his home on Mount Carmel in Haifa on a stormy winter evening without knowing what edge of the story I was about to touch. It was only after we began talking that I realized that I was not at the edge of the story but at its very center. Kimche had commanded the Cherbourg breakout and was the first commander of the missile boat flotilla. When I left his home after four hours the piece of string the captain in naval headquarters had handed me had become a web leading in a dozen different directions. From Tabak, who had been Kimche's deputy, I received an expanded picture and the names of still more people.

There would be more than a hundred interviews in the coming years. I would have lengthy talks with the former commanders of the navy who had been instrumental in the development of the missile boat concept, including Yohai Bin-Nun, whom I met at his kibbutz on the Mediterranean coast; Shlomo Erell, then serving as inspector general of Israel's defense establishment; and "Binny" Telem on his small farm near Netanya. "Yomi" Barkai, the feisty officer who commanded the flotilla during the war, recounted the battles as we sat in the cabin of the small yacht he lived on for half the year between sailings as captain of a merchant vessel.

I had two long sessions with Yitzhak Shoshan, who had commanded the destroyer EILAT, the first ship ever to be sunk by a missile. As we sat in the small paving stone plant he now managed, the emotional scars inflicted by the loss of his vessel and a quarter of his crew were apparent. Many of the interviews with ex-naval officers were conducted in electronics plants in the Haifa and Tel Aviv areas where they had gone to work after completion of their military service. The navy, by now fully cooperating in the project, made active duty personnel available for interviews at the Haifa naval base. I was permitted to join a missile boat on a training mission and even to simulate firing a missile at night. Moshe Arens, a former aeronautics professor at the Technion who had been involved in the development of the missile and gone on to become Israel's defense minister, met with me in his Jerusalem office.

A key figure in the story, Admiral (ret.) Mordecai (Mocca) Limon, who had master-minded the Cherbourg breakout, initially refused to be interviewed, noting that he had declined numerous requests because of the political sensitivity of the subject. He relented, however, when informed of the navy's cooperation. We met twice in his executive offices in Tel Aviv, where he managed Rothschild interests in Israel. To meet another key figure in the story, Ori Even-Tov, the developer of the Gabriel missile, I traveled to the United States, where he had founded an electronics plant in a Philadelphia suburb.

In Washington, D.C., declassified documents on the Sixth Fleet's activities during the Yom Kippur War were made available at the Naval Historical Division in the navy yard. Retired Vice Admiral Daniel Murphy, who commanded the Sixth Fleet during the Yom Kippur War, shed light during an interview on the little known confrontation between the American and Soviet fleets in the Mediterranean during the war—the largest naval confrontation of the Cold War. American naval authority Norman Polmar offered helpful insights on missile development as well as encouragement, noting that there was virtually no literature on the subject of Israel's missile boats. Retired Rear Admiral Julian Lake (USN), a member of the team that debriefed Israeli naval officers after the war, told me that he had carried out a study on the development of modern weapon systems around the world. The way the Israeli navy had analyzed the threats facing it and the steps it took to deal with them, he said, "stands out as the one clear example where everything was done right."

In Cherbourg, which I visited twice, I met with Monsieur Corbinais, who had headed the boat construction project at the Amiot shipyards. On the basis of the Israeli navy's success in the war, his shipyard would win numerous orders for similar vessels, including from Arab countries. Local journalists who had covered the story, particularly Rene Moirand of La Presse de la Manche, were generous with their time. A shipping agent in Cherbourg provided me with the Paris telephone number of a shadowy figure, Victor Zipstein, said to be a former Mossad agent, who had traveled to Cherbourg with Limon the night of the escape. From a public telephone in a Paris railway station I contacted Zipstein who, after initially refusing to speak, went on to offer important confirmation about central points in the Cherbourg affair and make new revelations while a long line of impatient Parisians formed behind me before dispersing in search of other working phones.

I met in Paris with General Cazelles, who had been sacked by the Pompidou government for his inadvertent role in the affair and found the distinguished old officer still dazed by what had happened to him. From retired French officials, I obtained copies of relevant documents, including intelligence reports on the flight of the Cherbourg boats. Ex-Premier Jacques Chaban-Delmas described in an interview the government's deliberations when the escape was discovered, including the proposal that the French air force "interdict" the fleeing boats.

In the end, all these strands emanating from the piece of investigative string offered by the captain in Israeli naval headquarters would weave together into a single tale. There were three distinct parts to the story – the development of the missile boat system, the escape from Cherbourg, and the performance of the boats in battle. The story of the Cherbourg breakout is told here comprehensively for the first time on the basis of interviews with the principals involved. Likewise, the account of the boats' performance in the war. For me, however, it was the story of the boats' development that was the most exciting aspect, even though it was the most sedentary. The development process was an act of intellectual daring and creative teamwork that would foreshadow the successes of Israel's military industries in future decades, including the Iron Dome anti-rocket system.

In maritime encounters around the world after the Yom Kippur War, the missile would prove to be king. In the Falklands campaign, the British, despite electronic defenses, lost two vessels to French-made Exocet missiles fired by Argentine planes. In the Persian Gulf, tankers would become targets in a shooting gallery for Iranian and Iraqi missiles and even the American destroyer, USS Stark, would fall victim.

The virtual absence of written references to the Israeli missile boat performance in the Yom Kippur War, even in professional literature, was probably due to the secrecy with which the Israeli navy initially shrouded events for security reasons as well as tight-lipped habit and lack of publicity consciousness. Even in Israel, the story of the electronic defenses that permitted the Israeli missile boats to overcome the technology of a superpower was virtually unknown outside the navy itself.

Among the numerous persons not mentioned in the text who were generous in providing information I would like to thank Zvi Tirosh, Moshe Oren, Hirsh Goodman, Michael Lazarus, Arye Barak, Munya Mardor, Ephraim Talmon, Louis Lipsky, Yitzhak Zoran, Jacques Derogy, and Jacques Bruneau. My special thanks to the number-two man on the Gabriel team—anonymous at his own request—who was able to shepherd my non-technical mind through the arcane world of electronics.

PART I

The Concept.

Chapter 1

The EILAT, 1967.

The bridge of the destroyer EILAT was crowded, as it always was towards sunset, when the watch is doubled against surprises lurking in a world half drained of light.

Through binoculars, Commander Yitzhak Shoshan, captain of the EILAT, could make out the tops of cranes in Port Said silhouetted against the horizon to the west. Around him, commands were being given laconically into intercoms with the exaggerated enunciation used for clarity in shipboard communication.

Shoshan's orders were to skirt the edge of Egyptian territorial waters twelve miles from Port Said; he was 13.5 miles out and intending to get no closer. After asking the watch officer to confirm the distance with a radar check, he ordered the vessel turned south, towards the Sinai coast.

Ever since Israel's spectacular victory in the Six Day War four months before, the navy had been patrolling Sinai's coasts and showing the flag. In its forays towards Port Said, the northern entranceway to the Suez Canal, the navy was not only showing the flag but ramming it down the Egyptians' throat. It was highly unlikely that the devastated Egyptians would do anything about it, particularly since the Israeli vessels kept to international waters.

Despite Israel's postwar euphoria, Shoshan had been ill at ease about these brushes with Port Said ever since a night action three months before. Two unidentified vessels had been detected on the EILAT's radar emerging from the Egyptian harbor and turning east. His standing orders were to attack if Egyptian vessels ventured into territorial waters off Sinai. Shoshan took his destroyer ten miles out to sea and ordered two torpedo boats operating with him to lie close to the shore at Romani, where the land mass would mask them from radar detection. The intruders were soon abreast of Sinai. When their escape route had been cut off, the torpedo boats sprang.

The Egyptian vessels turned out to be torpedo boats as well. They split as soon as they detected their pursuers, one running back along the coast and the other heading out to sea. The two Israeli boats overtook the inshore vessel and raced in an Indian circle around it, the gunners keeping their fire bearing on the Egyptian vessel until it burst into flames. The other Egyptian boat was intercepted by the EILAT and blown out of the water.

Instead of reveling in this classic ambush, Shoshan was uneasy. The Egyptian navy, he felt, was unlikely to let the humiliation pass without attempting revenge. Shoshan was one of the few people in Israel who had reason to believe that the Egyptians had the means to achieve it.

Since 1962, Egypt had been receiving vessels from the Soviet Union designated as missile boats. No one in Israel knew the nature of those missiles—neither their range nor whether they had the capability of homing in on a target. Neither the Egyptians nor the Syrians had yet attempted to use them, not even in the Six Day War, when they had twenty-four missile boats between them. Israeli military circles believed that even if the Soviet-made missiles had some kind of homing capacity—and that was far from certain—the Egyptians were unlikely to operate them sufficiently well in combat conditions for the vessels to constitute a serious danger. In any case, Israel's ability to punish the Egyptians severely made it unlikely that they would even attempt to fire the missiles.

Before receiving command of the EILAT two years before, Shoshan had been the navy's chief electronics officer. He knew from that tour of duty that Israel had no effective measures to counter missiles. In the skirmish off Romani, he had initially kept his distance in case the Egyptian vessels were missile boats, which would find the relatively large silhouette of the EILAT an easy target. For the same reason, he ordered the EILAT this day—October 21, 1967—to turn away from Port Said while still a good mile and a half from Egyptian waters. According to intelligence, there were missile boats inside Port Said harbor.

For some time, the EILAT had been picking up an unfamiliar signal. It was a Soviet-made radar on one of the missile boats taking the EILAT's measure.

It was now almost 5:30 p.m., and the eastern Mediterranean embraced the ship with its usual autumnal calmness. In five minutes there would be a routine sounding of battle stations as the sun prepared to slip below the horizon. Off-duty sailors lingered at the rails to watch the sunset or stare into the chameleon waters, which had now turned blue-black. This would be the last swing past Port Said on this patrol. In a few hours the EILAT would turn towards home.

"Green rocket to starboard."

The cry from the bridge shattered the sunset reverie. From the direction of Port Said, the starboard lookout had seen a flaring of greenish light. The glow turned orange-yellow, and from a roiling of smoke on the horizon a dark object hurtled into the sky. Shoshan swung his binoculars and saw a bright ball of light. It was not rising like a flare but wafting lazily toward them, trailing smoke. He saw it swerve slightly and knew instantly that he was looking at his nightmare. The missile age at sea was beginning. He had less than a minute to try to save his ship and its 200 crewmen.

"Alert," shouted Shoshan.

The cry was instantly repeated into the public-address system by the watch officer. "Alert" surpassed "Battle stations" in its degree of urgency, permitting gunners to open fire without further orders.

Sailors raced to their stations as the raucous klaxon urged them on. In the crowded corridors below decks, crewmen pressed against the walls to give gunners the right of way. Within seconds, the ship's gunnery officer on the bridge was

calling the direction and range of the target over a bullhorn to the men at the guns.

"Engines full ahead," said Shoshan, keeping his binoculars fixed on the approaching missile. "Rudder hard left."

By increasing speed he was increasing maneuverability. Heading south, as it had been for the last minute, the EILAT was now broadside to the missile and offering its maximum profile to the missile's radar. By turning, the vessel would be presenting its narrow stern. As the helmsman put the wheel over, Shoshan spoke over the intercom to the radioman in the ship's command room.

"Inform headquarters that a missile has been fired at us."

A machine gun on the starboard side began an urgent clatter but the anti-aircraft guns remained silent. Some of the gunners believed the object approaching them to be a disabled plane. It was trailing smoke and flying at less than the speed of sound. By the time they could see it clearly, it was too late. A powerful explosion tore through the EILAT's starboard side just above the waterline.

For the first time in history, a ship had been hit by a missile, and the effect was devastating. One blow had been sufficient to reduce Israel's flagship to a drifting heap of scrap metal. More than a thousand pounds of explosives had detonated in the boiler room in the very heart of the ship. The adjacent engine room was destroyed, the ship powerless.

Shoshan ordered all sectors to report damage and casualties. Reports of dead and injured began to stream in. All electricity was out. All radios were out. A fire was being fought amidships. Several gun positions had been knocked out. Many of the rafts and lifeboats had been destroyed. The ship was beginning to list.

"Missile to port!"

The cry by the port lookout froze movement. From the same direction that the previous missile had come two minutes before, a bright light was once more arching into the sky. The powerless ship was spinning slowly to the left as a result of the last order issued by Shoshan before the missile hit, but it had swung past the narrow-profile orientation and was now once again turning broadside to the missile, this time offering its opposite side. Without power, nothing could be done to arrest the drift. Several machine guns opened fire at long range, but the missile came on implacably.

With the calmness of someone reconciled to his fate, Shoshan watched the missile approach in the last light of day. It passed within twenty yards of him as it dived toward the ship's waterline. The twenty-foot-long object had stubby delta wings and looked like a small pilotless plane. The blast holed the ship on the port side and staggered the men on the bridge. Looking down, Shoshan saw the deck amidships peeled back like a sardine can, with the ship's toppled funnel lying across it. The Eilat was now listing fifteen degrees to port.

Darkness closed on the stricken ship which was lit only by flames and rent by the cry of wounded. The senior officers and noncoms in the engine room who led damage-control operations in training exercises had all been killed and it was necessary to improvise new teams in the darkness. Choking smoke filled many parts of the ship. With no power for water hoses, the crewmen tried to snuff out the fires with extinguishers. An ammunition locker near one of the guns exploded,

killing a crewman. With communications knocked out, Shoshan shouted his orders from the bridge or dispatched them by runner.

The reports reaching him began to indicate that the situation was stabilizing. Fires were being brought under control, and the bulkheads were holding. Shoshan began to feel the EILAT pulling itself together. The ship was still floating and if help was quickly dispatched rescue might be possible. Naval headquarters, however, was still unaware of their plight. The radioman had managed to establish contact after Shoshan's order but had given only the vessel's code name when the explosion severed communications. There was no reason for headquarters to think the break due to anything more ominous than communications failure. Shoshan ordered the communications officer to try to put together a working radio by cannibalizing parts from those that had been knocked out. Meanwhile, he turned to the work at hand.

The deck amidships had been ripped up so badly that to climb over the twisted girders in the dark to reach the stern was to risk one's life. A young ensign posted at the stern made his way forward across the toppled funnel to report numerous wounded and a dangerously weakened bulkhead. Shoshan issued instructions for shoring up the bulkhead and told the officer to report if it showed signs of giving way. If that happened they would have to abandon ship. An officer lifted a telephone at a gun position in the forward part of the ship and found that it was still in contact with one in the stern. He informed Shoshan who descended from the bridge.

Standing on the forward gun position with a bullhorn, Shoshan ordered all unwounded men in the forward part of the ship to assemble on the bow. Wounded were to be assembled in one place, he told them, and officers were to drill the men in procedures for abandoning ship. Anything that floated, including jerrycans and mattresses, was to be tied to the deck railings to be used instead of the demolished rafts if the abandon-ship order was given. The wind had begun nudging the ship toward Port Said, and Shoshan ordered anchors dropped to halt the drift.

Two hours after the missile attack, the communications officer managed to piece together a working radio. He tried alternate wavelengths to broadcast his message of distress.

"This is the navy ship EILAT. We are sinking and request assistance. Does anyone hear us?"

A shouted reply in Arabic was cut off by the officer who switched wavelengths. His repeated calls were met by silence, and the hope that had gripped him began to fade. The radio's range was only 15 miles and there could be no certainty that Israeli listening posts ashore would pick it up.

"To all units in Sinai, this is the navy ship EILAT requesting assistance. Does anyone hear us?"

Suddenly a deep, calm voice issued from the radio. "This is an army unit in Sinai. We have received you and transmitted your message. Help is on the way. Hold on."

"Are you hearing me now?" asked the communications officer.

"Affirmative."

“We are opposite Port Said, repeat, opposite Port Said. We have dead and wounded and are listing badly. We have been hit by missiles.”

“I have received you and will transmit your message. Keep us informed of your situation. Help is on the way.”

Shoshan called on the crew to stop working for a moment. The moon had risen, and in its light Shoshan could make out the soot-blackened faces around him. Most of the sailors were just a year or two out of high school. They cheered when he announced that contact had been made with Israeli forces. Help would shortly be on the way, he said. From his knowledge of standing procedures, the skipper outlined a likely timetable for the rescue operation now that it was set in motion. He ordered the severely wounded to be lowered immediately onto rafts secured alongside, so that the rest of the crew could go over the side quickly when the abandon-ship order was given. The ship appeared to be settling at the stern, and the list had become more pronounced. They could not remain afloat much longer.

The armaments officer made his way to the stern to neutralize the depth charges and prevent them from detonating when the men were in water. Codebooks were thrown overboard in weighted sacks, and sailors smashed secret electronic equipment with axes. At seven-forty the ensign in the stern reported that the bulkhead was beginning to give way. There could be no more clinging to the crippled vessel. Addressing the men on his bullhorn, Shoshan told them to distance themselves when they went into the water at least 200 yards from the ship so as not to be sucked under when it went down. They would stay in groups led by officers and noncoms. It was imperative that they stick together, because the rescuers would not find them all if they were scattered. For orientation, they would swim away from the ship in the direction of the moon.

Shoshan looked up at the mast, tilted crazily against the night sky, and raised the bullhorn. “Abandon ship.”

Jerrycans and mattresses tumbled into the water as crewmen released them from the railing and followed them over the side, a cascade of dark figures wearing life vests throwing up white splashes as they hit the water. The rafts with the wounded were cut loose. Shoshan remained on deck to make sure that no one alive was still aboard.

“Missile.”

The shout came from the water. Shoshan turned quickly. High to the west, the malevolent eye was once more searching them out. The captain watched as the ball of flame descended toward the ship and hit the stern. The blast knocked him backward against the starboard rail. He could feel the rail pressing higher against his back as the ship perceptibly tilted. He threw away his bullhorn and slid down the ship’s side. His feet hit the stabilizer fin so hard that when he rolled into the water he was unable to use his legs. Supported by his life preserver, he pulled strongly with his arms to distance himself from the ship.

The bow of the EILAT was protruding above the water in the classic pose of a sinking ship. Around him, men were calling to one another. Suddenly, someone shouted “Missile.” The Egyptians were again firing in pairs. Shoshan remembered a warning he had read in a seamen’s journal to swim on one’s back if there was a danger of an underwater explosion in order to avoid the blast’s impact on the abdomen. As he turned onto his bruised back there was a loud explosion, and his

body was pummeled by a powerful underwater blow that wrenched a cry of pain from him.

When he recovered and looked about him, Shoshan found himself alone in the darkness. The EILAT's bow had disappeared and there were no sounds except for the lapping of waves. His ship and the two hundred men he commanded were gone. Only the fuel oil he could smell and taste suggested that they had ever been there. In the womblike embrace of the dark and empty sea, the instincts of command that had sustained him superbly in the critical hours since the first missile was sighted began to give way to a crushing sense of guilt over the fate of the men and the ship he had been entrusted with. His legs seemed like weights pulling him under. As he paddled, his arm struck something. In the moonlight, he saw that it was a dead sailor floating face downward.

Shoshan thought he heard the sound of singing in the distance. Uncertain whether he was dreaming, he began moving in that direction. Again his arm brushed someone. "Who's that?" said a familiar voice. It was an officer who had joined the voyage on a training mission. He was badly wounded but could still swim. Supporting each other, the pair moved in awkward tandem toward the sound. As they drew closer, they could hear a chorus singing *We Shall Overcome* in Hebrew. The singing was coming from a group of sailors gathered around a raft bearing wounded. The men in the water hung on to the raft or to ropes attached to it. The officer in charge of depth charges was leading a sing-along to keep up morale. The electronics officer, a strong swimmer, had given his life jacket to a sailor who didn't have one, and was circling the area to pull in men who might be drifting helplessly.

As Shoshan and the wounded officer approached, someone called out, "Who's there?"

"The skipper," replied the wounded officer.

An exultant cry went up and space was made next to the raft for the two men. As they came alongside, a young sailor panicked and grabbed Shoshan for support, briefly pulling him underwater. The sailor had no visible wounds but soon died, apparently from internal injuries. He was one of many casualties caused by the missile that had exploded in the water.

Rescue planes arrived an hour after the EILAT went down. Flying low over the survivors, they dropped flares and rubber boats. The rescue scenario went almost exactly as Shoshan had outlined earlier—first the planes, then the dark shapes of torpedo boats picking their way carefully toward the survivors, and finally helicopters pulling men up on winches from boat decks.

Shoshan was recognized as he was pulled aboard a rescue boat close to midnight. "We've got orders to fly you to Jerusalem to meet with the prime minister," an officer said. When a helicopter hauled him up on a sling from the boat deck, he felt a sharp pain in his back. A doctor gave him morphine and he was flown to a hospital in Beersheba. "You're not going anywhere," said the doctor who examined his X-rays. "You've got a broken vertebra."

The general commanding the Sinai front was among the first to arrive at Shoshan's bedside. Hadn't Shoshan known, asked the general, that there had been intelligence information that the Egyptians were preparing to fire missiles? The emotions that had begun to well within Shoshan in the dark waters now

exploded. He had not been informed of this intelligence finding. Seeing the agitation gripping Shoshan, the general ordered him removed from the crowded ward and placed in a private room.

The EILAT disaster was the worst the Israeli navy had ever experienced. Of the two hundred men aboard, forty-seven were killed and more than a hundred wounded. Shoshan would soon recover use of his legs and after a few months was given a new assignment as a base commander. Emotionally, however, his wounds had festered. After a few drinks at a cocktail party to mark his new appointment, the normally tee-totaling Shoshan turned on the navy's senior commanders and began blaming them for permitting the EILAT to sail unprotected into range of enemy missiles. "Murderers," he shouted. Fellow officers calmed him down, but the trauma of the EILAT had broken him. A few months later, Yitzhak Shoshan, once one of the most promising officers in the Israeli navy, retired from active service.

The sinking of the EILAT changed the nature of naval warfare as dramatically as had the appearance of ironclad vessels a century before. A small boat firing from the horizon had destroyed a ship ten times its size.

The West had known of the existence of Soviet sea-to-sea missiles but had no idea of their accuracy or power. Three of the four missiles fired at the EILAT had hit their target. The fourth had missed only because there was virtually nothing left of the ship sticking out of the water.

There was only one country in the world working on an answer to this new weapon. That country, as it happened, was Israel.

Chapter 2

The First Escape.

The two small craft with the spindly masts seemed out of place in the vastness of the naval base in Cherbourg. They flew no flag, displayed no names, and bore no armament.

The vessels were the sixth and seventh in a series of twelve ordered by the Israeli navy. The first five had sailed for Israel since the sinking of the EILAT fourteen months before. But the small Israeli naval mission posted in Cherbourg was becoming increasingly pessimistic about the chances of the remaining boats being permitted to leave after their launching. An embargo on arms shipments to the Middle East imposed by President Charles de Gaulle on the eve of the Six Day War had not initially been applied to the unarmed boats being built in Cherbourg. Few people outside Cherbourg knew of their existence; in Cherbourg the local press deliberately refrained from mentioning them for fear that employment at the shipyard might be affected if the boats' ambiguous status became a public issue. However, with Paris's new pro-Arab orientation becoming increasingly blatant, the fate of the Cherbourg boats was clearly endangered. Captain Hadar Kimche, the head of the Israeli mission, had begun seeing to it that freshly launched boats

waiting for completion of sea tests had enough fuel to get away if an embargo seemed imminent.

Now, in the last days of December 1968, that moment seemed to have come. Israeli commandos had raided Beirut Airport three days after Christmas and destroyed thirteen planes in retaliation for an attack on an El Al plane in Athens by Palestinians a few days before. No one had been killed in the Beirut raid, but the Israelis in Cherbourg feared Paris's reaction to this blow at the dignity of a country that had been a French mandate.

The feeling of unease was shared by Admiral (ret.) Mordecai Limon, a former commander of the Israeli navy now serving as head of the military purchasing mission maintained by the Israeli Defense Ministry in Paris. With his extensive political contacts, Limon had reason to believe that De Gaullian wrath might now be extended to Cherbourg.

Telephoning Kimche on Wednesday, January 1, 1969, Limon relayed rumors he had heard that action might be taken against the Israeli boats. "Things are getting warm here," he said. Boat Number Six, launched in November, had completed its trials and was scheduled to sail for Israel in a few days. Boat Number Seven had been launched only a few days before and had not yet been tested at sea. Speaking elliptically, Limon made it clear to Kimche that if Boat Number Six could leave that night, it would be a good idea to do so. Kimche indicated his assent.

Assembling the crew and going aboard Boat Number Six to prepare it for sailing, Kimche left to his deputy, Commander Moshe Tabak, the delicate task of getting clearance from the French navy to leave port without revealing to them that the boat would not be coming back. At the operational level, this involved arrangements for opening a swing bridge that would let the boat out of the arsenal, as the French naval base was referred to. At the quasi-diplomatic level, it was much more awkward.

Before the departure of each boat for Haifa, the Israelis would notify the French naval authorities in Cherbourg. At a ceremony in naval headquarters in the arsenal, Kimche would present the captain of the departing craft to the French admiral commanding and there would be mutual toasts. The Israelis had requested anchorage facilities in the naval base while the new boats were being tested for fear of a possible Palestinian attack in the unguarded civilian port in the weeks between their departure from the shipyard and their departure from Cherbourg. The French had generously obliged, even providing living quarters for the crewmen and support facilities. To delude them now and run off with Boat Number Six under false pretenses was an unsavory act for the Israeli officer, who had developed warm personal relations with his French counterparts. But Tabak accepted that his own feelings were of little consequence in the matter.

Telephoning Commandant Sardas, the French liaison officer with whom the Israelis dealt, Tabak said that the crew of Boat Number Six would be taking the vessel out again in the evening for a running-in exercise. This time it would be a long-distance test that would last forty hours. Captain Kimche would be joining the boat and there was a chance, if the weather was good and the test produced no problems, that the boat might continue on to Israel, rather than return to Cherbourg and risk bad weather on its scheduled date of departure the following week.

“Oh, no, Commandant,” said Sardas. “How would I explain that to my superiors?”

“If you want,” said Tabak, “I’ll explain it to them.”

The boat’s preparations were nearly completed when darkness fell. Its captain, Lieutenant Commander Yaacov Nitzan, told his radioman to inform the arsenal that the boat would be leaving at 7:00 p.m. and to request that the swing bridge be opened at that hour. Tool kits left behind by shipyard workers who had been putting finishing touches on the vessel were still aboard when it slipped through the arsenal exit into the harbor.

High seas pursued the boat as it raced south at thirty knots. Nitzan had been assured that the boat would be easy to handle, but he could barely control its movements. The waves were moving at the same speed as the vessel, which was behaving like a bobbing cork. Hoping that increased speed would afford the boat a better grip, he moved up to thirty-seven knots, but the boat heeled over so sharply as it skidded down a wave that he feared it was going to broach. Nitzan throttled back to twenty-one knots and found that the boat responded well.

Nearing Cape Vincent at the southern tip of Portugal on the second night, Nitzan was informed of fifty-knot headwinds awaiting him if he turned the corner into the Mediterranean. He chose to wait out the storm in the shelter of the cape. Dropping anchor close to shore, he ordered the galley to prepare a hot meal for the exhausted crew.

The premature departure of Boat Number Six had taken by surprise Lieutenant Commander Shabtai Levy, designated as captain of Boat Number Seven. Each of the Israeli boats departing Cherbourg normally carried the captain of the boat that was to follow so that he could familiarize himself with the boat’s handling during the six-day run. Levy, who was in London when the boat left, boarded a commercial flight to Gibraltar to intercept the vessel at its first refueling stop.

The same storm that had forced Nitzan to seek shelter was battering Gibraltar’s airport when the British airliner carrying Levy approached. The pilot announced over the loudspeaker that because of the weather the plane was diverting to Algiers. The Israeli naval officer, who was wearing civilian clothes, asked a stewardess to speak to the pilot urgently. Upon learning Levy’s identity, the pilot agreed to brave the storm and land at Gibraltar rather than risk having his passenger taken into custody by the Algerian authorities.

Meanwhile, shipyard workers in Cherbourg who found the boat gone expressed their disappointment to Tabak at having been deprived of the farewell cocktail party that preceded the departure of each Israeli vessel.

“You haven’t missed out on anything,” he assured them. “We’re going to have the party Friday on Boat Number Seven.”

That vessel was still covered with an untidy clutter of cables and unfastened equipment, but tables for the celebration were set up in the boat’s largest cabin. In a brief speech, Tabak praised the workers for having finished Boat Number Six on schedule. “As you know, the boat has gone out for testing. Captain Kimche has decided to continue with it to Israel. He reports all the systems functioning perfectly.” Raising a glass, Tabak offered a toast: “To the life of the boat and to those that will come after it. May they reach safe harbor.”

In the spirit of bonhomie, a foreman announced that he would come the next day to install heating on the bridge of Number Seven, which was to begin its sea trials on Sunday. Tabak's aversion to cold was well known in the shipyard. "I don't normally work on Saturdays," said the foreman, "but I will do it for you—providing, of course, that the boat will still be here."

Tabak joined in the guffaws. Gesturing at the exposed cables, he said, "Do you think we would sail three thousand miles in this?"

"Do I know?" replied the foreman with a Gallic shrug. "You people are capable of anything."

The frantic week was not quite behind Tabak when he arrived home that evening. He put in a call to Gibraltar to make certain about fueling arrangements for Number Six, called London to confirm Levy's departure for Gibraltar, and contacted Haifa to inform Israeli naval headquarters of the latest developments.

These chores completed, he could at last turn to that snug harbor in which the Jewish people have ever been able to find brief solace in a stormy world—the Sabbath. Unlike most Friday nights, this time there were no guests for the Sabbath meal. His enjoyment of the quiet family meal with his wife, Esther, and their infant son was heightened by the prospect of a solid night's sleep that lay ahead.

He was still sleeping the next morning at eight when the phone rang. "It's Mocca," said Admiral Limon, using the nickname by which he was known to intimates. "Do you remember the vacation in Israel that you asked for? Well, they've approved it. I'd be interested in your leaving as soon as possible."

Tabak had asked for no vacation but, groggy as he was, he understood that Limon was telling him to get Boat Number Seven away to Israel. The two had discussed a few days before the possibility of having to escape with Number Seven if an embargo seemed imminent, but in view of the boat's condition they had spoken only of taking it across the Channel to get it out of French jurisdiction.

"Are you sure they want me to take the vacation in Israel and not England?" Tabak asked.

"No, no, they want you to go to Israel, as you requested," said Limon. "You're needed there. Can you leave today?"

"I'll have to check some things—tickets and flight schedules. I'll try to make it today. I'll call you as soon as I know."

Hanging up, Tabak wondered if he had understood Limon correctly. However, as his mind focused, he decided that he had. He telephoned an aide and told him to get to the crew's quarters immediately and make sure no one left for the weekend. Dressing swiftly, he made his way to mission headquarters, the task before him unfolding in his mind. The boats were normally tested hundreds of miles before being sailed to Haifa and serious problems were often uncovered. Boat Number Seven would be risking winter storms on a three-thousand-mile journey with no testing at all. It would have to sail with only a crew of twelve—all the crew members remaining in Cherbourg—instead of the normal complement of thirty, and its captain, Lieutenant Commander Levy, had flown to Gibraltar to join Number Six. Furthermore, it had a handicap none of the other boats had had. In order to test the boat's stability when armed, an unwieldy seven-ton dummy cannon had been secured to its deck.

On the street, Tabak saw a car carrying his chief machinist and two other sailors. He flagged them down.

"We're going to Paris for the day," said the machinist.

"Your plans have just been changed," said Tabak. "Get back to the boat and get it ready to sail. We're leaving today for Haifa. The French aren't to know about it."

Remaining behind to mind the shop would be Lieutenant Haim Shachak, the mission's supply officer. Tabak told him to get food aboard Number Seven and, if possible, to get customs clearance so that, legally at least, the boat would not be a runaway. The one legal requirement before departure, the Israelis had learned, was customs clearance, which attested that the foreign parts imported to France for the boat, like its German engine, were aboard the boat when it sailed. Informing the French navy of departure was merely a courtesy.

It was raining heavily when Shachak rang the doorbell of the customs officer's home on the outskirts of Cherbourg.

"Oh, Commandant, what wind has brought you?" asked the Frenchman in surprise, ushering him in.

Shachak apologized for interrupting the official's weekend and said that an emergency had occurred. "You've probably heard about the raid on Beirut Airport," he said. "There's a lot of tension now in the Middle East, and the boat is needed there. We want to sail today and would like clearance. We need your help."

"But the boat is unarmed," said the customs officer. "What could you do with it?"

"We'll put a gun on it and patrol."

When Shachak quoted a passage from Jonah to reinforce a point, the customs officer's wife, who had joined them, responded enthusiastically. She was the daughter of a minister and was delighted at the opportunity to exchange biblical quotations with the Israeli visitor.

"Listen, Jacques," she said to her husband. "The commandant has come especially for you. Go with him."

The official dutifully put on his coat and accompanied Shachak.

There remained the vital task of obtaining a weather map of the treacherous Bay of Biscay. Tabak assumed that Limon had understood that to be the meaning of his remark about checking timetables. Intent on avoiding Commandant Sardas because of the embarrassment over Boat Number Six, he went directly to the office of the arsenal's weekend duty officer, instead of going through the liaison officer. As he entered the room, Tabak was startled to see that the duty officer behind the desk was Sardas.

"What are you doing here?" asked the Frenchman warily.

"I've come to apologize," said Tabak, recovering quickly. "I heard you were duty officer."

Sardas's tense demeanor relaxed a bit. "You don't know how angry they were with me in Paris," he confided. "I was rebuked."

The two men chatted awhile, and then Tabak said, "We're having trouble with the propeller of Number Seven and want to test it. Can I get the weather?"

"No problem," said Sardas.

He went out to the meteorologist's office down the hall and returned with a large map of the region. Tabak pretended to study the Cherbourg area, but out of the

corner of his eye he carefully noted the barometric readings for the Bay of Biscay. He was relieved to see no troublesome lows.

Still missing from his weather picture was the area farther south, around Cape Vincent. For this he radioed Boat Number Six, which was still anchored there. Kimche reported that the wind had dropped sufficiently for his vessel to get under way for Gibraltar. Tabak hinted that they might be seeing each other sooner than expected.

Shortly before noon, the boat's chief petty officer informed Tabak that it was impossible to fuel the boat because the shipyard foreman and two assistants had arrived to install the heating system on the bridge. There was nothing to do but wait. The foreman would immediately have understood what was afoot if he had seen the boat being fueled for a long journey. Fortunately, the workmen were done in less than an hour and fueling could begin.

As the day wore on, Tabak was increasingly troubled by a sense of unease over the operation. Contacting Haifa, he expressed his misgivings and asked whether the urgency was real. "If you're sure about the boat's seaworthiness," headquarters replied, "go."

By midafternoon, preparations were complete. Attempts to pry loose the dummy gun had failed and the boat would have to sail with it aboard. Tabak telephoned Limon in Paris. "I've got my tickets and I'll be leaving Cherbourg by train at 4:30."

Limon wished him a good journey.

Tabak returned to the boat to find a new French duty officer taking a keen interest in the unusual Saturday afternoon activity around the Israeli vessel. Tabak introduced himself and informed him that they were going out in order to test the boat's propeller. Could a sailor be posted to open the bridge at 4:30? The duty officer assured him it would be taken care of. The bridge swung open at the designated time and Tabak conned the boat out through the narrow opening.

The boat ran well across the relatively calm Bay of Biscay. With the excitement of the departure behind him, Tabak was again seized by doubts. Had the escape really been necessary? Had Limon perhaps overreacted? By running off for the second time in three days—deceiving the French naval authorities again—were they not endangering the boats yet to be built? Ten hours out to sea, Tabak received a message from Haifa congratulating him on his rapid organization and departure. It eased his mind to know that headquarters was pleased. Presumably they knew something he didn't.

Limon had not overreacted. He had been informed on Friday by a senior French official that de Gaulle had decided to declare a total embargo in reaction to the Beirut raid. An order was to be sent later in the day from Paris to all customs offices to halt clearance of war materiel destined for Israel. The directive was being issued before a public announcement of the embargo in order to forestall any last-minute flight of materiel that Israeli machinations might contrive. Limon was able to persuade a French official to have the message to the Cherbourg customs office misaddressed to a district customs office in Normandy and dispatched only late on Friday. The directive would not be rerouted to Cherbourg until after the weekend.

Tabak was unaware of this as he rounded Cape Vincent and entered the Mediterranean. The sea was mountainous but the wind was behind him. Low clouds were thick around Gibraltar. Entering the harbor, he tied up alongside

Boat Number Six and stepped down from the bridge for the first time in forty-nine hours. Kimche was on the quay to greet him.

Leaving the two boats to sail on to Israel the next day under Tabak's command, Kimche flew to London and took the cross-Channel ferry to Cherbourg to face the French wrath.

"Oho, are they looking for you," said Commandant Sardas when Kimche telephoned him. Donning a dress uniform for the confrontation, the Israeli officer was ushered into the office of the admiral commanding the arsenal.

Flanked by aides wearing severe expressions, the French officer remained standing and did not offer Kimche a seat. The Israelis had not acted "avec honneur," said the admiral. They had violated the French navy's hospitality and he was therefore obliged to ask them to leave the premises of the arsenal within twenty-four hours. Kimche was asked if he had anything to say.

"What would you have done in my situation?"

"That is not a question I am obliged to answer," said the admiral.

The tension eased somewhat as the admiral accompanied Kimche to the door, the official message having been delivered. As they parted, the admiral shook hands and said, "In the same situation, I might have done the same."

Outside the door, French officers were waiting to make arrangements for the transfer of Israeli property from the arsenal. Kimche asked for a twenty-four-hour extension which was readily granted.

The punishment was far milder than expected. The Israelis had feared banishment from Cherbourg and possibly a halt in further construction of the boats. They had been willing to risk it to ensure that at least Boats Six and Seven were in hand because of their critical importance.

The boats of Cherbourg were not the conventional patrol boats they seemed. They were in fact among the most unconventional vessels afloat, platforms for a technology and method of warfare almost a decade ahead of any Western navy's. Israel was gambling the future security of its sea frontier and maritime lifeline on these frail-looking craft. They were the realization of a revolutionary concept that had emerged eight years before in Israeli naval headquarters in Haifa almost as a passing thought.

Chapter 3

The Maverick.

The handful of naval officers on the air force plane had told their wives that they would be gone for a week at sea on a training exercise. But their destination was as far from the sea as one could get in Israel. Landing at an airbase in the southern Negev they were helicoptered to a tent camp at the edge of the Large Crater, a massive moonscape in the heart of the rocky desert. They and larger contingents from the army and air force had been brought to observe demonstrations of a new weapon devised by Rafael, the government's highly secret Authority for Weapons Development.

Israeli scientists had been working on a guided missile since 1954. Bringing explosives down upon an enemy by remote control was a tempting option for a small nation surrounded by foes and seeking to overcome its numerical inferiority with the help of technology. Early experiments with remote-control boats and glider bombs had been encouraging.

Rafael was constricted by the secrecy that prevented it from working with foreign firms. By sending young scientists and engineers abroad it attempted to keep abreast of significant developments. Young as the country was, the scientific talent emerging was impressive.

The new nation's industrial base, however, was still that of the small colonial outpost it had been until the British departure in 1948. The most distinctive armament developed in the War of Independence was an outsize mortar notable for the terrifying noise its shells made rather than its accuracy. Reinventing the wheel, as it were, the Rafael scientists developed the skills in metallurgy, aerodynamics, rocket propellants, and other disciplines to enable them within three years to create a guided missile called the Luz that flew twelve miles. It was directed onto target by radio signals sent by a forward observer manipulating a joystick as he tracked the missile through high-powered binoculars.

At the weeklong test in the Large Crater in November 1958, Rafael was attempting to interest the armed services in three different versions of the Luz—surface-to-surface, air-to-ground, and ship-to-ship—in the hope that they would support further development. Neither the army nor the air force expressed interest. The army saw little advantage in guiding an expensive missile onto a target when conventional artillery could do the job with reasonable accuracy at much less cost. The air-to-ground version required launching from a slow-flying plane like a Dakota that would be too vulnerable to ground fire.

The navy, however, was intrigued. The Egyptians had acquired Soviet Skory-class destroyers whose guns far outranged those on the Israeli destroyers, the navy's largest vessels. The Luz, if mounted on destroyers, could outreach the Egyptian guns with a powerful warhead. Although still experimental, the Luz was virtually the only hope the Israeli navy had of staying afloat in any confrontation.

The naval officers converging late in 1960 on Stella Maris, the former monastery hospice atop Haifa's Mount Carmel, had the sense of fresh beginnings that comes with a new commander, a feeling enhanced by the aura this one brought with him. Rear Admiral Yohai Bin-Nun, who had summoned them to navy headquarters, had been a legend in Israel long before moving up the ladder of command.

As a young officer in the War of Independence twelve years before, Bin-Nun had led a small naval commando unit that had been outfitted with six one-man assault craft acquired in Italy on the war surplus market. An Italian instructor accompanied the craft to Israel. He had participated in the two actions the assault craft had been used in during the war—a successful attack against British tankers in Crete's Suda Bay and an unsuccessful foray into Malta's Valletta harbor when the British captured the raiders.

The craft were in effect manned torpedoes containing six hundred pounds of explosives. The operator sat in a small cockpit at the rear. The engine made little

noise, permitting the craft to approach its target at night stealthily. Several hundred yards short of the target, the operator fixed the rudder with a special screw to ensure that it stayed on course, released the safety device on the explosive charge, and opened full throttle. At one hundred yards, he pulled a lever that ejected a wooden float to which he was stoutly lashed. A recovery boat waiting in the darkness would then dash in to pick him up. The operators wore bathing caps with an infrared light that was invisible to the enemy but could be seen by a lookout in the recovery boat using infrared binoculars.

Training had just gotten under way along an evacuated stretch of waterfront in Tiberias on Lake Kinneret (the Sea of Galilee) when the naval command ordered the unit transported by truck immediately to Jaffa, on the Mediterranean coast. The flagship of the Egyptian fleet, the King Farouk, had been sighted off Gaza with an accompanying minesweeper. Bin-Nun's unit was to be used against them. He and his men had twenty-four hours in which to arm the craft and prepare for the attack. The Italian instructor worked with them through the night. A freighter that had been used to ferry illegal Jewish refugees from Europe in the pre-state period was adapted as a mother ship because of its large afterdeck, which could accommodate the assault craft. Exercises to lower the craft into the water were carried out as the vessel headed south for Gaza.

Towards evening, Bin-Nun lay down for his first nap in three days. He was roused by a radioman who handed him a message. His eyes first noticed the signatory: Prime Minister David Ben-Gurion. The message was succinct: "Attack with all you've got."

Bin-Nun assembled his men on deck and outlined their attack formation, using carrots to represent the craft and their targets. Because of the random course they had been taking to mark time until nightfall, the captain of the mother ship was not certain of their location. One of Bin-Nun's men, however, had been a fisherman in the area. By determining the depth of the water from soundings, he estimated that they were about ten miles west of Gaza. Bin-Nun timed his attack so that the moon would just be rising behind the enemy vessels as he approached.

Four craft were lowered into the water. Two would attack the enemy vessels. One would be a recovery boat. Bin-Nun, in the fourth, would be the reserve force, attacking whichever ship needed a follow-up punch.

The sea was calm as they drew within sight of the enemy vessels. The two attack boats were four hundred yards from their targets when they were spotted. The Egyptians could be heard raising their anchors and getting under way. As gunfire was opened on the Israeli craft, Bin-Nun saw that the operator assigned to attack the minesweeper was mistakenly heading for the King Farouk along with the other assault boat. The minesweeper, meanwhile, was beginning to gain headway and Bin-Nun could see foam beneath its bow. He opened full throttle and headed for it.

The vessel turned towards him, offering only a narrow profile. A large explosion off to the side told him the King Farouk had been hit, but he had no time to look. Suddenly he was caught in the light of two searchlights. Machine guns and anti-aircraft guns splattered the water around him. Blinded by the searchlights, he aimed the boat between them. At one hundred yards, he pulled the ejection handle that should have sent the float into the water. Nothing happened. Bin-Nun pulled harder and the handle came off in his hand. The rope around his waist, tying him

to the float, was knotted too well for him to release it. Bin-Nun climbed over the float and leaped into the water. He was dragged behind the speeding boat for a few seconds. Then the rope snapped, cutting a gash in his side but leaving him floating free. A few seconds later, there was a tremendous explosion. Although he was only some forty yards from the ship, he was not injured.

Bin-Nun's cap had been ripped off, but he was able to signal the rescue boat with a flashlight he had in his belt. The boat came alongside and the lookout dragged him in. Around him Bin-Nun saw the sea full of Egyptian sailors. Within minutes the other two operators were spotted by their infrared lights and were pulled aboard. Neither of them was injured.

Awarded one of the twelve medals for exceptional bravery issued in the war, Bin-Nun went on to lead the underwater commando detachment and then commanded a destroyer. His appointment as navy commander marked the first arrival of an experienced combat officer in that post. Although the navy had become a professional force with conventional warships and captains who did not lose their bearings at sea, Bin-Nun still believed in the unconventional approach to warfare, particularly by a side that was outnumbered and out-equipped.

To the meeting in Stella Maris, Bin-Nun invited all flotilla commanders and a naval architect in addition to headquarters staff. The participants had been told that the meeting would last two or three days and that there was only one subject on the agenda—the structure of the fleet in the coming decade.

The navy was a floating anachronism. Its backbone was three World War II destroyers—one of them captured from the Egyptians in a running battle off Haifa during the Sinai Campaign of 1956. These old British destroyers were outranged and outnumbered by the new destroyers the Soviets were supplying the Egyptians. Furthermore, the destroyer complement of 250 men made it too large a ship for a small country like Israel, with its limited capacity for absorbing casualties: the sinking of a single destroyer would be a national disaster.

The few other naval craft, including six torpedo boats and two submarines, did not much improve the situation. The navy might hope to provide protection for the Israeli coast but could not mount offensive actions against the Arab fleets or protect Israel's shipping lanes. The navy's tiny budget reflected the General Staff's view of its marginal function. It was clear to all that Israel's fate rested on its air force and its ground army. Nothing decisive would happen at sea, one way or another. The nation's sparse defense funds would therefore not be spent on frills like modern destroyers but on tanks and planes.

Given this background, what could the navy aspire to? Going around the table, Bin-Nun asked each man to address the subject.

Several schools of thought emerged. The commander of the destroyer flotilla advocated replacing the outworn vessels with newer ones of a similar type, so as to have a balanced navy capable of a variety of missions. Most participants saw this only perpetuating the navy's impotence. To continue picking up cheap discards from other navies was not the answer to Israel's needs.

The commander of the submarine flotilla suggested abandoning the surface altogether to the much larger Arab navies and, apart for a small coast guard, relying on an all-submarine fleet that would compensate for the navy's inferiority

on the surface. Submarines could also transport naval commandos to targets on enemy coasts.

Bin-Nun himself had in the recent past advocated an all-commando navy, which would attempt to cope with the Arab navies by "striking at source"—hitting their ships in harbor.

These suggestions were desperate attempts to find a meaningful role for a navy that could not afford ships. The commando suggestion was attractive. Naval commandos had the ability to penetrate enemy harbors and their budget was minimal. Opponents of the idea pointed out that in any war the commandos would almost certainly be denied the major factor needed for success—surprise. Even if Israel were to open the war, it would doubtless be the air force that would deliver the first strike, and the air force would doubtless choose daylight. The commandos would not commence operations before darkness, by which time the war would be raging and the enemy on full alert.

As the discussion moved around the table, a fourth option was tentatively voiced by one of the participants. Noting the attempt being made by Rafael to develop the sea-to-sea version of the Luz, he suggested that the missile—if it could be perfected—be mounted not on destroyers but on small boats. Small craft could not carry large guns because of their powerful recoil, but they could serve as a platform for missiles. Such boats would require only small crews and therefore reduce the danger of large-scale loss of life if sunk. Not least, the boats would be relatively cheap to build. Enough of them might even be acquired to permit separate task forces for Syrian and Egyptian waters, a strategic option Israeli naval officers could until now only daydream about.

The suggestion was dismissed as futuristic whimsy by most of the officers at the table, who pointed out that such boats did not exist in any Western navy. But the idea would not go away. None of the other proposals offered any hope. The small-boat/big-punch concept did, if it could be proved feasible. The idea would float at the periphery of the navy's consciousness until, in 1962, Bin-Nun assigned his deputy, Captain Shlomo Erell, to undertake a serious examination of the concept.

Erell was the closest thing in the Israeli navy to a crusty professional sailor. Born in Poland in 1920, he was six when his family emigrated to Palestine. Joining the militant Betar movement as a youth, he was imprisoned by the British in the Acre fortress for six months in 1938 for underground activities. The following year, with the outbreak of World War II, he joined the British merchant marine. The young sailor participated in the evacuation at Dunkirk and made the Murmansk and Atlantic convoy runs, surviving two torpedoings. By war's end, he was master of a small cargo ship on the Mediterranean. Afterwards, he captained the Dead Sea fleet, salt-encrusted vessels carrying potash extracted from the mineral-rich waters of the inland lake thirteen hundred feet below sea level. With the outbreak of Israel's War of Independence in 1948, he joined the fledgling navy and commanded several landing operations behind enemy lines. In the following years he commanded virtually every type of vessel in the navy and spent a year at the Royal Naval Staff College in England, where he was cited by the course commander as having a "fresh and original mind." The idea that had surfaced at the Bin-Nun staff meeting as if of its own accord—the one he was now charged

with probing—enchanted him as if he were a young ensign on his first watch as bridge officer.

If a marriage could be made between the Luz and a patrol boat, it would mean giving the tiny craft the punch of a heavy cruiser. The Luz warhead was as devastating as the eight-inch shells of the largest cruiser, its range was about the same, and its chances of hitting its target far greater if the guidance system worked. Israel could hardly think of acquiring a new 3,500-ton destroyer, let alone a 15,000-ton cruiser, but if this idea could be implemented Israel would have a fleet of 250-ton cruiser-equivalents that moved faster than any destroyer and could sink any ship that floated in the eastern Mediterranean. It was a fantastic notion, but it looked less fantastic the more he stared at it.

Erell did not accept the navy's role as a passive spearholder for the air force and army. Its elite commando unit, the most highly trained of all units in the Israel Defense Force, was the navy's pride. The commandos were capable of attacking coastal installations and of penetrating enemy harbors to strike at their warships. The army and air force officers on the General Staff liked to hear about such plans, which did not divert substantial budget allocations from planes and tanks.

However, Erell believed that the navy's destiny remained on the surface, carrying out the conventional tasks demanded of navies—defending coastline and maritime routes and attacking the enemy in his waters—even if this was done in an unconventional manner. Merchant shipping, upon which Israel depended for survival, was vulnerable once it passed Crete for the last six hundred miles of the run to Israel. Air power alone, Erell was convinced, could neither protect shipping nor defend Israel's coasts from determined attacks by enemy warships. Lying out of range of Israeli planes by day, enemy raiders could run for the coast under cover of darkness and shell the coastal strip in which 70 percent of the country's population was squeezed and where most of the industrial infrastructure was located, including oil refineries and power plants. Even the outdated Egyptian destroyer captured in 1956 had managed to lob scores of shells in the direction of Haifa before being intercepted.

The Egyptian navy had lately been mustering large forces in training exercises a hundred miles north of Alexandria, from where they could either go for the shipping lanes to the west or dash eastward toward the Israeli coast. The navy's present path was a dead end, but the missile boat concept offered a way out. Such vessels did not exist in the West, nor did sea-to-sea missiles. If Israel wanted them, it would have to create them. Late in 1962, Erell organized a think tank of several senior naval officers. In blissful ignorance of the difficulties that lay ahead, they began putting down on paper the outlines of the boat circling at the center of Erell's mind.

A pair of missiles rested on launchers set up on a dirt track leading down to the beach. Hillocks a few yards on either side masked their bright-yellow noses from distant view. At successive firing commands, they lifted bravely into the air on a plume of fire and smoke and headed out to sea. A few hundred yards out, both plunged ignominiously into the water.

The site inside a navy base on the Mediterranean coast was code-named Nature Reserve; Israelis participating in the tests called it Cape Canaveral. To ensure

secrecy, adjacent beaches were cleared for a six mile distance before each firing, and a patrolling airplane ensured that no boat was within 15 miles. A torpedo boat cruised offshore to pick up floating remains of aborted missiles. The crew of the torpedo boat was ordered below during the tests to keep the secret from them; only the captain and a security man from Rafael remained topside to fish out debris.

The land version of the Luz had achieved a fair measure of reliability up to a range of sixteen miles but the naval version was proving extremely problematic. Rafael scientists were able to determine, from fragments of a missile engine retrieved after three days of diving, that metal failure was to blame for exploding engines.

The main problem, however, was visibility. Smoke from the missile's exhaust obscured the bright flares in its tail. Repeatedly the missile missed its target because the aimer, squinting through binoculars, could not see it in the heavy smoke caused by the humidity's effect on the exhaust emissions. Despite the discouraging results the navy urged Rafael to press on.

The morning sun was already heating the tents at the edge of the Large Crater in the summer of 1961, and canvas flaps were raised in hope of a vagrant breeze. A new missile test was being staged by Rafael for an interservice audience, but launchings were not scheduled until late afternoon. Ori Even-Tov lay on his cot in the enervating heat waiting for the time to pass. It was the first Luz test he would be witnessing and, he presumed, his last. The thirty-five-year-old engineer had joined Rafael a few months earlier after a decade in the United States and was already planning to leave. He found the plant's atmosphere stifling. Interesting projects were going on there and the personnel were first-rate but each research team operated in total ignorance of what the others were doing. At the American defense firm where he had worked, there had been constant interchange among scientific and engineering personnel. At Rafael, such interchange was blocked by what Even-Tov saw as obsessive security-mindedness and bureaucratic turf-guarding. He was convinced that research and development could blossom only where ideas could be juggled in free barnstorming sessions. He himself had formulated a totally new approach to the Luz guidance system that would eliminate the need for the joystick but he found the high priests at Rafael, as he termed them, unresponsive.

Even-Tov glanced across at the naval officer sharing the tent. He had been thinking for some time of the possibility of making direct contact with the navy, the service most likely to be interested in his idea. But it was not clear how, as a brand-new hand in an R&D organization top-heavy with engineering talent, he could gain a serious hearing from the navy command. His tent mate was only a lieutenant commander, but the navy was small and he presumably had access to the top brass.

Even-Tov decided to launch.

"I don't think the Luz is ever going to work as a sea-to-sea missile," he said.

As the naval officer knew, Rafael was trying to find a new fuel that would eliminate the smoke problem. Even-Tov said he didn't think they would succeed. But even if there was no smoke, trying to guide a missile onto target from a rolling

ship with binoculars and a joystick was fusing modern missile technology to a bow-and-arrow guidance system. At night there could be no aiming at all. He had his own idea, said Even-Tov, for an autonomous guidance system that would permit the missile to seek out the target by itself, day or night. The naval officer was giving him his full attention.

At the American firm where he had previously worked, said Even-Tov, he had been manager of a project involving the development of an unmanned minisub for cutting the cables of sea mines. The sub had been fitted with a sonar altimeter that would permit it to follow the contour of the sea bottom at a fixed height. Although the vessel had never become operational, the altimeter had proved workable. Even-Tov was convinced that the same principle could be applied to the Luz. An altimeter would keep the missile at a fixed height above the water without relying on a fallible human controller. As for steering horizontally onto the target, radar could be inserted into the missile, as in existing ground-to-air missiles. By the time they emerged from the tent, Even-Tov was confident that his idea would percolate up from the desert proving grounds to navy headquarters atop Mount Carmel.

Testing of the sea-to-sea version of the Luz, initially carried out from launchers on the Mediterranean shore, was shifted to the destroyer JAFFA. To preserve secrecy, all hands were sent below whenever the cover was to be stripped from the launchers, which had been installed on deck the previous night by Rafael technicians. The crewmen were told that the containers held special illumination rockets. Moving at high speed, the destroyer launched its missiles at a canvas target pulled at the end of a long towline by a torpedo boat.

Six chief petty officers had been trained on simulators to serve as missile aimers. Despite their best efforts, the tests invariably ended in failure. A new fuel had been acquired from France, but it merely produced black billows instead of white, leaving the missile completely hidden from the aimer. Attempts to outflank the smoke by placing the aimer on a helicopter or a scout boat, tracking the missile from an angle, produced no better results. A number of test firings were held in 1961 and 1962 with negative results, the missiles striking anywhere up to a thousand yards off target. Despair gripped the Rafael scientists and the navy command, and a halt was declared in further sea testing of the Luz.

Even-Tov was at his desk in the Rafael plant near Haifa when the guard at the gate telephoned to announce a visitor.

“This is Hyman Shamir of Israel Aircraft Industries,” said the visitor on the guard post phone. “Is it possible to meet with you?”

“Come on in.”

“I’d rather meet you outside,” said Shamir. “Please don’t tell anyone I’m here.”

It was drizzling when Even-Tov stepped outside. Shamir was waiting for him in the courtyard. The two men shook hands and sat on a bench, despite its dampness.

“I understand that you have some ideas about a new guidance system for the Luz,” said Shamir. “Can you tell me about it?”

Almost two months had passed since the conversation in the tent. It had not only percolated upward in the navy hierarchy but also been passed on to the most

ambitious firm in the thin ranks of Israeli military industries. The Israel Aircraft Industry (IAI) had been established a decade before as a maintenance facility. Its founder was Al Schwimmer, an American aircraft engineer who had acquired surplus airplanes for Israel in the critical days just before and during the War of Independence. At Prime Minister David Ben-Gurion's personal request, Schwimmer had settled in Israel to establish an aircraft maintenance infrastructure. Schwimmer's ultimate objective was to manufacture planes. Meanwhile, he was building his firm's engineering infrastructure.

Before the approach was made to Even-Tov, his background was checked out. Born in Jerusalem, he had not finished high school, being swept up in the armed struggle culminating in the War of Independence. He had served as a platoon commander in the battle for Jerusalem and stayed on in the army until 1952, when he traveled to the United States, at the age of twenty-five, to pursue his education. He graduated from Columbia, obtained an engineering degree at Drexel, and became a project manager at a large defense plant outside Philadelphia.

At Rafael he had the reputation of being brilliant but ornery, the bane of his superiors who found it difficult to direct him. He professed contempt for the practice of Rafael's top scientists, many of whom taught at Haifa's Technion, to publish papers on their research. R&D work the world over, he maintained, was practiced by bright minds who preferred complicated solutions to simple ones because there are more learned articles to be generated that way. He himself reveled in the label of "garagenik" bestowed upon him by his colleagues, denoting a dirty-handed problem-solver. For all his unconventionality, however, he was regarded as an exceptional engineer with startling insights.

As they sat in the Rafael courtyard, Even-Tov outlined his approach for Shamir. When he was done, Shamir asked, "Would you be willing to work on this project at the IAI?"

"I'd be willing to work on it in a clothing factory," said Even-Tov. He had already given notice to Rafael that he would be leaving to return to America when his year was up. Determined efforts by management to dissuade him had failed.

Even-Tov's arrival at the IAI plant abutting the international airport at Lod in the late autumn of 1961 was low-key. Shamir conducted him to a room he himself had been using as an office and turned it over to him. The IAI official promised him all the staff and space he would need as the project developed. Wishing him well, he left Even-Tov alone to survey his empty desk.

Chapter 4

Journey to Germany.

The last time Yitzhak Shoshan encountered the German military he was a boy of ten scrambling over the rooftops of Brussels in 1940 with his family to escape a roundup of Jews. It was surrealistic now to be sitting as an Israeli naval officer in the German Defense Ministry in Bonn.

The future commander of the EILAT and another Israeli naval officer had come to Germany to inspect the Jaguar torpedo boat. It was the end of December 1960 and they had already visited several European countries to view similar craft, traveling by night train to save the navy hotel expenses. The staff meeting with Admiral Bin-Nun on the navy's future had occurred a few months before and the small boat-big punch concept was still only a wistful thought. Israel, meanwhile, had an immediate need for torpedo boats.

The Germans were in civilian clothing, except the admiral at the head of the table. At one point Shoshan posed a technical question about the Jaguar no one could answer. "I'll call someone," said the admiral.

He spoke into a phone and a uniformed naval lieutenant strode into the room, his cap under his arm. The officer had blond hair, a scar on his face and was old enough to have served in the war. He clicked his heels, saluted the admiral, and barked his salutation.

Shoshan felt a hot flush followed by a sense of bloodless cold. Swept by nausea, he begged leave and hastened from the room. In the toilet he vomited and shivered uncontrollably as sweat soaked his shirt. When he returned to the meeting room the lieutenant was gone and a younger officer was waiting to respond to the earlier question. Shoshan glanced at the admiral and sensed that he had understood.

The next day the two Israelis were taken to a port on the North Sea. The squadron commander who received them aboard a Jaguar, Korvetten Kapitan Noodt, was a veteran seaman with a warm face and easy manner. Noodt told his guests that they had the run of the boat and could see everything except the codebooks. Although the captain had fought in the war—the Israelis immediately noted his limp—Shoshan took an instinctive liking to the man. As the squadron put out to sea, Noodt related that he had been a naval cadet in the same port when World War II broke out. He had been wounded on a torpedo boat and hospitalized, then transferred to submarines but the war ended just as he was to sail on his first mission.

At lunch Noodt said he understood there was a problem about kosher food. Wincing at the prospect of again facing the potatoes and hardboiled eggs being pressed upon them by the fastidious Germans, Shoshan said, "Well, there's not really much of a problem." German punctiliousness prevailed, however, and two kosher lunchboxes were produced.

The Jaguar had begun life in World War II as a Schnellboot (S-boat), harassing Allied shipping in the North Sea and the English Channel. It was a healthy craft, Shoshan saw, with room for considerable armament and electronic apparatus. Although it was not very comfortable for the crew, it was powerful and built for fighting. The captain was able to control the vessel effectively from the bridge. At Shoshan's request, Noodt executed squadron maneuvers to demonstrate the ease with which the boats could keep formation.

From Germany the Israeli officers traveled to England to assess a British torpedo boat and write their final report. It was Christmas and Shoshan, forgetful of the customs of the gentile world, vainly scoured the streets of central London in search of an open restaurant. On returning to the Israeli embassy, he drafted his report. He was lukewarm about the other boats they had seen, but of the Jaguar he wrote, "This is a ship of war."

Ori Even-Tov was outlining his idea once again, this time in naval headquarters in Haifa. Facing him and Hyman Shamir across the table were Captain Erell and the navy's top technical officers. Erell was an enthralled listener. When an electronics officer flanking him attempted to demolish Even-Tov's presentation on technical grounds, he was signaled into silence by a discreet kick beneath the table from the deputy naval commander. The officer on the other side of Erell was likewise kicked in the shins when he laughed at the paltry sum Even-Tov suggested would be necessary to develop the missile.

"We need their help," Erell told his aides after the visitors left. "Israel Aircraft Industries is a good horse to run with. What we can't push they can push."

Erell found a sympathetic ear when he called on the director general of the Defense Ministry, Moshe Kashti, to request funds for a feasibility study by the IAI. Although the General Staff preferred investing in proven armaments purchased off the shelf abroad, Kashti and his boss, deputy defense minister Shimon Peres, believed it imperative to divert some of these funds to the development of a military industry at home. Israel's political isolation demanded this, and so did the desire to develop a modern industrial infrastructure.

Even-Tov was summoned by Kashti to spell out his proposal. "What would you need to develop this missile?" asked Kashti.

"I've got to design it first. And for that I'll need a few people and a year."

"You've got it."

Returning home with a beard and degrees acquired during five years of advanced studies in London, the young mathematician wondered whether any challenging work would be available for him in Israel, with its limited technological infrastructure. When he inquired at Israel Aircraft Industries he was told that there was a job opening up that would possibly require someone with his background, which also included studies in electrical engineering. He was shown into a large office where a solitary figure sat behind a desk. Ori Even-Tov set down the textbook he was reading and chatted briefly with the new arrival. When Even-Tov had arrived three weeks before he asked for two things—a mathematician and a set of basic American textbooks on airborne radar and allied fields. He now had both.

The two men closeted themselves in the office for the next few weeks, poring over the books like students cramming for an examination. They paused occasionally to exchange comments and make notes. Ground-to-air and air-to-air missiles employing radar to home on targets were already operational in the West but Israel was not privy to their secrets. What was available was textbook theory and this the two men now digested. When they had finished, Even-Tov had a clear vision of his direction. It was one never taken before.

Using an altimeter to have the missile fly just a few yards over the sea surface would make it difficult for an enemy to spot with his own radar in time to take evasive action or to shoot it down. The warhead would also strike near the waterline. Radar could not guide the missile on such a low-level flight, because the reflection of the waves—"sea clutter," in electronics jargon—confused the sensors. Radar could, however, be used to home in on the target on the horizontal plane

while the altimeter kept the missile at its pre-determined height. Even-Tov's proposal to split the guidance system by using both an altimeter and radar in order to create a sea-skimming missile was a major innovation in missile technology.

He was fortunate in having in hand existing hardware—the Luz—with sound aerodynamic features and a reliable warhead. The problem was that it had not been designed as a homing missile that tracked a target on its own but as an optically guided missile steered by impulses sent from the ground. The cone, instead of housing a rotating radar antenna as in air-to-air missiles, was packed with 150 kilograms of high explosives. To redesign the Luz in order to shift the warhead farther back and put the radar in its place would have entailed a budget allocation and a delay that would probably have doomed the project.

Even-Tov elected to solve the problem cheaply with stationary antennas projecting from the missile's sides. It was a solution that any radar expert would have told him could not succeed, for clear mathematical reasons. Even-Tov was not acting in defiance of these opinions but in ignorance of them. The textbooks he had read did not allude to stationary antennas. The calculations he and his assistant arrived at showed that a fixed antenna of a missile fired in the general direction of the target would have enough lateral vision—about five or six degrees—to track a ship whose relatively slow speed would not permit it to reach the radar's blind zone before impact.

There was no computer in Israel capable of checking these calculations except one at Rafael, which denied Even-Tov access after he had quit and gone over to its competitor, Israel Aircraft Industries. With the navy footing the bill, Even-Tov flew to Italy. The computer results there confirmed that the missile should fly with its dual control system and its fixed antenna if Even-Tov had made his calculations correctly and the laws of physics held.

Even-Tov and his assistant were shifted from their bookish retreat to a large workshop and provided with a small staff of engineers and technicians to begin building a prototype. Their work had hardly begun when they learned that they were already behind. The Soviet Union had developed its own missile boats—the first in the world—and had begun supplying them to Egypt and Syria.

The Soviets had conceived their missile boats in the 1950s to deal with a problem at the margin of the superpower confrontation—the prospect of an American carrier task force approaching the Soviet coast and launching nuclear strikes against the nation's heartland. Until their own fleet was strong enough to confront the Americans on the high seas, the Soviet naval command proposed to deal with the carrier threat by developing a seaborne missile with a powerful warhead.

The Germans had introduced guided weapons against ships when they attacked Allied convoys from the air in 1943 with radio-controlled bombs. The Russians, technologically the most backward of the major Allied combatants in the war, had been advanced in rocketry research in the 1930s and resumed this avenue of development following the conflict. They were assisted to a limited extent by captured German rocket scientists—lesser luminaries left behind after the Americans had transported the cream of the German missile program to the United States.

By 1957 the first sea-to-sea missiles in the world were mounted on a number of Soviet destroyers. Dubbed Scrubber, the missile had a hundred-mile range. Two years later the Soviets introduced the Styx missile—much shorter in range but capable of being fired from small vessels with a high degree of accuracy.

The Styx was not a sophisticated sea skimmer like the missile Even-Tov was envisioning, but it packed a five-hundred-kilogram warhead capable of causing havoc even to an aircraft carrier. Its range of twenty eight miles meant that the vessel firing it could stay out of gun range of major warships. About six miles from its target, a small radar in the Styx's nose switched on and glided towards the target on the track of its own reflected beam.

The missile was installed on a converted torpedo boat called the Komar, which the Soviets viewed as an extension of their shore batteries. Sent out in swarms, a sufficient number would evade air attacks, the Soviet planners hoped, to get within striking distance of the carriers.

By 1962 the Soviets had begun distributing Komars, with their two Styx launchers, to Warsaw Pact allies and friendly countries like Egypt because a more advanced missile boat, the Osa—armed with four launchers and with better seakeeping qualities—was already in the pipeline to the Soviet fleet. The appearance of the Styx in the eastern Mediterranean stunned the Israeli naval command and lent urgency to their own missile program. Admiral Bin-Nun decided that the time had come to seek government backing—and funding—for the missile boat concept.

The admiral requested an interview with Shimon Peres, the dynamic young deputy defense minister. Although Prime Minister Ben-Gurion held the defense portfolio it was Peres who effectively ran the ministry. Bin-Nun knew him as a ubiquitous troubleshooter for the prime minister, frequently traveling abroad on secret diplomatic missions, and as a technocrat intent on building up Israel's industrial infrastructure. It was Peres who had developed the arms link with France in the mid-1950s that brought Israel the planes, tanks, and artillery used to win the Sinai Campaign. He had done it by circumventing diplomatic channels in order to cultivate French political figures in and out of power. Employing both political argument and appeals to sentiment, he had persuaded them to supply arms to Israel even at the risk of Arab anger. This was the first break in the near-total embargo imposed on Israel by major arms suppliers since the state was created in 1948, a period during which large amounts of arms were reaching the Arab countries. From France, Peres would also obtain reactors for nuclear research in Israel.

At their meeting, Admiral Bin-Nun said that the navy could no longer continue as a collection of floating hand-me-downs. The refitted Arab navies could strangle Israel's maritime lifeline and bombard its coast. The answer—the only answer Israel could afford—was the missile boat concept. There was still no operational missile to counter the Styx but Bin-Nun expressed confidence that one would be developed. If the navy could obtain six missile boats it would scrap all its other surface vessels. The first step was to acquire a suitable torpedo boat from abroad to serve as a missile platform. The boat the navy believed most suitable was the German *Jaguar*, which Shoshan and his colleague had reported on two years before.

Peres responded immediately. “You have my blessing and you’ll get the money.”

Bin-Nun, who had been braced for a lengthy exercise in persuasion, was surprised by the speed with which Peres had grasped the concept and his readiness to commit funds. The money did not exist in the defense budget. There was, however, another possible source—the Federal Republic of Germany. The opening to Germany had again been forged by Peres himself. A year after the Sinai Campaign, he had driven through the December snows of Bavaria for a secret meeting with Germany’s defense minister, Franz-Josef Strauss, at the latter’s small-town home. While the constricting arms embargo had been broken by France, it was imperative to widen that lifeline and Peres had decided to cross forbidden ground.

The emotional chasm that lay between the two countries was unbridged by diplomatic ties. Ironically, it was Israel that was interested in such ties and Germany that was hesitant. Ben-Gurion believed that beleaguered Israel’s national interests demanded diplomatic relations with Bonn. Germany feared that such ties would lead the Arab states to sever diplomatic relations with Bonn and establish them with East Germany instead.

After a lunch served by Mrs. Strauss, Peres outlined Israel’s military needs and Strauss discussed the danger of Soviet penetration of the Middle East. At the center of their five-hour discussion was the relationship between the Jewish state and the country that little more than a decade before had murdered six million Jews. Peres suggested that Germany would take a significant step toward acknowledging its responsibility for that past by furnishing Israel with arms for its survival—doing so without publicity, to avoid Arab ire, and without payment since Israel was as poor in resources as it was rich in enemies.

Strauss expressed agreement. He saw in such an arrangement a step toward Germany resuming its place in the family of nations. Endorsement of his position would come two years later from German Chancellor Konrad Adenauer in an historic meeting with Ben-Gurion in New York’s Waldorf-Astoria Hotel. Meeting in a gilded room filled with ghosts, the two elderly statesmen agreed that there could be no reconciliation between the two peoples—at least not in this generation—but that postwar Germany and the state born out of the ashes of the Holocaust must find a way of relating to each other without forgetting the past. When, in the course of their far-ranging discussion, Ben-Gurion asked if Strauss’s pledge to Peres had his backing, the chancellor replied, “Yes, that is right.”

The next Federal Republic budget would include a $60-million item for “aid in the form of equipment.” The recipient and the type of equipment were not specified. The entire amount was in fact earmarked for Israel over a five-year period and included items such as jet trainers, trucks, helicopters, and field guns. Following Bin-Nun’s conversation with Peres two years later, the list would be adjusted to include six Jaguar torpedo boats.

It was as a provincial in search of guidance that Captain Shlomo Erell called on naval commands of NATO countries at the beginning of 1963. He was seeking reassurance from veteran continental navies that Israel was not heading with its missile boat concept into some futile and expensive dead end. Within the Israeli General Staff the notion of the tiny navy, with its total of fifteen years’

experience, attempting to formulate a new type of warfare based on a weapon system that did not yet exist anywhere in the West seemed absurd. Erell himself, on more than one restless night, was less than certain that they were wrong. Endorsement of the concept by European navies would, Erell hoped, lend the program legitimacy in the eyes of the General Staff. He also hoped to enlist a continental partner in the project—a move that would provide both technical backing and reassurance.

He found neither. The Europeans were dismissive of the notion of missile boats as a response to the Soviet Komars. In any major confrontation, they pointed out, the role of European navies within the NATO framework was limited to fringe assignments, such as convoy escort duty and anti-submarine warfare. Confronting the Soviet fleet was a matter for the American navy—in particular, the American carrier task forces. American naval air power would deal with the Soviet missile boats before the latter could get into effective range of the Western fleets. No one was interested in working with the Israeli navy in developing an answer to the Styx.

The Soviets had conceived the sea-to-sea missile as a counter to overwhelming American naval strength, but the United States saw no need for such a weapon. At the end of World War II it had more than a hundred aircraft carriers and more than two dozen battleships. Its navy was unchallengeable by the Soviets or any combination of powers. The U.S. navy had in the late 1940s toyed with the development of a sea-to-sea missile, the Loon, based on the German radio-controlled bomb, but it was soon abandoned. The appearance of the Styx did not alarm the American naval command. The missile was designed for defense against American carriers, but these could strike Soviet targets from 750 miles offshore. Soviet missile boats would have to come out almost all that distance before they reached firing range, running the gauntlet of air attack all the way.

It was the appearance of the Komars in Cuba in 1962, the same year they arrived in Egypt, that turned the American navy's attention to countermeasures. At the request of the Atlantic fleet, the navy experimented with converting existing surface-to-air and air-to-air missiles for ship-to-ship purposes, but the results were unsatisfactory. Lacking the sense of urgency that had already impelled Israel to seek its own answer to the Styx, the Americans would let the problem ride for almost a decade.

To the extent that there was an attempt among European navies to think about the problem in the early 1960s, it focused on the idea of fast missile boat killers that would be too small a target for missiles to hit. These boats would close on enemy missile boats and destroy them with gunfire. This reminded Erell of the response at the beginning of the 20th Century to the emergence of torpedo boats. Because torpedoes were self-propelled and had no recoil—in effect, underwater missiles—they could be fired from small boats. Their powerful warheads made them dangerous even to capital ships. To counter the threat, the destroyer was developed. These shallow-draft and highly maneuverable vessels, less vulnerable to torpedoes, would screen the main fleet from torpedo-boat attacks. At a later stage, they were armed with torpedoes themselves for offensive operations as fleet destroyers.

Israel, thought Erell, could not afford a conventional approach. Small, fast attack boats might prevail against Soviet missile boats if the missiles weren't very accurate, but the Israeli navy needed a multipurpose craft that could take on destroyers in surface actions, hunt down subs, stay at sea for extended periods on escort duty, and provide close-in shore bombardment. There was nothing in the naval arsenals of the West that met those specifications. The Soviet vessels, which were basically platforms for missile launchers, were not capable of other missions. To produce a boat tailored to its own needs, Israel, despite its lack of naval tradition, had no choice but to dare to be original.

The cry of outrage from Rafael at being informed that the sea-to-sea version of the Luz was being transferred by the Defense Ministry to the IAI under Even-Tov was prodigious. His superiors had been so angered at his leaving that they vowed to prevent him from finding work in Israel. When Even-Tov wrote to Rafael to request data on the Luz's aerodynamic performance, he received a wire from Professor Ernst David Bergmann, Rafael's top scientist, informing him that he had no need for the data since Rafael was the sole military R&D enterprise in the country. Peres ordered the data turned over. Most of the information eventually was, but on one occasion a naval officer found it necessary to "borrow" data on the Luz from an army ordnance base after determining when the officer in charge of the records would be out to lunch.

Even-Tov had asked for a year in which to formulate his plans but well before then there was peremptory knocking on the gate of his ivory tower. The appearance of the Styx, the anxiety of the navy, and the angry reaction of Rafael were piling pressures on the IAI to produce some tangible results, and Hyman Shamir had begun looking over Even-Tov's shoulder. In a display of temperament that was to mark his way, Even-Tov had a falling-out with his patron, but was permitted to carry on.

By the end of 1962 he had completed his plan and submitted it to Shamir in two thick volumes. A few weeks later Even-Tov was invited to Peres's office in the Defense Ministry in Tel Aviv. He carried a copy of his report to the meeting. "You don't think I'm actually going to read that" said Peres with a smile as his guest entered. Even-Tov noticed that a copy of his report already lay on the deputy minister's desk. Alongside it was another report, in a black binder. Peres identified this as an analysis of Even-Tov's proposal prepared jointly by the air force and Rafael at his, Peres's, request. Its conclusion, he said, was that the project was totally unfeasible. The analysis had made use of data supplied by Even-Tov himself to prove that it was mathematically impossible for the missile to perform as designed.

"How am I going to make a decision?" asked Peres rhetorically.

What he would do, he said, would be to send Even-Tov to France to meet with senior engineers at three of that country's leading aeronautical plants. The French engineers would provide objective appraisals, said Peres, and he would make his judgment after hearing their opinions.

The trip to France was not an encouraging one. At two of the plants the engineers' verdict was a resounding negative. The chief engineer at the third plant, a White Russian, had plainly studied the two reports carefully. He questioned

Even-Tov closely about the unconventional solutions he was proposing. “I believe it can work,” he said finally. “But it won’t take five years and five million dollars, as you estimate. It would be more like twenty years and fifty million dollars.”

It was with considerable trepidation that Even-Tov returned to Israel for his second meeting with Peres. His faith in his vision had not diminished but the weight of outside opinion against him appeared overwhelming. Peres, however, surprised him again. On the basis of the one quasi-positive French report, Peres said he was authorizing the program to continue.

Tenuous as the missile program seemed, it remained the most hopeful option for the navy. If it were junked, there would be no choice but to face either costly re-equipping of the navy or its abandonment as a serious military arm.

A romantic aura had surrounded Israel’s naval arm since pre-state days, but it had never achieved the status of hard-nosed professionalism earned by the army and the air force. A motley collection of small freighters, an icebreaker, and other castoff vessels had been acquired by the underground Haganah to transport illegal Jewish refugees from Europe to Palestine after World War II through the British blockade. With the establishment of the state, many of these vessels were rigged with guns and commissioned into the newly established navy.

During the War of Independence the boats participated in several indecisive engagements with Egyptian vessels and provided occasional gun support for Israeli troops operating along the coast. The only serious naval encounter was the attack by the one-man assault craft led by Yohai Bin-Nun, which sank the Egyptian flagship and badly damaged its minesweeper escort.

The first commander of the Israel navy was an American Jew, Paul Schulman, a graduate of the U.S. Naval Academy who served in the American navy during World War II. He was succeeded at the end of the War of Independence by an army officer, Shlomo Shamir, who was seconded to the navy in order to reorganize it. One of Shamir’s key decisions was to dispatch officers in large numbers to foreign naval academies for courses lasting several years. With their return, the navy’s officer corps, hitherto based on veterans of the merchant fleet, began to take on a new professionalism.

This reshaping of the navy’s command structure in the mid-1950s was not matched by the ships put at its disposal. Although the converted refugee transports gave way to real warships, these were few and antiquated. When the missile boat concept was brought to Peres, he realized that it was the only viable option for the navy. As long as Even-Tov’s proposal offered a thread of hope for keeping the option alive, Peres would go with it.

Chapter 5

Gabriel.

Shlomo Erell had larceny in his heart when he flew to Germany in March 1963. It had taken considerable argument to persuade the Israeli General Staff and the German authorities that the trip was necessary.

The equipment Germany had been supplying the Israeli armed forces under the secret agreement with Strauss, most of it imported from the United States and other countries, had been happily taken "off the shelf" by the Israeli army and air force. They had learned over the years to avail themselves of arms sources as they became available, before political considerations stopped the flow. Erell had argued that the Jaguars could not be shipped without modifications if they were to be utilized efficiently because the eastern Mediterranean differed from the stormy North Sea, for which the Jaguar was designed. What Erell had in mind, however, was not minor modifications but an essentially new boat. The technical officers he had assigned to the missile boat think tank had already determined that the Jaguar had to be significantly altered if it was to serve as a missile platform. If the German offer could not be used to acquire a suitable boat, Erell knew, there was unlikely to be another opportunity.

Erell's request to visit Germany had initially been rejected by the German authorities for fear that the Arabs would learn of the secret deal. Peres tried to discourage him but Erell, who rarely took no for an answer, insisted and the Germans finally relented on condition that he come alone and maintain the lowest of profiles.

At the German Defense Ministry, Erell met with senior officials of the technical division to spell out his "modifications." The boat Israel wanted, he said, required a range of one thousand miles and a top speed of at least forty knots. In addition to anti-sub torpedoes it would carry ship-to-ship missiles, rapid-firing guns that could be used against either planes or ships, sonar equipment for sub hunting, and very advanced radar, plus detection and communication systems so advanced that destroyers several times the size of the Jaguar did not carry them. The boat must have good seakeeping qualities and be capable of fighting independently or in formation. In other navies, concluded Erell, this was a small vessel, but for Israel it would be a capital ship.

The silence that followed Erell's presentation was finally broken by the head of the technical division, Dr. Ments. Leaning forward, he said bemusedly, "Ja, ja, very interesting, Captain. But tell me, don't you want a grand piano in this boat, too?"

Erell's request to meet with the builders of the Jaguar, the Bremen shipbuilding firm of Lurssen Brothers, met with foot dragging. The authorities, he discovered, had not informed the shipyard that the client was the Israeli navy for fear the secret would get out. He would fly to Germany several times before he could convince the Defense Ministry there that fulfillment of Germany's commitment required direct contact by him with the shipyard. When permission was granted after a year, he flew back to Germany with Commander Haim Shahal, a naval architect who had been a prime advocate of the missile boat concept at the initial brainstorming session with Bin-Nun at Stella Maris. At Lurssen there was an immediate meeting of minds. Shahal had brought only a two-page outline of the boat's desired characteristics instead of the thick volume that such specifications normally occupy. But the firm's chief naval architect, Herr Waldemuth, immediately grasped what the Israelis, for all their inexperience, were getting at.

Calculating estimated weights of the planned systems and the space they would occupy, Shahal pointed out that they could not fit onto the Jaguar as it existed.

Would it be possible, he asked, to stretch the vessel eight feet by inserting two more of the frames that formed its hull, in order to give it a total length of 150 feet?

Waldemuth made his own calculations and said, "We can do it."

The Jaguar was a wooden boat, so built to elude magnetic mines in the shallow waters of the Baltic. The Israelis wanted their six boats built of steel because they hoped eventually to produce similar boats themselves, and wooden shipbuilding involved more difficult technology. Rearrangement of the boat's internal partitioning would also be required.

Waldemuth responded warmly to the Israeli requests and established a close working relationship with Shahal, who would make frequent visits to Bremen to be party to the design process. Whatever irony the Israelis may have felt working with a shipyard that had been part of the backbone of German naval production during World War II was outweighed by the obligations of the present.

With its new technology, the Luz had acquired a new name—the Gabriel.

An Israeli engineer working on the missile's radar at an Italian electronics firm had mentioned to a Canadian engineer employed at the firm the need for a code name to be used in telexes being exchanged with Israel; it would not do to be mentioning missiles openly. The Canadian noted that the firm named its export products after either saints or angels. The Israeli thought an Old Testament angel would be more appropriate for an Israeli missile than a New Testament saint. The Canadian suggested the first angel's name that flew into his head.

The missile's first flight came in mid-1964. It was a test of the altimeter, with right-left steering remaining for the time being in the hands of an operator with a joystick. The test was held on the coast south of Ashdod. A lighthearted air of expectancy hung over the beach as the countdown got under way. Members of the General Staff were there, as well as the navy brass, top Defense Ministry officials, and a somber delegation from Rafael, whose members did not exchange a word with Even-Tov.

Six missiles facing seaward were lined up neck to neck like a pack of well-trained pointers patiently waiting to be unleashed at the target on the horizon. The launchers rested on the back of command cars. At the launch command, the first missile arched into the sky and plummeted straight into the sea. Hoots and raucous whistles burst from one edge of the crowd. Even-Tov looked over and saw the source to be the Rafael contingent. The second missile duplicated the flight of the first; so did the third. Even-Tov called a halt. There was no point in firing the other three missiles before it could be determined what had gone wrong.

Deputy Chief of Staff General Yitzhak Rabin approached Even-Tov and asked, "Nu, what's going to be?"

"We'll be ready to try again in three months," said Even-Tov.

The deadline was impossibly short but Even-Tov met it. That was his only accomplishment. Again three missiles went up, only to abort into the sea. The enthusiasm that had sustained Even-Tov's team from the beginning gave way to a sickening sense that this might all have been an extravagant indulgence. Moshe Kashti, normally benign and supportive, turned to Even-Tov and said astringently, "Ori, we'd also like to see it work occasionally."

General Rabin came up and asked, “Nu, now what’s going to be?”

Even-Tov’s seemingly limitless self-confidence wavered, but only slightly. “We’ll be back,” he said. “But we’ll need nine months this time.”

Rabin nodded. “Okay, we’ll wait.”

In his office the next day, Even-Tov calculated the length of lifeline he had left. He plainly had a problem. The project was unlikely to survive another failure and there were already voices arguing that the Defense Ministry should cut its losses and scrap it immediately. He hoped the telemetry readings sent back from the missiles during their aborted flights would provide clues as to what had gone wrong, although the readings from the first test, three months before, had plainly not unlocked any secrets.

Even-Tov was interrupted in his cogitations by one of the technicians, Yaacov Becker, who asked if he might speak with him. Becker had joined the project four months earlier. “I don’t think the missile is going to work unless we repackage the altimeter,” he said. On a staff top-heavy with engineers and scientists, Becker’s role was a minor one—he had been dealing mostly with telemetry readings from instruments aboard the missiles in flight—but Even-Tov had been favorably impressed by his sound instincts and gifted hands.

Since the Luz had not been designed with an altimeter, the only convenient space that could be found for it as an add-on was around the exhaust pipe in the missile’s tail, which it circled like a bagel full of printed circuits. It was an awkward configuration and Becker said the altimeter design was simply not robust enough to withstand the blastoff and flight.

“Do you have any proposals?” asked Even-Tov.

“Give me a few days,” said Becker.

Becker had had only a vocational-school education, but he had gained much practical experience working on gadgets for military intelligence before joining IAI. The plan he placed on Even-Tov’s desk the next week called for dividing the printed circuits on the “bagel” into separate wedges, each a plug-in module that could be removed independently, to make it easier to adjust the instrument during the testing period. Such plug-in units were still unknown in Israel. Also, the altimeter would be cast in aluminum to make it rigid.

Although the proposal was sketchy, Even-Tov recognized the work of a craftsman — a fellow “garagenik.” He summoned two senior engineers and outlined Becker’s proposal. Both declared it unworkable and said they would rather resign than pursue it.

“In that case your resignations are accepted as of now,” said Even-Tov. It was not clear whether their objections were to the specific design or to its proposal by a low-grade technician.

Even-Tov summoned Becker and informed him that his proposal was accepted and that he, Becker, would head the altimeter project. He would have thirty men under him and all the equipment he would need. “You’ve got less than nine months,” said Even-Tov. “Run.”

The entire plan would run, seven days a week. In all of 1964, Yom Kippur was the only day that the key men on the project did not report for work, although Even-Tov and a few others came in even then. Workdays routinely ran for twelve or fourteen hours. Engineers leaving the modern, windowless plant to which the

project had been shifted were sometimes startled to find that night had come; sometimes even come and gone. For some, the marital strain induced by this schedule would lead eventually to divorce proceedings.

Even-Tov swept them along with a leadership consisting of radiant confidence in the ultimate success of the project and his own ability, time and again, to resolve with unconventional insights problems that seemed to doom the entire project. His temperament did not permit him to pause long over any breakthrough, the dangling threads being tied together by his aides. This suited them in any case; they preferred to have him plunging forward, for fear that if he took a second look at any design element he would attempt to improve it, stalling all momentum. The impossible deadlines he fixed were somehow met.

Becker, charged with the most critical aspect of the project, took to sleeping on a cot in the workshop. He was no stranger to rough sleep. His family had been evacuated from eastern Poland in 1939 by the Soviets and had spent the war years in Siberia before making the arduous trek to Israel in 1948.

In addition to the packaging, Becker also conducted extensive flight tests, with the altimeter rigged beneath a jet trainer flown by an IAI test pilot. At no small risk, the pilot would take his hands off the controls and let the altimeter hold the plane as low as fifty feet above the water.

It was during one of these tests that Becker discovered why at least some of the missiles had aborted. As the plane thundered over the telemetry van on the shore at Rishon Le-Zion and headed out to sea at one thousand feet, Becker saw that telemetry instruments on the altimeter were indicating that the plane was only six feet over the water. Not until the plane descended did the altimeter begin to give true readings.

The reason was deduced afterward. Height was measured by having one of the two antennas bounce an electronic beam off the water below, to be picked up by the other antenna. Above a certain height, however, the signal was too weak to bounce; the receiving antenna instead began picking up signals from the broadcasting antenna directly across the body of the missile, six feet away. Since the missile was programmed to fly at fifty feet, it attempted to rise above the six foot altitude it was recording, but the false signal persisted until the missile could no longer rise, instead falling into the water like a stone. Once the problem was understood, the circuitry was redesigned, but there was no certainty that this had cured the Gabriel's altimeter problems.

Uri Harrari descended from the plane in Switzerland carrying a case filled with small pieces of aluminum piping, like a plumber responding to a housewife's call. His mission seemed, even to him, almost as innocent as that as he rode into the nearby city and checked into a hotel.

An expert in precision mechanics, Harrari had joined the Gabriel team just a few weeks before after hearing that the IAI had a group of madmen working around the clock on a top-secret project. The notion had appealed to him, and he was promptly accepted by Even-Tov and Becker who were looking precisely for someone like him—a master craftsman who could shape metals.

Even-Tov had thought that he could create the Gabriel's guidance system by marrying the altimeter they were developing with a small radar bought off the shelf

from a foreign firm and fitted into the missile itself. In tests, however, the radar had proved disappointing and Even-Tov had daringly decided to try to develop the necessary radar technology in Israel from scratch.

Harrari's was a key role. It was for him to shape the metal tubing through which the radar's microwaves would pass. This had to be done to an extremely high degree of precision so that, despite the pipes' numerous twists, the cross-section remained constant—otherwise the waves would be distorted. Neither he nor anyone else in Israel was familiar with the procedure. After Harrari had achieved some crude success in bending microwave tubing, and in joining, or braising, tube sections, Even-Tov suggested he travel to Europe to learn what more he could. Neither man was thinking in terms of industrial espionage.

A prominent European firm had agreed to let Harrari consult with its chief chemist. After spending three profitable days, Harrari moved on to a plant in another West European country, where an engineer responded readily to Harrari's questions and demonstrated braising methods in the plant's laboratory. On the second day the engineer took Harrari aside.

"Look, Mr. Harrari, I know what you're doing. A child can see it. This braising is for radar components, isn't it?" Studying Harrari's face, he said, "Don't worry. I want to help you. I want to help Israel. I am going to send you to a place where you will learn a lot. You won't be able to be there for more than a few hours—maybe half a day, maybe a day. A friend will meet you at the gate. You will not identify yourself to anybody else. With your blond hair you can easily pass for a European. If they find out who you are, my friend and I will be in serious trouble."

Harrari boarded a train the next morning for a town in another part of the country. A taxi took him to the gate of a huge plant with high fences and a profusion of armed guards. His contact was waiting for him at the gate. After fitting Harrari out with a visitor's badge, his host led him into a windowless room plainly intended for security briefings. "Because of the high degree of secrecy around here," he said, "visitors are not obligated to identify themselves once they're inside. So, if anybody asks you where you're from, don't tell them, and don't tell anyone your name. Just say you're here at my invitation. I'll walk with you a bit, but then one of my assistants will accompany you. Don't tell him anything, either."

The next four hours were a revelation for Harrari. The plant was engaged in advanced weaponry development, and its scale was immense—huge hangars with mockups of warships and planes bristling with electronic gadgetry. What Harrari was looking for were examples of braising, and these he found in plenty. To his informed eye, even a casual glance or a few words with a workman spoke volumes. Periodically he would enter a men's room where he would feverishly make notes on a small pad.

The normal method for delicate work like microwave tubing involved a costly braising procedure that the hard-pressed Gabriel project was unlikely to sustain. In reading the professional literature, however, Harrari had learned of another form of braising, furnace braising, that was far cheaper. The problem was that furnace braising was a crude process not used for microwave tubing anywhere in the world. What Harrari had now learned would enable him to adapt furnace braising to his needs.

On the train back to the town where he was staying, Harrari was virtually shaking from excitement as he completed his notes. He was deeply touched by the risks his European acquaintances, Christians all, were taking, out of sympathy for Israel.

From Paris, Harrari sent a detailed report to the IAI. When he returned to Israel a few days later, anticipating an enthusiastic welcome, he encountered instead a furious Even-Tov.

"Do you realize that you should be put in jail right now?" shouted Even-Tov as Harrari walked into his office. "Do you know what the security laws are? You penetrated a top-secret installation of another country without authorization." When the harangue was over and Even-Tov had calmed down, he nodded in the direction of the workshop. "Now, get back to work, you bastard," he said affectionately.

Captain Erell, who knew that the future of the navy rested on the Gabriel, had to content himself with reassurances from the senior naval officer attached to the project that the missile would in the end fly. There were plenty of experts in the defense establishment eager to argue the unlikelihood of that happening.

For Erell and Bin-Nun, the entire program was an enormous gamble. There was no certainty that any of the major components would work on their own, let alone together. It was an open question whether the Gabriel would be any more effective than the Luz; the crucial electronic systems on the boats were a bold and complex leap into the unknown; the boat platform being designed in Bremen was as new and untried as the German diesel engines that had been decided upon. Even the deck gun, seemingly the most conventional of elements for a naval vessel, was an innovative and problematic weapon.

The navy chiefs did not burden the General Staff by spelling out the risk factor for fear that this would doom the project to instant demise. A wordless conspiracy had emerged between the navy and the fledgling military industries which had come to recognize the missile boat/Gabriel project as an opportunity for breaking out of Third World mold into the forefront of high technology. The danger of failure was downplayed for the footsloggers and airmen on the General Staff. The navy was, in a manner of speaking, hoodwinking the armed forces command about what deep waters it was getting into. As Erell would put it to his colleagues: "We're stealing horses."

With the Gabriel in danger of going the way of the Luz, it was vital to get expert outside opinion on whether the system was workable. The plan shown the French aeronautical engineers by Even-Tov had been theory; now there was hard data from the telemetry readings that could either support or destroy that theory. The computers had provided answers but Even-Tov could not be certain he had asked the right questions.

A foreign systems engineer who had been subjected to a careful but discreet security check was invited to visit the IAI plant as a consultant. He was not asked to provide any input into the missile program, only to review the calculations that had been made. After spending several days going over Even-Tov's figures, he looked up and pronounced his benediction: "It should work."

Chapter 6

Falling Leaves.

The lights burned late atop Mount Carmel. The brightest talents in the navy had been assembled by Captain Erell at Stella Maris in a highly secret project code-named *Shalechet* ("Falling Leaves"). Their mission: to reduce the grand vision of the missile boat to tangible dimensions. What armament and electronic systems were to be put into the boat, how were they to be designed, how were they to be integrated with one another? There were no precedents to follow and no textbook answers.

The team, which would eventually number several hundred men, was broken into subgroups, each charged with a specific design aspect. How many masts were needed to accommodate the dense electronic demands? What kind of engine would be powerful enough to provide forty knots but small enough for this size boat? What procedures would enable seamen in the midst of a battle—not just technicians in laboratory conditions—to fire missiles and hit?

The questions seemed endless, and each solution carried with it new problems. How can missiles be launched from the small deck without endangering the crew manning the gun nearby? How can the sensitive electronics of the missile be protected from the corrosion of sea spray? What to do about the mutual interferences—electronic, noise, electromagnetic—among systems located near one another? How to prevent the missile from being struck by a wave when launched in rough seas?

Israel's military industries, stretching into new areas of technology, were able to provide some solutions. International catalogues of military hardware proved useful—a plotting table was ordered from Holland, a depth gauge from Sweden. However, key elements, like the fire-control system, which would aim the gun and missiles, had to be developed abroad since Israel did not yet have the know-how. Navy and IAI teams were posted at plants in Europe to work with foreign engineers on design and production.

It was the biggest and most complex industrial enterprise ever undertaken by Israel, and the navy's fear of being overtaken by war drove it with a sense of urgency. Most of the officers chosen for the initial Shalechet team were torpedo-boat men, considered more innovative than their colleagues on destroyers. The project's expanding scope would oblige the navy to triple the number of men passing through its officers' course.

The Shalechet team leaders met regularly to report on progress and thrash out differences. Sitting around the table in Stella Maris, each became an advocate for his system. Search radar, which scanned the sea for enemy ships, and fire-control radar, which guided the missile onto target, vied with each other for higher position on the mast; gun and torpedo tubes elbowed each other for choice position on deck; sonar argued against being thrown overboard in order to save weight. When no compromise could be reached, the Shalechet chief would decide.

Sometimes the decision would be kicked up to the navy commander. A wooden mockup of the boat was built so they could see how its systems might be fitted together.

For most of the men involved, this would be the greatest adventure of their lives. A backward navy in a country of three million with no sophisticated industrial base had taken upon itself to create a major weapon system that no other country in the West possessed. Officers who had sailed in nothing but antiquated castoffs found themselves plunging through uncharted waters at the frontier of military science. It was an exhilarating experience, given an edge by the knowledge that the war contingency being planned for was not theoretical but a life-and-death reality that more than likely waited around some nearby corner. In this effort, as with the Gabriel, challenge evoked ingenuity, technical daring, and in more than one case something approaching genius. The young officers overseeing the systems being built in foreign plants overcame their initial diffidence and began demanding changes from the veteran continental engineers, who more than once expressed skepticism about what they were being asked to do.

The flow of information in Shalechet was constant—from everyone to everyone—and the pace manic. Tests were constantly being set, reports presented, contracts for components signed, meetings scheduled. Work went on every day until close to midnight, sometimes beyond. This pace would last for years, laced for all with moments of despair, when it seemed mad to have attempted the enterprise, when it seemed a piece of chutzpah—indeed, hubris—that must end in farce if not tragedy. As the pieces slowly began to be fitted together, these crises gave way to a sense of having embarked upon an epic voyage of discovery. Looking about him, Erell was convinced that no major power had ever put as much energy into the design of a battleship.

Straw boss of the teams developing the weapons systems for much of this period was Aviah Shalif. The engineering officer had grown up in Jerusalem with Ori Even-Tov and Yohai Bin-Nun. Wiry and acerbic, he could deftly lay a tangled problem bare and propose a solution. His ability to make quick decisions and keep things moving forward mattered more than the relative merits of the technical approaches he had to choose between. Shalif was not a believer in ideas whose time had come. Big ideas, he knew, have to be fought for if they are to survive against the natural counterpressures they arouse in people who regard them as unfeasible because they are outside their experience. He fought, often ruthlessly, and there were no pauses for agonized reflections as long as he was in the picture. It was Shalif who formulated, in a document of several hundred pages, the comprehensive "logic" of the weapon system, showing how all the elements were linked and how they affected one another. It was an excruciating task, carried out without the aid of a computer.

Visiting one of the leading electronics firms in Europe in search of assistance in developing a radar, Shalif and an Israeli electronics officer listened to a lengthy exposition on a new instrument the firm's engineers said had just been developed. When they left the building, Shalif said to his colleague, "They haven't got a radar."

"You're crazy," said the electronics officer. "We've just seen the whole logic of the system on the blackboard and they explained the components."

“Those solutions are flimsy,” said Shalif. “They’re full of air. I don’t think they’ve actually got one of these things operational.”

When the Israelis asked to see the radar, they were told that security prevented this as yet. Israel turned instead to an Italian firm and Shalif would later learn that his original hunch about the non-operational status of the first firm’s radar had been correct.

Virtually nothing in the system was taken off the shelf, beginning with the elongated, metallic version of the Jaguar itself. Some of the stormiest sessions in Shalechet revolved around the gun. Even in the missile age, there was clear need for a gun. Some targets are too small to waste a missile on. There are suspect boats that might be stopped by a shot across the bow, or into the hull, without crossing the point of no return by firing a missile that would destroy, rather than just stop, the target vessel. There are shore targets to be hit and planes to be defended against.

The original specification called for 40 mm guns, conventional armament for ships of similar size, and this was the gun installed on the first six boats. However, the Israelis learned that the Italian firm of Oto Melara was developing a lightweight version of a much more potent 76mm gun. Its range was triple that of the 40 mm gun and its shell much more powerful. In addition, it could be loaded from below decks, a blessing in stormy waters, and its larger shells could be fitted with proximity fuses whose buckshot spread multiplied their effectiveness against aircraft. The gun was still in the testing stage and was so riddled with technical bugs that Germany, the only other country to have expressed interest, had rejected it. Shalif, at the head of the pro-76m school, prevailed over Shalechet’s 40 mm faction, which preferred a weapon that was proved and of lesser weight. Israel would have to introduce more than a hundred changes in the gun system before it would become a reliable weapon, but the modified 76mm would open the strategic coastal installations of the Arab states to a formidable new threat. Many navies would subsequently adopt the 76mm gun.

To cram all the systems into a tiny platform required compactness and multipurpose uses. Critical space and weight were saved by the brilliant idea of having the fire-control system, which aimed the missile—a highly sophisticated linkage of radar, computer and consoles—do double duty by serving the gun as well, instead of having a parallel system. Riding the new wave of miniaturization permitted by the displacement of vacuum tubes by tiny transistors, the Shalechet team created smaller shipborne systems than those existing in any other navy at the time. No sonar for the detection of submarines was small enough to be fitted onto boats this size. But at the direction of the Shalechet planners one was developed abroad. The planners’ crowning achievement was the Combat Information Center (CIC), the below-decks war room from which the boat commanders would direct the battle. The radar screens, consoles, and communication equipment in the crowded CIC constituted a state-of-the-art command center more advanced than those to be found even on contemporary cruisers. Information coming in from sensors on the boat itself and from outside sources like planes or other ships would be instantly analyzed and displayed to provide a real-time picture of the battle zone and clear options for action.

In 1966, General Rabin, now chief of staff, visited Stella Maris for a briefing on the project. He was impressed by its daring and originality but he gave the navy chiefs clear warning that if their gamble was unsuccessful the General Staff would not simply shrug its shoulders. "We don't understand the navy in the General Staff and I can't say whether this project is justified or not. This is the first time the navy is building a fleet according to its own needs and its own plans. I hope you're right. Otherwise we will have to draw some very sad conclusions." All those present understood that these conclusions would probably be to reduce the navy to a coast guard and leave defense of the shipping lanes to the air force.

The Shalechet planners in Haifa were constantly aware that their accomplishments would be futile if the team at Lod, eighty miles to the south, failed to develop a reliable missile. Without it they would be left with a gunboat—fast and sophisticated, but no match for the Styx.

The third test of the Gabriel was held in 1965 on a secluded stretch of coast south of Haifa. Patrolling planes and vessels kept boats out of the area. Even-Tov had met the nine month deadline he had set for himself. The large crowd of observers who had sorted themselves out along the beach and on the dunes looked funereal. Even-Tov saw the Rafael contingent standing apart on a hillock. As the controller began the countdown by intoning over the loudspeakers, "Three minutes to firing," Becker took shelter in a ditch near the launcher. "Three, two, one, launch." The first missile leaped from the back of the command car, arced into the sky, and fell like a stone into the water. A heavy sense of deja-vu engulfed the onlookers and despair gripped the members of the Gabriel team. Two years of prodigious labor seemed about to end with another sterile splash.

"Launch."

The second missile reached the top of its trajectory and began plummeting toward the sea. Its dark shape suddenly seemed to halt in midair and hang suspended. It was several seconds before Even-Tov realized that the missile had leveled off and was heading out to sea. Cheers of joy and relief exploded along the beach as the others realized it too. Men pounded one another on the back and waved their arms heavenward. The aimer was so flabbergasted that he forgot to direct the missile onto target with his joystick. But it did not matter; the altimeter worked. The crowd erupted again as the next missile leveled off at the predetermined altitude and was guided directly onto target. Even-Tov instinctively swiveled toward the hillock but the Rafael contingent had disappeared.

The arrival of the German emissary at Ben-Gurion Airport in March 1965 boded ill. Defense Ministry officials in Tel Aviv had been bracing themselves for such a visit since the Arab states had learned of the arms deal with Israel and publicly threatened to break relations with Bonn unless it was abrogated. The nightmare of the take-it-off-the-shelf-and-run school had materialized.

In Jerusalem, the emissary said that Germany intended to honor its obligation to Israel by supplying it with the money to purchase the agreed-upon items elsewhere. As for the boats, Germany could, regrettably, not go ahead with their construction, which had been scheduled to start in a few months.

Erell was unwilling to settle for the money. He insisted on the plans and the license to use them as well. The Germans were unwilling to furnish them since such a step could compromise them with the Arabs. The Israeli Defense Ministry began to pressure Erell to take the money and find another shipyard. Erell stood fast. It was inconceivable, he said, that the past two years' labors should have been for naught. Without the German plans and license more years would be wasted in starting from scratch—a delay that would leave the navy helpless if war came.

The German emissary flew back and forth several times in an effort to overcome this final impediment to the shutdown of the German arms pipeline but Erell refused to budge. Peres, submitting to the political necessity of concluding the episode, finally insisted that Erell accompany him to Rome to arrange for the purchase of Italian patrol boats as a substitute. They arrived to find the Italian government likewise reluctant to enter into an arms deal with Israel. They were still in Rome when a senior naval officer in Haifa telephoned Erell to call his attention to an article in the latest issue of the prestigious British naval publication, Jane's, which noted that Lurssen had cooperated with a French firm in producing patrol boats. Such a connection might make it palatable for the German government to permit the plans and license for the modified Jaguar to be made available to the French shipbuilding company, thought the officer. Erell grabbed at the idea.

Mordecai Limon, head of the Defense Ministry's purchasing mission in Paris, was summoned to Rome by Peres to be briefed. He conferred with the French shipbuilders upon his return and reported that they were eager to take on the project and had well-placed connections in Germany that would make it possible to have the plans and license for the modified Jaguar transferred. The location of the shipyard was Cherbourg.

Chapter 7

Cherbourg.

For a town that had lain squarely across the road to Armageddon, Cherbourg offers few remembrances of war. Its port was the principal supply funnel for the Allied armies following the D-Day landings twenty miles down the Normandy peninsula. The harbor facilities had been destroyed by the Germans but, in contrast with other major ports on France's Atlantic coast, most of its buildings and old charm had survived due to the forbearance of the Allies who wanted the town and its port as intact as possible.

The military figure who dominated the waterfront atop a high bronze horse was not a hero of that grim struggle but Napoleon, who had chosen Cherbourg as a naval port because of its strategic location at the midway point of the Channel which separated him from his English enemies. Although the English came now on cross-Channel ferries in pursuit of cheese and wine, the naval arsenal founded by Napoleon continued to produce ships of war for whatever contingencies history

might provide. Since the beginning of the century it has been France's main shipyard for submarines and for much of this time Cherbourg's chief employer.

The second-largest employer in 1965 was the private shipyard founded by Félix Amiot, who, at the age of seventy, was starting a new and momentous phase of his eventful life. It was his firm, Les Constructions Mécaniques de Normandie, that the French defense authorities had recommended to Israel. Amiot had begun designing airplanes in his teens, before World War I, and by the time of World War II he was one of France's major airplane manufacturers. During the German occupation his firm was designated by the Germans to produce parts for Junker bombers. For this he was barred by the government following the war from continuing in the aircraft industry. Returning to his native Cherbourg, he turned to shipbuilding. His firm became a thriving enterprise that at its height employed fifteen hundred workers. A paternal figure who took a personal interest in his employees' health and family affairs, Amiot combined peasant shrewdness with technological innovation and a surprising vein of sentimentality.

Following the initial Israeli approach, Amiot invited Shimon Peres and Admiral Bin-Nun to his home near Paris. In the late afternoon, while they walked through the wooded grounds of his large estate, the industrialist's eyes teared as he spoke of having hidden Jewish children during the war. In Israel, to which Amiot flew for final negotiations, he was invited to a home dinner by the Israeli naval officer serving as his escort. Amiot kept pressing him about the future he foresaw for his three young sons. At Amiot's request, the officer took him into the children's room to see them sleeping.

Work on the Israeli vessels got under way in the shipyard in the summer of 1965. A small contingent of Israelis took up residence in the town to monitor the boats' construction and to subject them to tests after they were launched. The contingent would grow to thirty or forty men when the time approached to sail the boats to Haifa. Uncertain of their own expertise, the Israelis asked the French navy to provide technical supervision of the construction program.

The Israelis were delighted by Cherbourg. With a population of only thirty thousand, it had a cheerful, small-town atmosphere, but the amenities such as restaurants and shops were of a scale to service a large suburban area and trans-channel traffic. Although the great transatlantic liners no longer sailed from Cherbourg, there were several ferries a day to British ports. The weather was like that of the nearby Channel islands, changeable and bracing. "We have the four seasons every day," Cherbourg residents liked to say. Napoleon had proposed cutting a canal through the peninsula, which would have made them islanders in fact. Although still attached to the mainland, Cherbourg residents felt remote from the wielders of power in Paris.

The boat contract had a powerful impact on the town's sagging economy. The Israeli sailors were first housed in barracks in the naval base and ate alongside French ratings. Bachelor officers were quartered in an officers' club outside the base, and family men rented apartments. In their free time, the Israelis frequented restaurants and cafes overlooking the inner harbor, where the fishing boats anchored, or the square where flower markets were held three times a week. They were intimidated by French cooking and seafood, and some would stick for a long time to bread and salads. Only after repeated looks of distress on the faces of

waiters did the men learn that one ordered white wine with fish and red with meat. The Israeli sailors of North African origin, who spoke French, soon had girlfriends. The others wasted little time in finding French tutors. Following their ejection from the arsenal, the Israelis were lodged in the Hotel Tourville on the waterfront, adjacent to the Amiot shipyard.

The Israelis discovered soon after their arrival that there was a small Jewish community in Cherbourg. Before the war there had been forty families, many of whom had come from Eastern Europe in the late 1920s hoping to board the weekly Cunard or German liners that sailed to the United States. When Washington tightened its immigration laws, these families had stayed on. The Germans expelled the Jews from the strategic town when they captured it in 1940, and after the war only a handful returned. There were now ten families in all, and half the men had married Christian women. Nevertheless, there was a strong communal feeling even though there was no rabbi or synagogue. The fifteen children would be gathered twice a week to hear a talk on Jewish subjects from Dr. Michel, a dentist whose grandfather had been a rabbi, or from Jacques Prelman, one of the few Jewish merchants to close his store on Yom Kippur. On Sundays they would watch together a television lecture by a rabbi broadcast from Paris.

Warm relations were quickly established with the Israeli contingent. One of the Israeli wives began teaching Hebrew and Jewish culture to the children and the local families joined the Israelis for a communal Passover seder and for Yom Kippur prayers led by a rabbi sent down from Paris.

The first of the Saar ("Storm," in Hebrew) class boats, as they were called, was launched on April 11, 1967. The German design team came down from Bremen to join the maiden sailing. The occasion merited a spiraling round of toasts among the Germans, the French, and the Israelis, and most of the men aboard the boat were several sheets to the wind by the time the engines were started. As the boat eased past the breakwater into the English Channel, the Israeli officer conning the craft kept it under tight rein. The powerful thrust of the four engines was beyond anything he had ever handled.

The Germans were impatient at the caution. "Let us take over," urged Herr Waldemuth, the German naval architect. The Israelis relinquished the wheel and the engine room to the German team. Gunning the motors, Waldemuth took the boat up past its thirty-knot cruising speed to its forty-knot tactical speed—the speed at which it would maneuver in combat. The small craft leaped through the water and they were soon off Southampton. A large Cunard liner, one of the Queens, was emerging from the British port. Laughing exultantly, Waldemuth ran the updated S-boat in wide circles around the British liner, as if finding himself in a quirky replay of history, before handing the controls over to Captain Binyamin Telem, head of the Israeli team.

Telem, too, had been born a German. His father was a psychiatrist in Dessau until Telem's brother came home from school one day in 1933 with his shirt ripped and a swastika painted on his back. The family wasted little time in moving to Palestine, where the elder Telem established a mental hospital in Haifa. "Binny," as he would be called, enrolled in Nautical High School after completing his elementary education. In 1947 he served on a gunrunner smuggling weapons into

the country past the British blockade. After the founding of the state, he commanded torpedo boats and a destroyer before being sent to England for a course at the naval staff college in Greenwich. He had been serving as commander of the Israeli destroyer flotilla when he was posted to Cherbourg. Respected for his professionalism and liked by his colleagues for his amiable nature, Telem was destined for high rank. As he gripped the wheel of the Saar, he felt that the boat could do it all—move fast and turn fast while remaining stable.

The Israelis had welcomed outside help on this maiden run of the Saar, as they had with the boat's design and the French navy's supervision of construction. But they were learning every day and gaining self-confidence.

The first of the Saar boats was subjected to ten thousand miles of punishing sea tests. The most troublesome problem was the tiny holes that developed in the propeller at high speeds. It would be Amiot himself who came up with a solution after the problem had baffled his engineers.

Erell, who succeeded Bin-Nun in 1966, persuaded the General Staff to double the order for missile boats to 12, a move that would permit the navy to cope simultaneously with the Egyptian and Syrian fronts. The cost of each boat was $2.5 million, a runaway bargain even when that price was doubled by the electronic systems and armaments. Eight such boats could be built and armed for the price of a single conventional destroyer, Erell argued, and each of the boats would be far more lethal than a destroyer.

Although little more than a score of men were at first assigned to Cherbourg, the Israeli navy was psychologically anchored there and in the European electronics and armaments plants where other elements of the system were being developed.

Strategic intelligence forecast that there would not be a war before 1970, by which time the first missile boats should have replaced the aging warships in the Haifa naval base. However, this projection had not reckoned on war by miscalculation. In mid-May 1967, a month after the first Saar was launched, Egyptian President Gamal Abdel Nasser moved his army into Sinai and Israel began to mobilize its reserves. Erell would not be diverted by the mounting tension from what he saw as the navy's top priority—developing its missile fleet. Toward the end of May, he ordered one of his senior officers to leave for France, as planned, in order to check components for the missile boat radar. "Forget what you've been hearing about war plans," said Erell. "This situation is going to end soon, one way or another, but our work on the boats has to go on." The navy entered the Six Day War, its officers would come to say, with its head in the 1970s and its feet in the 1950s.

On the morning of June 5 Israeli planes skimming over the sea rose into radar view as they approached the Egyptian coast. Their sudden appearance on radar screens allowed the Egyptian pilots just enough time to get to their planes and begin warming them up for takeoff. The warm engines made perfect targets for the heat-seeking missiles fired by the planes which roared over the airfields moments later. On the ground, Israeli armored spearheads broke through the hard outer ring of Egyptian defenses and began to race for the Suez Canal. So quick was the ground movement that an Israeli seaborne attack planned for the first night of the war behind the enemy lines at the Sinai coastal town of El Arish was canceled.

The navy pulled a number of contingency plans from the drawer but almost all were aborted. Six naval commandos who penetrated Alexandria harbor from a submarine were captured without having found their targets. Admiral Bin-Nun came out of retirement to lead a commando raid on a Syrian port but it was called off at the last moment.

The one attack pressed home was the tragic torpedo boat attack on the United States intelligence-gathering ship LIBERTY, mistakenly identified as an Egyptian vessel. Unknown to the Israelis, the vessel had sailed into the war zone on June 8, the fourth day of the war, to monitor battlefield communications. It was 14 miles off El Arish when a massive explosion sent a cloud of smoke skyward near the beach. The Israeli army had captured the town two days before and there was no longer any combat in the area. Israeli officers, unable to identify the cause of the blast, spotted the LIBERTY offshore and concluded that it was an Egyptian warship shelling the coast. (The explosion would subsequently be attributed to detonation of an Egyptian ammunition dump.) Army headquarters in Tel Aviv was notified of the alleged attack and the navy was asked to investigate.

Three torpedo boats were dispatched from Ashdod harbor to the area of El Arish, 50 miles away. The squadron commander soon picked up a target at the extreme range of his radar but his staff grossly miscalculated the speed of the vessel as 30 knots, the speed of a warship. Fearful that it might reach the safety of Port Said before being overtaken, the commander called for air support.

Two Mirages on a mission near the Suez Canal were diverted to the El Arish area and ordered to attack an Egyptian warship that had shelled the coast. The planes made a pass over the ship but reported seeing no flag. This was taken at naval headquarters as confirmation that the vessel was Egyptian. Liberty crewmen would maintain afterwards that the ship was flying the American flag. Ordered to attack, the planes made three strafing runs, setting fires on the deck, before turning home. They were followed by two Super-Mysteres carrying two canisters of napalm each. Three canisters missed the target but one struck the deck, sending up dense smoke.

The torpedo boats had by this time arrived at the scene. The son of Admiral Erell, Udi, was an ensign aboard one of the torpedo boats. He had seen the smoke from a long distance as the boats raced westward. With the vessel now in view, Erell's skipper scanned an identification book containing pictures of the ships in the Arab fleets and consulted with the commanders on the other boats. The squadron commander concluded that the ship was the Egyptian supply vessel EL-QUSEIR. Ensign Erell, looking over his skipper's shoulder at the picture and glancing up at the burning vessel, agreed, even though he would later recall that the mast in the picture was not positioned identically with the mast of the target vessel.

Frustrated at the navy's inactivity while the army was overrunning Sinai and the air force was scoring spectacular victories, the navy command had been hoping to get in on the war by finding an enemy ship to attack. At last it seemed to have found what it was looking for.

The squadron commander sought to confirm the damaged vessel's identity before attacking. When he flashed the message "What ship?," he read the response flickering through the smoke four miles away as "AAA," the signal meaning

“Identify yourself first.” That same signal had been flashed, the Israelis were aware, by the Egyptian destroyer challenged off Haifa during the Sinai Campaign in 1956. Americans on the bridge of the LIBERTY would later state that the signals flashed were the ship’s name and its international call sign, not what the Israelis believed they saw. Even with binoculars, Erell could make out no flag. The squadron commander ordered his boats to commence torpedo attacks. The vessels peeled off to make their runs and fired five torpedoes. Only one hit home. The boats raked the burning ship, now dead in the water, with their guns.

Fire was halted when one of the officers reported seeing the identification markings CTR-5 on the ship’s hull, markings that were not those of an Arab vessel. Notified of this, Haifa ordered the squadron commander to cease fire, pick up survivors and definitively establish the ship’s identity. The water was full of green paper, which seemed to have been thrown overboard. Drawing closer to the burning vessel, the Israelis were able to make out a flag. It was not opened by a breeze and could not immediately be identified but it was clearly not Egyptian. Udi’s boat was bobbing in the water next to one of the other boats as the officers studied the vessel. His captain, lowering his binoculars, looked over at the captain of the boat alongside and pointed toward the third boat, some distance away, which carried the squadron commander. The captain then wordlessly pointed toward the insignia of rank on his shoulders and made a gesture as if pulling them off. The meaning was clear—there had been a terrible foul-up and the squadron commander would probably have to pay.

Udi saw a splash of red on the flag and heard a report being sent back to Haifa that the vessel might be Russian. The report caused consternation when passed on to General Staff headquarters. The shock had not abated when a report was received half an hour later from the torpedo-squadron commander that he had identified the vessel as American.

Thirty-four American crewmen were killed in the attack and scores wounded. Twenty five of the dead were National Security Agency personnel who were in the radio monitoring compartment which was hit by the torpedo. Israel would pay $13 million in compensation and express its profound regrets. However, many in the American military hierarchy would persist in seeing the attack as a deliberate attempt by Israel to prevent the Americans from learning about its war plans, even though the war was virtually over on both the Egyptian and the Jordanian fronts when the ship was attacked.

In Israel, the non-performance of the navy in the Six Day War was hardly noticed amidst the general jubilation. But the navy seethed with frustration, which was compounded by the LIBERTY disaster. Telem, who returned from Cherbourg in time to lead a destroyer sortie off Port Said on the first night of the war, was so disgusted at the navy’s lack of preparation that, in protest, he refused to wear his epaulettes. Three times, missions ordered by Erell were blocked by the General Staff on the grounds that the war was already effectively won. Erell pleaded in vain that it was vital for the navy’s future to nurture a combat tradition. The ambush off Romani a month after the war, in which two Egyptian torpedo boats were sunk, was seen by some as stemming from that mindset.

The embargo imposed by de Gaulle on arms sales to the Middle East on the eve of the war remained in effect for those countries that had been involved in the

fighting. For Israel, it meant the blockage of fifty Mirage fighter-bombers already on order and the end of the special relationship that had led to France becoming Israel's major arms supplier. The planes that had destroyed the Arab air forces in the Six Day War were all of French manufacture. The Paris-Jerusalem relationship had been nurtured by the Algerian War, which placed France at odds with the Arab world. De Gaulle was now seeking a way back into that world after having boldly cut the Algerian knot.

The embargo did not initially affect the boats being built at Cherbourg. As construction of each vessel finished, it would be taken over by the Israeli mission for sea tests. At a "christening" ceremony before launch, the wife of a dignitary would unveil the boat's name plaque. The crew, after forming up for review by Telem, would clamber aboard and the vessel pushed on its cradle into the water. As the boat bobbed free, Moshe Tabak, in charge of sea trials, would start the engines and take the boat out on its first shakedown run.

For the launching of the first boat on April 11, 1967, Amiot brought guests from Paris by special railway car. The vessel would not legally be Israeli property until defects discovered during sea tests were corrected and the boat was officially accepted by the Israeli navy. During the testing period, the boats would fly only the pennant of the shipyard.

The most important test was the measured mile. A bonus was paid to the shipyard for each tenth of a knot the boats could achieve above forty knots. The French navy had set up two pairs of tall poles for its own testing on the hills surrounding Cherbourg. Taking the boat up to its maximum speed, Tabak would stand on the bridge with a stopwatch. As the first pair of poles came into alignment, he started the timer. He stopped it as the second pair came into alignment a mile away. The test would be made three times in order to balance out the currents.

Running down the northern Normandy coast, Tabak would conjure up the morning, more than two decades before, when five thousand ships hove to in these waters in the openings hours of D-Day. Never far from such thoughts for the Israeli sailors was the fate of European Jewry and their own role in the armed forces of the Jewish state born out of the ashes of Holocaust.

In the spring of 1968, Telem was recalled to Haifa for promotion to deputy naval commander. His place in Cherbourg was taken by Hadar Kimche. Paris seemed to be restaging the French Revolution when Kimche arrived from the airport. The streets swarmed with rioting students and workers and he had difficulty getting to the train station for the final leg of the trip to Cherbourg. Born in Kibbutz Ein Harod in the Jezreel Valley, Kimche had been an infantryman in the War of Independence and was severely wounded fighting Iraqi troops in the Jordan Valley. Invited to join the fledgling naval commandos upon his release from hospital, the kibbutznik began a new career which would include command of the submarine flotilla before his posting to command of the newborn missile boat flotilla.

Lieutenant Peleg Lapid waited nervously in front of Rome's Excelsior Hotel. The young electronics officer, destined eventually to head the navy's EW (electronic warfare) program, had been visiting the Italian factories that were

producing components for the missile boat system. He had been surprised at the sudden order to proceed to the Excelsior to meet Admiral Erell. When a man in civilian dress emerged from a limousine in front of the hotel, it was a moment before the lieutenant recognized him as the navy commander. Erell attempted to put him at his ease: "Let's walk up the Via Veneto and look at the girls."

They sat at a sidewalk cafe and Erell asked Lapid what he would drink. The flustered lieutenant, unaccustomed to the cafes of Europe, said he didn't know what to order. "How about a lemon drink?" said Erell. "Two citrons, waiter." After they sat for a while watching the passing parade, Erell began to spell out his vision of a future missile navy. It was a vision Lapid would recall years later for its daring and prescience.

Erell had created the future for the Israeli navy, but he would himself be overtaken by events. The navy's bleak performance in the Six Day War, the sinking of the EILAT thereafter, and the tragedy of the Israeli submarine Dakar (mysteriously lost at sea with a crew of sixty-nine in January 1968 on its maiden voyage from England) created an aura of misfortune about this period not tempered in the public mind by knowledge of the revolutionary new navy being built. Disagreement with the General Staff over his proposals for the navy's future decided Erell's fate. In September 1968, less than three years after assuming command—having served less than half the term of his predecessor—Admiral Shlomo Erell stepped down as O/C Navy.

Half a year after Erell's departure, two Saar boats put out from Haifa Bay. The deck of one was crowded with observers, including members of the General Staff. The deck of the other, the Haifa, was empty except for curious white pods resembling large garbage bins.

A brief sailing brought the destroyer Jaffa in sight. Until a few months before, it had been Israel's flagship. Now it lay anchored in the open sea with no one aboard, awaiting its fate. If the test about to be undertaken was a success, there would no longer be any need for destroyers in the Israeli navy. At a firing command, one of the pods opened to reveal the cone of a missile—the first Gabriel with a live warhead ever to be fired. The deck of the Haifa had been cleared, for fear of an accidental explosion. There was a brief spurt of flame and the missile shot upwards. It arced over, dove toward the sea, and straightened out in the direction of the Jaffa.

The observers on the accompanying boat lost sight of it but half a minute later there was a flash aboard the destroyer, followed by the sound of an explosion. A second missile was fired and hit the Jaffa amidships. The derelict destroyer slid slowly beneath the sea, carrying with it a naval era.

It had taken just eight years and $11 million to develop the Gabriel—more than the five years and $5 million Even-Tov had initially predicted but far less than the twenty years and $50 million the French aeronautics engineer had conservatively estimated. Even-Tov would estimate that in the United States the Gabriel's development costs would have reached $150 million.

Israel's navy had become the first in the West to enter the missile age. It was able to do it, Erell would say, because of the ignorance and lack of tradition that

had permitted the navy, the military industries, and the government to embark blithely on an undertaking that would have intimidated more experienced countries capable of foreseeing the immense difficulties involved.

It would soon become apparent that, despite Israel's breathtaking victory, the Six Day War was not the war to end all wars in the Middle East. The sinking of the EILAT four months after the war signaled Egypt's determination to recoup its losses. Unreconciled to Israel's possession of Sinai, the Egyptians opened a war of attrition along the Suez Canal, with massive artillery bombardments and commando incursions. The countdown to the next major conflict had begun.

PART II

The Escape.

Chapter 8

The Plot.

The diplomatic corps in Paris aligned itself in horseshoe formation in the elegant reception hall of the Elysée Palace on the first day of January 1969. At the open end, Charles de Gaulle prepared to welcome the diplomats to the president's traditional New Year's reception. As the most veteran foreign diplomat in Paris, Walter Eytan, Israel's ambassador for the past eight years, stood next to the papal nuncio, who was always doyen of the diplomatic corps, regardless of his length of stay.

The nuncio was the first to speak, delivering good wishes to the French leader on behalf of the diplomatic corps. When de Gaulle stepped forward, he astonished the diplomats by departing from the bland well-wishes traditional for the occasion and pointedly rebuking Israel, albeit not by name, for its raid on Beirut Airport a few days before. In a cutting voice, he condemned "exaggerated violent acts like those that were just committed by the regular army of a nation on the civilian airport of a peaceful country and traditional friend of France." Colleagues close to Eytan, who was standing just a few paces from the president, thought they saw his otherwise impassive countenance flush.

Israel was formally notified five days later that the embargo imposed on the Mirages in June 1967 was now extended "to all arms." The Israeli and French press were vague about particulars, citing only spare parts for aircraft. There was no mention of boats. Except for the Cherbourg press, the media were in fact unaware of the boats' existence. The two Cherbourg newspapers had kept silent in order not to endanger an important factor in the local economy. Publicity might even bring a Palestinian raid on the port. Limon's forewarning that the embargo would reach Cherbourg had enabled Boats Six and Seven to get away. A decision now had to be made regarding the last five boats. The embargo applied only to their shipment to Israel, not to their manufacture. Should Israel go ahead with construction or invest the money elsewhere? The Defense Ministry and navy decided to proceed, in the hope that, despite de Gaulle's ire, the embargo would be lifted by the time the vessels were ready to sail. It was a hope that echoed the old Yiddish story of the Jew who staved off a pogrom by accepting the prince's challenge to teach his dog to sing within a year or die. "A lot of things can happen in a year," the Jew reassured his family. "Maybe the prince will die, maybe I will die, maybe the dog will learn how to sing."

Just three months later, the prince indeed stepped off the stage when a referendum called by de Gaulle was defeated, leading to his immediate resignation. French officials had been assuring the Israelis that the embargo would be lifted quietly one morning when de Gaulle's fit of temper had dissipated, but as the weeks passed under his successor, Georges Pompidou, it became evident to the Israelis that they were up against high policy, not just personal pique. On July 10, Pompidou gave a press conference in which he reaffirmed the embargo on the grounds that there had been no political changes in the Middle East to warrant a change of policy. Observers felt that Pompidou, a former director-general of the Rothschild Bank who had not accompanied de Gaulle to England in the war or been involved in the resistance, chose to remain faithful to his predecessor's policy even if he did not entirely concur because he wished to be perceived not as a Rothschild valet but as a true heir to de Gaulle. Pompidou left open the return to a "selective" embargo, which would presumably permit export of equipment other than the Mirages, but this, he said, "would depend on the situation."

By midsummer, Limon and Israeli naval officers were increasingly focusing on an activist solution. They discussed the idea of having the shipyard sell the boats to another navy, which would then sell them back to Israel, but upon examination it seemed unlikely that any country would risk endangering its relationship with France by participating in such a transparent ruse. The possibility was even examined of abandoning the embargoed boats altogether and acquiring a patrol boat developed by the United States as a response to the Komars supplied to Cuba. The American PGM-class craft had a top speed of fifty knots and was intended to close on the enemy missile craft by speed and maneuver to destroy it with gunfire or torpedoes. The aluminum-hulled vessel was similar in dimension to the Saar, but it proved to be unsuitable for the open sea.

The more the Israelis examined the problem, the more it became evident that if the navy was going to be prepared for the next military round with the Arabs there was no choice but to get the five boats out of Cherbourg, even without the blessing of Paris. After all, the boats belonged to Israel, which had ordered them, provided the design, and given a down payment. The boats were in effect being hijacked by France for the crudest reasons of national self-interest painted over by rhetoric about the search for peace.

Rich in adversity, Israel had long since learned how to proceed by the obscure byway when the high road was impassable. In the chaos of postwar Europe, operatives dispatched by the small Jewish community in Palestine had created an underground railroad that brought out two hundred thousand displaced persons, many of them concentration-camp survivors, across closed borders, through the Iron Curtain, and over snow-covered mountain passes to ships that carried them to their new homeland. They created parallel networks to bring out the Jews of the Arab world. From Europe and the United States they smuggled sufficient clandestine arms, from Sten guns to warplanes, to hold off and then defeat the five Arab armies that invaded Israel on the day it was born.

In numerous operations, the emissaries of the state-in-the-making and then of the young state itself learned the measure of both discretion and boldness. They used flags of convenience, false documents, false uniforms, and, when all else failed, a frankness that disarmed. They used money when they had it and

chutzpah when they didn't. Their adventures were breathtaking in their scope and audacity. At the same time that an emissary in postwar Poland was arranging a border-crossing for Palestine-bound Jews with a Russian general who believed he was dealing with a representative of the Polish government, an emissary in New York was negotiating with Mafia figures on the docks and with industrial tycoons as he procured machinery to create the base of an arms manufacturing industry in Israel. This daring and imagination had not been lost with statehood, even though most of the secret agents inevitably became bureaucrats. Israel's vulnerable beachhead on the hostile shores of the Middle East—and on the often hostile shores of the international body politic—meant that it would still periodically have to resort to its wits, rather than abide strictly by rules that more secure nations can permit themselves.

Only a few months before, Professor Enrico Jacchia, director of nuclear safeguards for the European Community, had discovered to his amazement that two hundred tons of uranium had disappeared from a plant in Belgium, despite the precautions taken to prevent unauthorized transfers.

The uranium had been shipped from Antwerp by a German chemical firm that had purchased it, ostensibly to be processed by a Genoa firm prior to being used in conventional chemical processes. At the request of both the German and Italian firms, Euratom—the agency monitoring uranium movements—permitted the shipment, although regulations forbade uranium's export from EEC countries without elaborate approval procedures. Since it was going from one European country to another, Euratom agreed that it need not be considered an export even though it was going by sea.

It was only months later, after both the German and Italian firms failed to file routine notices that the uranium had reached Italy and been sent on to Germany, that Euratom became uneasy. Investigators discovered that the uranium had never reached Italy. When the small German firm declined to give details of the uranium's whereabouts, on the grounds that it was a private business matter that lay outside Euratom's mandate to probe, the agency accepted that it did not have the legal teeth to press the matter and let it die quietly for fear of embarrassment. It would be nine years before it came to public attention as the Plumbatt affair—the name Plumbatt had been stamped on the 560 drums filled with uranium "yellowcake" that had been placed aboard a beat-up freighter, the SCHEERBERG A, in November 1968. The vessel, which had been acquired by a Liberian shipping company set up three months before in Zurich, sailed for the Mediterranean but never reached Genoa. According to reports published years afterward in the West, its cargo was transferred at sea to an Israeli freighter guarded by two gunboats. These reports alleged that the Plumbatt uranium had been converted to weapons-grade plutonium in Israel's nuclear plant in Dimona and been used to create the warheads of Israel's nuclear armory.

No official evidence, however, ever linked the Plumbatt uranium with Israel. Professor Jacchia would write admiringly that the evasion of Euratom's supervision in the Plumbatt case was a demonstration of exceptional legal skill. "It made it possible for the imaginative mind of the diversion authors to operate in perfectly legal manners until the crucial moment—the exit of the SCHEERBERG from the port of Antwerp—when the captain could freely sail his ship not to the

port of Genoa but to its real and previously planned destination. It was a nonviolent, intelligent interpretation of the Euratom Treaty's procedural rules."

Ever since the expulsion from the arsenal following the escape of Boats Six and Seven, the Saars had been moored in the transatlantic basin of Cherbourg's civilian port where the great ocean liners used to dock. Since dwindling passenger services had been shifted to Le Havre, the huge basin was largely empty except for trans-channel ferries to England. Despite the embargo, the boats were unguarded. Motorized police patrols checked the basin a few times a day against a terrorist attack, not to make sure the Israeli vessels were still there.

To the handful of men pondering a solution to the Cherbourg embargo, the simplest answer was a quasi-commando operation in which crews would slip into town one night and make off with the boats. Such a snatch-and-run operation was proposed by Limon to Defense Minister Moshe Dayan in midsummer. The answer was a firm negative. Prime Minister Meir, with whom Dayan discussed the proposal, did not wish to endanger relations with France because of some boats. The message from Jerusalem was clear—nothing illegal must be done that could be used as an excuse by Paris for severing the already tense relations.

This reply did not unduly discourage Limon. The distinction between something legal and something not illegal may be no wider than a lawyer's comma, but in the right circumstances that might be wide enough to drive a missile boat flotilla through

In July, Limon called on Ambassador Eytan to inform him that there had been a proposal to run off with the boats but that it had been vetoed by Jerusalem. The diplomat was relieved to hear that the idea had been dropped. The new French president, he felt, should be given a chance to change policy. This was the last time the subject would come up between the two men. There was little love lost between Eytan, a consummate diplomat who never gave newspaper interviews, and the freewheeling ex-naval commander who ran his own diplomatic shop out of his offices a few blocks away from the embassy. Limon was the one member of the Israeli purchasing mission to have diplomatic status. In a bad misreading of character, the usually perceptive Eytan dismissed Limon as a "plodder".

One of Limon's numerous acquaintances, renowned journalist Jean-Claude Servan-Schreiber, rang his doorbell one night. He had come to pass on a message from the chairman of the National Defense Committee of the French Assembly, Alexandre Sanguinetti—"Why don't the Israelis just get on their boats and go?" Sanguinetti had made a similar comment to Amiot during the visit of a parliamentary delegation to the Cherbourg arsenal when he had seen the Israeli boats tied up in the basin. To be sure that his view reached Limon's ears, Sanguinetti asked Servan-Schreiber to speak to him directly.

Limon lightly turned the suggestion aside, asserting that Israel still hoped that the French government would change its policy. He did not think it politic to reveal that he and his colleagues were already trying to figure out how to relieve the French of the embarrassment of the embargoed boats.

That subject had headed the agenda of "Binny" Telem when he visited Cherbourg in August on his way back from the United States to Israel. He crossed from England by night ferry to Le Havre, and Moshe Tabak drove through a foggy night to meet the admiral at 6:00 a.m. Kimche had left for Israel to begin

organizing the first seven boats into an operational flotilla, and Tabak was in charge in Cherbourg. As they drove through the French countryside, he and Telem ran through the options. The remaining boats were coming off the production line on schedule every two or three months. Three were already in the water; the fourth would be launched in October and the last in December or January.

If, as they presumed, Jerusalem's reservations about running off with the boats would be overcome, the principal problem was fueling. More than three thousand miles lay between Cherbourg and Haifa and the Saars would have to refuel twice on the way. Until now, they had fueled at Gibraltar and Sicily. But on a breakout there could be no entering of ports, for fear that the French would seek to impound the boats. Tabak suggested augmenting the fuel supply with inflatable rubber fuel tanks that would be distributed above and below decks. Telem told him to pursue this line further.

After the mission's naval architect determined that the rubber tanks would not destabilize the boats, Tabak visited several French factories before he found one that could undertake the project. What was wanted, he explained, was fuel tanks for desert use. They would be transported on trucks and would have to be able to withstand considerable shaking and heat. Tabak was in civilian dress and although the factory executives knew he was an Israeli military man, they did not know he was from the navy. As production of the tanks got under way, Tabak became increasingly uneasy about the entire idea. The boats would be powder kegs, with disaster requiring no more than a stray spark. In his communications with Telem in Haifa, Tabak urged that some other solution be found.

As flotilla commander, Kimche would make periodic visits to Cherbourg, stopping off in Paris to meet with Limon. Kimche did not think it possible to escape with all five boats. The French would likely place tight security around the quay once all the boats were in the water. The chances were much better with only four boats, he believed. Limon, however, thought it possible to get away with all five.

Although Limon was now a civilian, he had become the pivot of the plot because of his French contacts and his standing in the Israeli defense establishment and with his former naval colleagues. His diplomatic status and his conservative disposition would normally have inclined him away from a grossly undiplomatic adventure like the one he had proposed. But his awareness of the boats' vital importance—something not fully understood in Jerusalem—and the pressure of his old naval comrades pushed him into the key role. The navy itself could not undertake the political wheeling that would be necessary. Nor could the embassy in Paris. Limon, however, was perfectly positioned by his job and his background.

At twenty-six he had become commander of the two-year-old Israeli navy. Despite his youth, there were few Israelis as richly experienced at sea. His family had emigrated to Palestine from Poland when he was ten, and he went to sea seven years later as a deckhand on a Norwegian tanker. In World War II he served in Allied merchant fleets making the Atlantic and Murmansk runs. As a member of the sea arm of the Haganah underground in the postwar years, he commanded refugee ships running the British blockade to Palestine. These voyages sometimes ended in violent encounters with British boarding parties and internment in Cyprus. Limon escaped twice—once by leaping into Haifa Bay and swimming to

safety, once by hiding until the boarding party had taken the passengers off. On his third voyage he was captured and spent several weeks in Cyprus.

It was as a young admiral that he met his future wife, Rachel, while she was doing her two years of obligatory military duty. Retiring from the navy at the age of thirty in 1954, he studied business administration at Columbia University in New York and returned to Israel to serve as deputy director general of the Defense Ministry. In 1962 he was sent to Paris as head of the ministry's purchasing mission which was acquiring for Israel the bulk of its foreign armaments. An introvert by nature, Limon had a ready ability to win friends once the curtain of his reticence was penetrated. The balding, pipe-smoking former admiral had become highly successful in his quasi-diplomatic role, in which his primary task was to cultivate contacts in political and defense circles. His home on the Left Bank was regularly visited by figures from the French establishment and the parties organized by his attractive wife drew a wide range of personalities.

As other options fell away, he began to focus on the idea of selling the boats to a foreign shipping company which, unlike a foreign government, could be in a position to sell them back quietly to Israel. This meant selling them for civilian purposes. The question was what civilian purpose these high-powered craft could plausibly serve. Since the French authorities had to approve the sale if the boats were to depart from Cherbourg legally, the cover story had to seem plausible. Some World War II corvettes and similar warships had been converted for passenger and transport use, but small, four-engined patrol craft capable of forty knots were another matter.

The one potential category that came to mind was oil-prospecting companies. Such quirky big spenders might conceivably be willing to purchase overpowered craft to run supplies to oil rigs. Limon consulted with an old friend, Mordecai Friedman, head of an Israeli oil-exploration company, Netivai Neft, which had been pumping oil in the Gulf of Suez since Sinai had fallen into Israeli hands. Friedman not only encouraged the idea but suggested to Limon a Norwegian shipbuilder he knew as a possible front. The suggestion intrigued Limon. A Greek or an Italian front for the operation might not lull suspicion. A Scandinavian address was perfect cover—respectable and remote—for Mediterranean mischief.

The Norwegian was Martin Siemm, director of the Akers Shipbuilding Group, the largest shipbuilders in Norway. His firm had built more than a score of tankers, refrigerator ships, and other vessels for a Haifa shipping firm and he had a minority interest in an oil pipeline being constructed from the southern port of Eilat to Ashkelon. During World War II, Siemm had been one of the leaders of the Norwegian underground. He visited Israel a few months after the Six Day War and was struck by the dynamism of the country built up by Jewish people who had survived the same dark forces he had fought. During a visit to Sinai he met Friedman. The two men took an immediate liking to each other and maintained contact in the ensuing years even though they had no direct business dealings. Friedman was convinced that Siemm was a friend of Israel who would be willing to help rescue the boats from Cherbourg.

The more Limon mulled it over, the more the Norwegian option looked reasonable. There seemed no other way of getting the boats out of France as long as Jerusalem refused to permit running off with them. Limon raised and then

dismissed the idea of the boats actually sailing to Oslo after being sold, in order to affirm the legality of the enterprise, and then quietly making their way to Israel over the course of time. If the boats arrived in Oslo harbor, even unarmed, their presence would inevitably raise questions. It would not take much scratching to expose their quasi-legal cover, and France would ask to have the boats impounded. Once the boats had legally departed from Cherbourg harbor, Limon believed, there would be no choice but to run for it. With the launching of the last boat just two months away, it was time to make his move.

Mordecai Friedman was in London on a business trip in October when the phone rang in his hotel room. It was Limon calling from Paris.

"I've got to meet with you, Motti," said Limon. "It's urgent."

"How urgent?"

"Immediately. I want to fly over on the next plane."

"I've got tickets for the theater tonight," said Friedman. "I can skip it or you can join me. I'll leave a ticket in your name at the box office if you like."

Limon agreed to the theater rendezvous. If he made his connections he might even get there before the show started. At the theater, Friedman eyed the cabs pulling up outside as curtain time approached, but when the last of the crowd started filing in he followed. A few moments after the curtain went up, a tall figure slid into the empty seat next to him and whispered "Shalom."

At intermission, the two men went into the lobby where the chain-smoking Limon gratefully lit a cigarette.

"What's up?" asked Friedman.

Limon casually glanced around through the cigarette smoke he exhaled. "I want you to contact your friend in Oslo tonight and arrange a meeting between him and us—if possible for tomorrow morning."

The two Israelis stayed on to see the rest of the show and then took a cab to Friedman's hotel where the oilman put a call through to Siemm's home.

"Martin, something important has come up," said the Israeli. "I can't talk to you about it on the phone but I'd like to see you as soon as possible; in fact, I'd like to fly to Oslo tomorrow morning. I have a friend who would be coming with me."

"If it's that important," replied Siemm, "I'll meet you partway. Let's meet in Copenhagen."

It was agreed to meet at Copenhagen Airport for lunch. Limon preferred not to drive to downtown Copenhagen because of the off chance that he and Siemm might be recognized by someone who could later recall their meeting.

Siemm was waiting for them in the arrivals hall when the Israelis got there, and he greeted his friend warmly. Friedman introduced Limon to the tall, distinguished-looking Norwegian. In the airport restaurant they sat at a corner table. As the Israelis began their presentation, it quickly became apparent to Siemm that they had not come to discuss a business deal.

The Israel Defense Force urgently needed the five boats arbitrarily embargoed by the French in Cherbourg, explained Limon. The nation depended on the navy to safeguard its lifeline in the event of war and the navy was depending on these vessels.

The French, said Limon, were eager to rid themselves of the problem. “If they get an offer from anyone, they’ll be happy to give us back our money.” What was needed was a fictitious purchaser. If Siemm would agree to undertake that role, the problem could be elegantly resolved, with harm to no one and with immeasurable benefit to Israel’s cause.

As for the cover story, Friedman told Siemm that if he was asked about why he had purchased the boats he could offer a reasonable explanation: “It’s true that these aren’t the kind of boats you would build to service oil rigs in the North Sea, but they have one advantage that any businessman in urgent need of service boats can recognize—they’re available.”

The Israelis were not offering any compensation to Siemm for his participation, and the danger to his most prized possession—his good name—was clear. But Friedman saw Siemm’s face brighten as he grasped the stakes involved and the ploy being spelled out. The Israeli oilman was certain that the proposal had sparked in Siemm recollections of his underground years, devising stratagems to outwit the enemy.

“I’m willing to help, but I can’t decide on this myself,” said Siemm. “I’ve got to consult with some others first. Give me forty-eight hours.” The three men took leave of one another and boarded the next planes for Oslo, Paris, and London.

Two days later, Siemm telephoned the Paris number Limon had given him and in innocuous phrases let the Israeli know that he was prepared to proceed.

Limon had not informed his superiors in the Defense Ministry of his Norwegian probe until he knew that he had Siemm’s cooperation. In a letter to the ministry sent October 30, he outlined his move. The preferable time for implementing the plan, he suggested, would be on Christmas Eve, when French alertness would be at its minimum.

The reply from the ministry was a total dampener: “We have weighed your suggestions and come to the conclusion that it is impossible at this time to consider them.”

Limon, however, had not waited. On November 3, a letter drafted by him had gone out over Siemm’s signature to Amiot, setting the game in motion. Upon receiving the ministry’s negative reply, Limon telephoned General (res.) Zvi Tsur, a former armedforces chief of staff serving now as special assistant to Defense Minister Dayan. Limon’s assistant, listening in on an extension, heard Tsur express fears of the political-diplomatic fallout from such an operation. “All right,” said Limon, “if you think we don’t have to do it, I won’t do it.” Putting the matter in those terms placed the responsibility on the other end of the line for rejecting what the men in the field thought the best solution. Tsur softened his position. “Okay, you can proceed with your planning. But, meanwhile, I’m not telling Golda.” Limon was confident that the authorities in Israel would realize soon enough that his proposal was the only feasible option.

Payment for the boats had been halted by the Israelis as a means of placing pressure through Amiot on the French government. Unlike the case of the fifty embargoed Mirages, which had been paid for by Israel before clampdown, only 30 percent of the cost of the embargoed boats had been advanced. The payment freeze made the embargo not just an Israeli problem and a matter of high politics but also a French problem of the nitty-gritty kind that politicians instinctively

understand—a matter of jobs and possible votes. A shutdown of Amiot's production line would throw hundreds out of work and have an impact on the rest of Cherbourg's economy as well. Cherbourg was a strongly Gaullist town and its mayor, Dr. Jacques Hebert, who also served as a deputy in the National Assembly, pressed vigorously in Paris for the embargo's end. Amiot, who had mortgaged much of his private holdings to obtain financing for continuation of the project, called on several ministers and even had ten minutes with de Gaulle himself. He argued that he was not building warships, only hulls. It was not right, he said, to impose an embargo on goods after a contract had been signed in good faith. His arguments, however, were to no avail.

It was necessary for Limon to confide his plan to Amiot since his cooperation was essential for the legalistic flanking action being plotted. It would be up to Amiot to see to it that the last boat was launched by mid-December so as to be ready for a Christmas sailing. The seventy-five-year-old industrialist responded enthusiastically to the plan. A tentative go-ahead had also come from Dayan, although a final decision would have to be made by Prime Minister Meir.

The letter Amiot received early in November over Siemm's signature bore the letterhead of the Starboat Oil and Shipping Company in Oslo. It expressed an interest in acquiring four to six fast boats for assistance in offshore oil exploration. The boats had to be capable of doing thirty-five knots and taking strong seas, have reliable diesel engines, be able to carry fifty workers and twenty tons of equipment. They were needed quickly, within no more than three months. Did the shipyard have any such vessels available? The return address was a post-office box number in Oslo. Starboat and Oslo were printed in large letters. In tiny letters there was also a Panamanian address. Starboat was in fact a Panamanian registered company, a status that could speedily be arranged by any Panamanian embassy. The only Norwegian connection was the post-office box and the man who had signed the letter, Ole Martin Siemm. The name Starboat was unknown in French shipping circles but Siemm's impressive biography was listed in business reference books.

Amiot promptly contacted General Louis Bonte, director of international affairs for the Ministerial Delegation for Armaments—in effect, the Defense Ministry's chief arms salesman. Bonte had been closely following the affair of the embargoed Israeli boats. Whatever its political wisdom, the embargo was clearly a nuisance for those charged with promoting the export of French armaments. The boats cluttering the quay in Cherbourg were an embarrassment in themselves—nothing could be done with them as long as Israel did not relinquish ownership—and were a poor advertisement for French reliability as a supplier. The offer reported by Amiot could neatly resolve the problem, if Israel could be persuaded to drop its claims to the boats and accept its money back. The Israelis had so far stubbornly refused to do so with regard to the fifty embargoed Mirages but the astute, Jesuit-educated Bonte, a former air force test pilot, thought it might be possible to persuade them to accept payment for the "vedettes", or patrol boats.

Meanwhile, Amiot wrote to Siemm that he had four boats that met Starboat's specifications and a fifth boat that would be launched shortly. The boats had been ordered, he wrote, by a foreign purchaser who was "having difficulty taking

delivery." The boats would answer Starboat's needs if the present owner could be persuaded to waive title.

Limon was prepared for Bonte's call when it came. The French official informed him that an offer had been received from a foreign firm for boats whose specifications appeared to match those of the boats being built in Cherbourg. The French authorities were willing to consider approval of the sale if Israel would waive its rights and accept a refund. Would it do so?

Limon did not pretend to be surprised by the offer. Monsieur Amiot, he said, had already spoken to him. "Personally, I'm opposed to it," said Limon. "These are our boats. We've paid for them and we need them." The decision, however, was not his, and he would pass the offer on to the Defense Ministry in Tel Aviv.

Limon had deftly inserted the sting. The French authorities were the ones pressing for the deal, rather than Israel. He decided to let that pressure build up. Several days after their initial conversation, an anxious Bonte called again. "Have you heard anything from Israel?"

"Not yet," said Limon. "I'll contact you as soon as I do."

Limon let several more days pass before calling Bonte. "They've acted against my advice and decided to let the boats go," he said. "They're just fed up with the whole business."

The Israeli approval came just in time for Bonte to add the boat sale as a supplement to the agenda of the November 18 meeting of the Interministerial Committee on Arms Exports. No arms sale could be consummated until the committee decided that it was in France's national interest. The detailed agenda for the November 18 meeting listed deals that France's thriving arms industry had struck around the world. At the bottom of the last page, the names of three countries were listed under the heading of "new business"—China, Finland, Norway. Unlike the case with the rest of the items on the agenda, no details were given of the proposed new business.

The meeting was chaired for the first time by General Bernard Cazelles, a genial artillery expert with a distinguished career who had been appointed by de Gaulle as secretary general at the Defense Ministry half a year before. The committee's frequent meetings were normally chaired by a junior official but twice a year the secretary general himself presided. At the request of a subordinate Cazelles agreed to take over the November 18 meeting.

When the final items were reached, Bonte's assistant outlined their nature with brevity, including helicopters being sold to Finland and vedettes to Norway. The absence of printed details and the sketchy oral presentation left some of the participants believing that the boats were destined for the Norwegian navy. There was no mention of the Starboat Company. Cazelles asked if Israel had agreed to the sale and Bonte replied affirmatively.

Would the contract include a non-reexportation clause forbidding the Norwegian purchaser from reselling the items to another country? asked Cazelles.

"That is generally the case with this kind of contract," replied Bonte. Following that brief exchange, the sale was unanimously approved. When Foreign Minister Maurice Schumann later read the report of his ministry's representative on the committee outlining the sale of the Cherbourg boats to Norway, he wrote on it: "This is an excellent transaction that should serve as a model. Bravo."

The deal was in fact too good to be true. As the paperwork began to percolate routinely through the bureaucracy, more and more officials directly involved began to sense that there was something not quite aboveboard going on. The Starboat Company was an unknown name but no one had bothered to check out the post-office box in Oslo. No one publicly questioned the logic of using high-powered warships to deliver lengths of pipe and cases of beer to oil rigs although the question was being asked unofficially. Some officials guessed and winked. Some turned an eye. All saw it as an elegant solution to an awkward problem. Some saw it as a way of getting at Defense Minister Michel Debre, a principal advocate of the embargo. According to one knowledgeable French source, some thirty middle-level officials were to become aware of the fictitious nature of the sale, and a secret meeting was even held on the matter within one of the ministries involved. Some ranking Israeli and French observers would find it difficult to believe that the entire French government had not been aware. No evidence of this has ever emerged, however, while existing evidence indicates the contrary.

Limon, for his part, was careful not to compromise any of his French contacts. All were acting in their country's interests as they saw them, or in their own bureaucratic interests, not as agents of Israel. The Israeli needed a keen understanding of the workings of the French bureaucracy not to overstep the line. Virtually every French official, from general to customs agent, protected his flanks by keeping a personal dossier containing copies of documents showing that he had acted by the book.

One key official was a Corsican named Jacques Marti who headed the customs division dealing with boat exports. When a lawyer for the Amiot firm came to him a few weeks after the interministerial committee's approval of the sale to request his signature on the customs clearance Marti carefully scrutinized the document. It listed the country of destination as Norway and the intended use of the boats as "servicing offshore oil installations." The Amiot lawyer tried to look blasé. Despite the committee's decision, Marti had the power to investigate if he suspected something amiss.

"Norway, eh?" said Marti. "These boats are headed for Israel, aren't they?"

The lawyer saw no point in trying to brazen it out. "Yes," he admitted.

"In that case," said Marti, lifting a pen, "I'll sign." He objected to the embargo, liked Israel, and felt that it should get the goods it had ordered and paid for.

Despite the benign conspiracy that had grown up around the boat "sale," the danger of discovery remained constant. If, by accident or intention, the fictitious nature of the deal were brought to the attention of non-conspirators in the police or any ministry, or if it would reach the press, the situation could explode instantly with extremely unpleasant consequences for all concerned.

As the preparations began to mount around him, Captain Moshe Tabak in Cherbourg saw little hope of the complicated operation coming off. It needed only a slip of the tongue or the curiosity of some government clerk to stop it in its tracks. "We're doing great work, Esther," he said to his wife one evening, referring to the two years of effort invested in the last five boats, "but I'm afraid it's all going to be for nothing."

Captain Amnon Tadmor, master of a small freighter belonging to Israel's national shipping company, Zim, had just left Marseilles for Israel when a message arrived from his home office in Haifa—"Appointed command LEA." The LEA was a freighter slightly larger than the one he was on. Tadmor was puzzled at the unexpected transfer. On tying up his ship in Ashdod port he found the LEA moored alongside. As soon as he boarded he understood that something unusual was afoot. Fuel lines led to five pumps freshly installed on the aft deck. This would allow simultaneous fueling of five boats. Merchant vessels were not fueled at sea so a naval operation of some sort was indicated. Tadmor himself had served in the navy for fifteen years and had experience at fueling at sea which he presumed was why he had been selected for his new command.

"They're waiting for you at navy headquarters," the outgoing captain of the Lea told him.

First there was a brief change-of-command ceremony to be performed. Tadmor inspected the ship, checked its papers, counted the money in the safe, received reports on water and fuel supplies, lingered in the galley to get a good look at the cook, and met with all section heads. These chores done, he drove north to Haifa.

The room at navy headquarters was crowded with a score of Zim officials and naval officers. Commander Ezra Karshinksy—known to all as Karish, "Shark" in Hebrew—came forward to greet him. The captain of the first Saar to be launched in Cherbourg and commander of the first Saar squadron, Karish had been assigned the task of organizing the logistics of the Cherbourg escape from the Haifa end. After informing Tadmor of the operation, he explained that the fleeing boats would be refueled twice along the way from mother ships. The LEA would be the first, taking up position on the Atlantic side of the Strait of Gibraltar. A second ship would be positioned in the Mediterranean. Tadmor was not told which ship or what position and did not ask. The LEA's additional fuel supply would be carried in its ballast tanks. These tanks normally carry seawater to provide the ship with stability and there is no way to discharge their contents except underwater. However, Zim's workshops had altered the ballast tanks' structure so that they could serve as a fuel reservoir that could be pumped out from the deck.

During the next few days, the LEA practiced new fueling techniques at sea with some of the missile boats from Karish's squadron. Sailing along like a mother hen, she dropped her floating fuel lines into the water to be hauled in by the men in the naval vessels. The lines were heavy and it was exhausting work. Tadmor discovered that there was a serious communication problem between his crew and the navy crews. Although all his men were Israeli, the common language for commands and nautical terms in the merchant navy, which often carried foreign crewmen, was English. The sailors aboard the navy vessel did not understand much of what was being shouted at them from the deck of the mother ship. The training program was extended informally to include Hebrew-English nautical equivalents.

The second fueling ship was the car ferry DAN, which normally plied between Haifa and Europe with tourists. It had been laid up between seasons in Haifa. Large fuel tanks requisitioned from an oil company were installed in the parking area below decks and a crew was formed from reservists mobilized for the mission and regular navy personnel. Chosen as captain was Yosef Dror, a former

submarine commander who had been living in his kibbutz since retirement from the navy. At his briefing by Karish, Dror was told that he would be taking up position in the central Mediterranean.

A cover story had to be created for the refueling exercises. The sailors were bound to be curious and, left to their own devices, they might even begin guessing in the right direction. The explanation offered proved satisfactory—the refueling technique was being developed, the sailors were told, in case the Saars had to be dispatched from Haifa in the future on long-range missions.

The breakout operation would require the dispatch of eighty crewmen to Cherbourg to reinforce the forty already in place. The Saars in Haifa were stripped of their best men over the protests of the boat commanders. The young crewmen, most of whom had never been abroad, were photographed for passports and told to stand by. Bachelor officers were preferred over family men, because of the possibility that some mishap might mean internment in French jails.

The freebooting operation Limon had been running out of his hip pocket on the Continent had begun to take on the structured, all-options-covered dimensions of a military operation. Navy headquarters had even given it a name—Operation Noah. All these preparations were being made with the understanding that the operation might never be carried off since the government had not yet given its approval. Formal approval would in fact never come. The first message Limon received in writing to indicate—indirectly—that the political authorities were in any way party to the escapade was a coded telegram from the Defense Ministry on December 15 asking about the flags the boat would fly and other politically sensitive points. But he did not have in hand any document stating clearly that he was acting on behalf of the government. This was not, he knew, an oversight. If anything went awry, it would be his head that would roll.

The escape of the boats had in fact not been brought up for discussion by the Cabinet or the General Staff. But in a meeting with Defense Minister Dayan and Chief of Staff Haim Bar-Lev two weeks before Christmas, Mrs. Meir finally gave her permission to proceed. A detailed operational order was issued by navy headquarters on December 14, covering logistics, setting departure dates for the fueling ships, and citing radio frequencies to be used by the naval and merchant ships involved. It also established security procedures in accordance with the operation's top-secret classification, including cover stories for the crews flying to France and the documentation they would carry. The order named Hadar Kimche as commander of the operation.

Despite all the preparations, however, the success of the operation depended on events in Paris and Cherbourg beyond Israel's control.

Chapter 9

Hocus-Pocus.

As the countdown quickened, Moshe Tabak was keeping a close watch on the heavens. The sun and moon would be in their monthly alignment on

December 16, which meant a tide three feet higher than usual. It was only when the sea was at this height that the shipyard could launch its boats. If the date was missed, it would be another month before Number Twelve could be floated. Tabak had been pressing the shipyard to launch by the 16th but as the date approached the foremen insisted that they needed another few days to work out problems with one of the engines. It was only Amiot's personal intervention that got the boat launched on time. The final touches were put on the engine after the boat was in the water, a procedure that struck the yard workers as lunatic. With the memory still fresh of his voyage a year before in untested Number Seven, Tabak pushed Number Twelve through stiff paces and discovered a crack in one of the fuel tanks, which was quickly repaired.

In the four and a half years since the Israeli naval mission had been established in Cherbourg, there had been no mention in the press of its existence. The two local newspapers had honored Amiot's request not to publish anything about the boats or the embargo and the French government had never made public mention of the subject. Local reporters attended the launchings of each vedette and talked at the receptions with the Israeli naval personnel but wrote nothing. Outside of Cherbourg, the French public—indeed, the Israeli public—was ignorant of their existence. The secrecy would be undone one week before the planned breakout by a British reporter.

French Defense Minister Debre had arrived in Cherbourg December 12 with a large entourage to participate in the launching of France's second nuclear submarine, the Terrible. Following a press conference in the naval arsenal, Mayor Hebert took advantage of the minister's presence to repeat his objection to the embargo of the Israeli boats and to point out the danger of a Palestinian raid on their anchorage. Was there any solution in the offing? he asked. To the surprise of local reporters who had lingered to hear the conversation, Debre replied that there was, one that would be satisfactory to all parties. He was referring to the Starboat sale but did not elaborate.

The veteran British correspondent Anthony Mann of the Daily Telegraph did not attend the submarine launching but he telephoned afterward to a stringer in Cherbourg—a local newsman working as a part-time correspondent for out-of-town newspapers. In passing, the stringer mentioned the colony of Israelis living in Cherbourg, a reference apparently inspired by the Debre-Hebert exchange. Mann perked up at the mention of Israelis and asked what they were doing in Cherbourg. To his astonishment he learned that they had been there for years to oversee construction of a series of gunboats and that these boats had been embargoed by de Gaulle. The apparently secret Israeli presence was intriguing, and so was the embargo, but the story still lacked the timely peg that would make it news.

This came a few days later when Mann's Cherbourg stringer called to inform him of the launching of the last Israeli boat. Mann's story appeared in the Telegraph the next day, headlined "France Holds On to Gunboats for Israel." Although buried on page 17, it was enough to cause despair among the Israelis involved in the affair. The story even reported that "it is understood that some Israeli naval personnel will return home on Christmas Day." The statement was innocent enough. The stringer had heard that some of the Israeli families in town

had declined invitations to holiday parties because they would be returning to Israel. There was a periodic turnover of Israeli personnel in Cherbourg and Mann was not hinting at any imminent breakout of the embargoed boats. Nevertheless, his report stunned Limon and his colleagues. They feared that the article would focus so much attention on them that the entire operation would have to be aborted. But the follow-up did not come—not in the French press or anywhere else. The Mann article had in fact not been the first public mention of the boats. Two weeks before, an annual publication put out by the French navy, Combat Fleets, had reported that five high-speed, missile-firing Israeli patrol boats were under arms embargo in France. That article did not mention Cherbourg or the presence of Israeli crew. Although it was summed up in a brief wire-service dispatch it received scant notice.

Meanwhile, preparations for the breakout continued. It was not a simple matter to undertake in secrecy a quasi-military operation when the boats were in plain view in the center of a busy civilian port, with ferryboats docking alongside and apartments overlooking the quay. The boats would have to leave fully loaded with fuel for the first stage of their journey, but filling their tanks with fifty tons of oil would make the vessel sink perceptibly in the water. This could alert the French to the possibility that the Israelis were planning to embark on a long voyage. The solution arrived at was to take the boats out every day for "testing" and idle beyond the horizon for several hours. Upon returning they would take on the amount of fuel that would normally have been expended in high-speed runs. The boats thus sank lower in the water each day, but at an imperceptible rate.

An unexpected problem manifested itself one morning early in December when a gendarme presented himself on the quay and asked to speak to the officer in charge. Residents of the nearby apartment buildings, he said, were complaining that they had been disturbed the previous night by the sound of engines. The Israeli officer explained that a generator had been started up to provide heating for crewmen aboard. The gendarme accepted the explanation, which happened to be true, but the incident troubled the Israelis. If a single generator had caused a stir, what would happen on Christmas Eve when each of the five boats ignited four powerful engines? Would this not waken the neighborhood and lead to immediate calls to the police and the French naval authorities? The Israelis decided on a Pavlovian approach. Generators were started up each of the nights that followed, first one, then two, then more. They were positioned with their exhausts facing the town. For the first few days the police came to pass on complaints but then they stopped coming. Either the neighbors had learned to live with the noise or the police had learned to live with the complaints. As one of the gendarmes said, "As long as the windows are closed in winter it can't be too bad."

Parallel to the field preparations, the cover operation was weaving its complex cloak of legal obfuscation. At the request of the French authorities, Limon sent a letter to Amiot on December 8 formally waiving Israel's claims to the boats. Siemm came to Paris to sign an agreement with Amiot whereby Starboat would refund the money to Israel directly rather than pay Amiot and have the latter return the money to Israel. This would spare Amiot the threat of subsequent prosecution for illegally transferring money abroad if the fictitious nature of the deal were uncovered and an angry government was looking for revenge. Siemm sent Amiot a

letter on December 17 asking him to inquire of the Israelis if they would be willing to have their crews sail the five boats to their first destination, since there was little time to train Norwegian crews in the operation of the high-powered craft. This letter—which, like all the others, was drafted by Limon himself—provided an explanation, if one was demanded, of why Israeli crews were still aboard the boats after the transfer of ownership. The formal sale did not take place until December 22, with the participation of Siemm, Amiot, and Limon. Two contracts were signed in Amiot's office in Paris—one formally canceling the original contract by which Israel had purchased the boats and another by which Starboat purchased them from Amiot at the same price.

The coup came the next day, when the parties met again to put their signatures to a series of secret documents that undid everything they had signed the day before. This time Siemm signed a contract with his old friend Mordecai Friedman as head of the Netivai Neft oil-exploration company, in which Starboat agreed to lease to Netivai Neft five boats that would assist in the search for oil in Israel's offshore waters. The lease was for three years, with an option to renew for three years. Somewhere in the fine print was a sentence giving Netivai Neft the option to purchase the above-mentioned boats within three months of delivery. In other words, the boats whose sale to Israel had been banned by the French government and whose sale to Norway had been approved were now being leased by the Norwegian purchaser to an Israeli company that would shortly have the right to purchase them outright. Unlike the contracts signed the day before, this agreement would of course not be shown to the French government—not unless the boats' arrival in the eastern Mediterranean became an issue requiring legal explanation.

Limon signed a letter to Siemm nullifying the contract of December 22 in which Siemm had undertaken to pay Israel for the boats. "We disengage you," said the letter, "from all contractual responsibility." Amiot and Limon jointly signed a document stating that the contract nullification signed by Limon on behalf of the Israel Defense Ministry's purchasing mission on December 22, wherein Israel waived its rights to the boats, was itself nullified and that the original contract for the boats signed by Limon and Amiot in 1965 was still in effect. Siemm signed a letter to Netivai Neft notifying it that the leasing deal was nullified because the boats were the property of the Israeli government. These internal documents were designed as reassurances among the parties that none would ever attempt to make claims against the others on the basis of the fictitious dealings.

Thus, in a dazzling display of legal hocus-pocus, Limon had effectively brought the boats through the French embargo; on paper at least he had done it "not illegally."

The boats now had to be gotten away before the French started reading between the lines.

Chapter 10

Countdown.

The LEA had weighed anchor December 15 with a cargo of phosphates for European destinations and eight navy men jammed into the crew's quarters along with the regular crew. The newcomers included radiomen, a diver, and mechanics who would join the Saars at the rendezvous point. The ship's radio was normally manned for only one watch, but the additional radiomen permitted round-the-clock monitoring. Five days later, the Dan sailed from Haifa harbor.

The first of the new crew members detailed to Cherbourg would not leave Israel until a few days before the boats' scheduled departure in order to reduce the risk that the tripled Israeli presence would be felt in the town. The men were to travel in small groups, with orders to draw no attention to themselves and to sit apart on the plane.

To prevent their inadvertently leaking the escape plan, the sailors had been told that an agreement for release of the boats was imminent. It was, they were warned, a delicate matter that could be wrecked by publicity. They were thus made aware that discretion was required without being told the true nature of the operation.

Lieutenant Haim Geva, assigned as navigation officer on the command boat, was told that he would lead the first contingent of eight crewmen to Cherbourg. His group was to fly to Germany and rent a minibus. Other groups would fly to other European countries and do likewise. A few hours before the boats' departure time, according to the plan, their vehicles would converge on Cherbourg.

A week before Christmas, Geva was summoned by Karish.

"Listen, Haim, there's a change in plans. You and your group are leaving tomorrow and you're flying straight to Paris. From there you'll take the overnight train to Cherbourg. I'll be going with you."

That night Geva and his men, all supplied with passport photos, were driven to the Interior Ministry office in Haifa which had been opened especially to issue them passports. Early the next morning, they boarded a scheduled El Al flight to Paris. They were dressed in civilian clothing topped by heavy blue windbreakers purchased for them in a downtown Haifa store against the cold of Europe. Each sailor carried a uniform in his luggage in the event that circumstances dictated assuming a naval identity. Also in their luggage were batteries, walkie-talkies, and spare parts needed by the boats in Cherbourg.

Lieutenant Commander Gadi Ben-Zeev, who was to command one of the boats, was aboard the same flight. At Orly Airport in Paris, the French-speaking officer led the group to the passport-control line. The French immigration official studied Ben-Zeev's Israeli passport and glanced past him at the young men in blue windbreakers lined up behind him. "What kind of group are you?" he asked.

"Students," said Ben-Zeev.

"Come off it," said the passport officer, who knew that the bronzed and purposeful faces before him were not for cloistered studies destined.

When Geva presented his passport, the passport officer addressed him in a language that was as startling as the question. "Are you military?" he asked in Hebrew.

"No, why do you ask that?"

“Because the passports are all numbered consecutively, you’ve all got fresh haircuts, and you’re all wearing the same kind of jackets.”

Geva called out to the sailors who had passed through and were waiting for him beyond the control officer, “Everyone who’s finished, leave the airport.” There was a chance, he felt, that some might get away before the gendarmes closed in.

“Take it easy,” said the passport officer. He identified himself as a Moroccan Jew who had lived for some time in Israel. “You’ve done nothing illegal. But you ought to tell your superiors about this.”

If the operation had been mounted by the Mossad such mistakes would doubtless have been avoided but the navy was unschooled in clandestine techniques, particularly at border-crossing points far from the sea.

Karish, who was aboard the same flight, came through the arrivals gate lugging a suitcase heavy with radar parts. He saw Kimche waiting in the crowd and started towards him but the flotilla commander deliberately walked past without offering any sign of recognition.

In Paris, the men made their way to the offices of the purchasing mission at 120 Boulevard Malesherbes. There they were given train tickets to Cherbourg and told to sit in twos or threes in the front or rear cars and speak no Hebrew.

When the train arrived in Cherbourg, the men were met by members of the Israeli naval mission and taken directly to the port. Most were lodged aboard the boats; some were put up with Israeli families. To keep their presence from being noticed, they were ordered not to leave the vessels and to minimize their presence topside. It was imperative that the local population not become aware of the sudden tripling of the Israeli contingent.

Supply Officer Shachak, avoiding the ship’s chandlers who normally provisioned the boats, visited groceries and butcher shops all around town to purchase supplies in small quantities. When placing orders, he used his original name, Steinmetz, so as to obscure his Israeli connection.

Kimche, who had returned to Cherbourg a few weeks earlier, had chosen Boat Number Eight, the Soufa, as his flagship. Navigation Officer Geva, as soon as he settled in, began compiling a weather map of the Channel and the Bay of Biscay by recording meteorological reports on French radio and the BBC. This time there would be no peeking at the French navy’s weather maps. A powerful storm was moving in toward Europe from the central Atlantic. If it turned northeast over England, the boats would be able to sail with the wind behind them. If it continued west to strike southern France, a barometric trough would be cutting across the planned escape route and create headwinds impossible for the small vessels to sail into. If that happened, departure would have to be postponed to the next night or, more likely, to New Year’s Eve.

It was impossible to conceal for long the presence of eighty additional men in a small town, or to camouflage the preparations being made. Every day’s delay increased the risk of discovery. The danger was strongest at the shipyard, whose workers were in a position to note the odd goings-on. Most were friendly but a few had displayed anti-Semitic tendencies in the past. A giveaway could come from a chance remark to the corner grocer by one of the Israeli wives or from activities spotted by neighbors. Members of the permanent mission were told not to sell cars or make any other visible preparations for departure. The crew members had not

been told of the planned departure date, but its imminence was plain. Those sailors still permitted to go to town were warned not to drop any hint of departure to girlfriends or others.

The head of the police Renseignements Generaux (RG) in Cherbourg, J. P. Havard, had learned in mid-December of the boats' planned departure from his counterpart in the naval arsenal, the commander of naval security. The departure alluded to was apparently the Norwegian solution hinted at by Defense Minister Debre during his visit to the arsenal on December 14.

The RG is the intelligence arm of the police, dealing not with criminal matters but the broad scope of human affairs that might be termed political, including student unrest and labor problems. The Israeli boats had become a political matter. The commander of naval security told Havard that the boats would sail sometime after January 1, because the last boat had been launched December 16 and at least fifteen days were needed for testing. However, Havard had been informed of unusual activity on the boats and began making discreet inquiries. On the night of December 19 he learned from one of his sources that something unusual was indeed brewing, and not merely the sale alluded to by Debre. In a confidential memo sent the next day to his superiors under the title "Military Material Destined for Israel," he reported that "According to information we have received, the vedettes will shortly be leaving Cherbourg in a *legal fashion*. They will be the object of a fictitious sale to a Northern European country and subsequently reach Israel."

It was on a Friday that the memo was drafted and dispatched. The fate of the boats could depend on how far upward in the bureaucracy that memo wended in the three working days left before Christmas. During this period, many key officials would be slipping away early for an extended holiday period.

Gadi Ben-Zeev had been asked by Limon to stay on in Paris to receive the reinforcements arriving from Israel and guide them on their way. The last group arrived on December 22. It was led by the flotilla's medical officer, Dr. Dory Horer. There were several hours to kill before the next Cherbourg train at 4:00 p.m. and Ben-Zeev acceded to Horer's request for his group to make a shopping expedition to the Galeries Lafayette. Ben-Zeev himself boarded the 4:00 p.m. train, but when he descended in Cherbourg he saw none of the other Israelis getting off, fore or aft. With departure due in two days, his report on the missing men caused deep concern at Kimche's headquarters. Every crewman was needed on the shorthanded boats and it would be dangerous to undertake the long, arduous voyage without a doctor.

Horer was oblivious to the urgency of the situation. He knew they would be taking the boats from Cherbourg, but he believed it was a legal operation. The clandestine measures urged upon them seemed to Horer exaggerated. Ascertaining that there was another train at midnight he decided that he and his group would spend a few extra hours in Paris. It was not every day one had such an opportunity and the urbane, Rumanian-born doctor was determined to make the most of it. Checking their bags at the train station, he led his merry troupe toward the Champs-Elysees.

On the midnight train to Cherbourg, Horer did not bother splitting the men into different compartments. They sat together and chatted openly in Hebrew. A tight-

lipped reception committee awaited them when they alighted. The men were hustled aboard the boats and Horer taken to the mission's headquarters. A furious Karish confronted him. Kimche was there, too, but he left the dressing-down to his deputy. "If it were any other officer," shouted Karish, "I would jail him." The doctor was ordered aboard his assigned boat and told to stay there.

Ben-Zeev, meanwhile, was working round the clock to prepare Boat Number Eleven for sailing. Launched two months before, it was permeated with the smell of fresh paint and was far from ready. The aperture into which the deck gun would fit was still not watertight; the vessel lacked water, maps, and other essentials; and, except for his chief machinist, the officers and crew had no missile boat experience and had to be intensively drilled.

Fueling of the vessels was nearing completion. The driver of the fuel truck, who brought a supply every other day, asked Supply Officer Shachak if he could absent himself for several days following Christmas and make up for it by bringing extra supplies in the two days before Christmas. Shachak was pleased to oblige.

On December 21, Kimche left the Cherbourg operation in the trustworthy hands of Karish and Tabak and caught the last flight out of Paris for London. He met that night with the Israeli naval attache in a rendezvous kept secret even from the Israeli ambassador. Kimche informed the attache of the pending escape and told him that he must inform no one, including the ambassador. On Christmas Eve, the attache would remain on standby at his home. If the boats encountered difficulties after leaving Cherbourg, they might attempt to take shelter in British waters, probably in the lee of the Isle of Wight. If that happened, the attache would be notified. He would then waken the ambassador and explain the situation to him so that he could intervene if necessary with the British authorities. Until then the ambassador, like Ambassador Eytan in Paris, had best be kept uninformed so as not to compromise their diplomatic integrity. Kimche caught the first plane back to Paris in the morning and returned by train to Cherbourg.

Micha Zand, a burly naval reservist, flew into Antwerp from Israel at the beginning of Christmas week and made his way directly to the Zim offices downtown, which served as the shipping agency's headquarters for Northern Europe. The manager had been informed of his coming and instructed by the home office in Haifa to comply with any request Zand would make.

"I want a list of all the ships you have in European ports at the moment," said Zand.

There were four ships—in England, Germany, Holland, and Antwerp itself. The last was the NETANYA, a five-thousand-ton freighter that Zand knew to be a stable ship and capable of speed.

"I'm going to be taking the NETANYA to sea today," he told the astonished manager. "I can't tell you why. It'll be back in a few days." He then asked the manager to step out of his own office so that Zand could talk privately with Haifa on the phone.

A former naval officer and former Zim captain, Zand was now a shipping agent in Ashdod. He had been summoned to naval headquarters earlier in the month in his capacity as a reserve officer and briefed about the Cherbourg operation. Headquarters had decided to post a ship at the northern end of the Bay of Biscay to take in tow any Saars that might break down. This would reduce the risks

during the critical first stage of the breakout when the boats would be farthest from home. There was no naval ship capable of such a mission but a suitable merchant vessel would be mobilized for the occasion. In addition, all Zim vessels sailing between Israel and Europe close to Christmas were ordered to alter course as needed in order to provide a chain of potential mother ships for any of the small boats in trouble.

Stevedores were loading cargo into the NETANYA when Zand arrived on the docks. He boarded the ship and knocked on the door of the captain's cabin. It was a former naval colleague who opened it.

"What are you doing here?" asked the captain.

"We're going to sea," said Zand. "Get your ship ready."

Zand explained that it was a security matter but did not go beyond that. The captain did not ask for written authorization. He contacted the harbor authorities to request a pilot and told the stevedore-crew chief that no more cargo would be loaded after the present shift ended. Zand checked on the towing cables and found them intact. Shortly after noon, the NETANYA cast off and put out to sea.

In Cherbourg, the Saar captains gathered in Moshe Tabak's apartment the night of December 23 for a final rundown. Kimche and Karish were there, too. Esther provided coffee and cake and discreetly withdrew.

The softspoken Kimche inspired total confidence among his officers. He projected thoughtfulness and self-assurance and his every word carried weight. To his superiors, his restraint and lack of visible emotion could sometimes be unnerving. Karish was a flamboyant, hard-drinking seaman respected by his colleagues as a superlative sailor. During his initial stay in Cherbourg he had frequently played bridge with the French admiral commanding the arsenal and adapted with gusto to the French lifestyle. When Boat Number One was undergoing its tests, Karish had personally tested the galley by preparing a gourmet lunch for shipyard executives in the CIC. Tabak was the steady force who had been holding things together at Cherbourg in Kimche's absence for most of the past year. He had been responsible for the testing and acceptance of the Saars for the past two years. His warm home was an anchor for the young officers of the naval mission who would generally join the Tabaks for Sabbath dinner. They felt so at home that they would sometimes invite foreign seamen and inform Esther on Friday that there would be extra guests for dinner that night.

Kimche told the captains that departure would be at 8:00 p.m. the next night. Inquiry into the town's Christmas Eve routine had shown that Cherbourg's citizens would be sitting down to their holiday dinner at that hour. Food supplies and spare parts would be brought aboard the boats after dark. Kimche would sail aboard Number Eight, Karish aboard Number Nine, and Tabak aboard Number Twelve. They would provide experienced backup for the young captains during what promised to be a stormy passage. Kimche was especially worried about Number Twelve which had endured only a few hours of sea tests. If worst came to worst, it might be necessary to put into port along the way, even at the risk of being impounded. If challenged, any boat forced into port would attempt to brazen it out by claiming to be one of the first five Cherbourg boats, which had departed legally more than a year before. Each of the captains had been provided with papers providing such an alternate identity. If they adopted this guise, they would

claim to be on a westward journey from Haifa. Tabak had seen to it that the boats bore wooden name plates identifying them as Starboat One to Starboat Five. These had been fitted over the plaques bearing their respective Hebrew names—*Soufa, Gaash, Herev, Hanit,* and *Hetz*.

The boats carried no weapons but they would bluff their way home if they had to. In addition to the false name plates, the ship's lockers contained Panamanian and Norwegian flags to be used as circumstance dictated. The boats would take to sea flying no flags at all and with luck would have to fly none till they reached Haifa.

The fueling arrangements were the captains' main concern. Not yet drilled in fueling at sea, they listened intently as Karish spelled out the system that had been developed during the trials in the previous weeks with the LEA and the DAN.

Since only two of the vessels were equipped with radios, communication between the boats would be with the hand-held radios brought from Israel. Their range of a few miles should be sufficient. In order to preserve their batteries, they would be activated only after the boat wishing to communicate flashed its signal light.

Tabak asked the officers whether anything more was needed. Karish and one of the captains asked if the galleys would be stocked with meat or just canned goods.

"Really, fellows," said Tabak, "is that what's worrying you now?"

A more practical question was how to execute their very last act in Cherbourg—starting engines. Each boat had four engines, with a total of fourteen thousand horsepower. Starting up even one boat in the quiet of the night would make a holy racket. Igniting seventy thousand horsepower all at once would sound like the End of Days. The officers decided that it was better to start the engines simultaneously than to have a series of eruptions. They would hope that the good burghers of Cherbourg would be too filled with holiday spirit and wine to take notice.

There was some speculation about whether the French Mediterranean fleet based in Toulon would attempt to intercept them after they had passed Gibraltar. Kimche did not think so. Civilized countries did not attack boats of other countries—particularly in international waters—because of debatable legal technicalities. Kimche did not take into consideration that civilized countries can act like furious schoolboys when their noses are tweaked, especially by much smaller countries.

A nation with half the population of New York City had staked out a thirty-two-hundred-mile escape route from the Atlantic to the eastern Mediterranean with a marshaling of resources and an organizational proficiency that major powers could envy. It had done it with a piratical flair that only a small country with a powerful will and a small margin for failure could muster. Contrary to virtually all subsequent accounts, Israel's secret service, the Mossad, was not involved in the operation. It was Limon who conceived it and the navy that organized it. It had been a sophisticated effort involving imaginative planning, tight security, and superb staff work. All that remained now was its execution.

Chapter 11

Breakout.

The sky was heavy when Hadar Kimche looked out his window in the morning and the wind was whistling in thinly from the west like an insolent messenger. The storm that had been moving in from the Atlantic was almost upon them. Townspeople were hurrying to make their final arrangements for the evening's Christmas celebrations before the storm hit. Kimche drove down to the port to prepare as well.

There was nothing in the appearance of the five vessels lashed to the dock in two rows to indicate anything unusual: few sailors were in sight and no activity was visible. Kimche boarded the boats for a final inspection. The fuel tanks were brimming, communication equipment and lighting systems checked out, and first-aid equipment was in place. Three hundred batteries had been brought by the arrivals from Israel to power the hand-held radios that would serve for inter-boat communication. The boats had not yet received their sophisticated navigation equipment but they would make do with gyros and sextants. Kimche found the men in buoyant spirits. They sensed that departure was imminent but some of the young officers had nevertheless ordered tickets for the New Year's Eve party in the Cafe de Paris on the off chance that they would still be around in a week.

Limon arrived from Paris before noon in a car driven by one of his aides. He checked into the Hotel Sofitel overlooking the harbor, the one modern hotel in town, and drove to the Cafe de Paris, his favorite Cherbourg restaurant, overlooking the fishing-boat anchorage. He was joined there for a seafood lunch by Kimche, Tabak, and Karish, all them in civilian clothes. The four men drank a toast to the success of the operation. Limon extracted a check from a billfold in his inside jacket pocket and held it up for viewing. "Has any of you ever seen this much money?" he asked, handing it around. Drawn on a Swiss bank, it was to be given to Amiot as final payment that night after the boats had departed. Amiot himself entered the restaurant shortly afterwards and joined the Israelis.

The elderly industrialist was also making preparations. He telephoned after lunch to his manager for the Saar project, Andre Corbinais, one of the two shipyard executives he had informed about the escape, and told him that he would be leaving town the next day and would be inaccessible. Corbinais presumed that Amiot would be weathering the impending storm at his retreat on the Riviera. Amiot's apartment in Cherbourg was in the former Hotel Atlantique overlooking the harbor. The hotel had thrived during the days of the great ocean liners. Now part of Amiot's shipyard, the building served mainly as a mechanical workshop. His apartment on the top floor had a floor-to ceiling window overlooking the port. It was to this apartment that Amiot invited Marc Justiniani, editor of *La Presse de la Manche*, on this last day before Christmas.

Justiniani's paper was the larger of the two local dailies. He had never been an intimate of Amiot but the local magnate had been a schoolmate of his father-in-law, which lent something of a school-tie ambience to their relations. Amiot expressed his appreciation of the fact that the local press had avoided mention of the Israeli vedettes to date. Construction of the boats was now completed. However, the shipyard would receive final payment only after they had been

delivered to their purchaser. This, Amiot indicated, was imminent. Would Justiniani see to it that nothing of the transaction appeared in the press? The publicity could be damaging to the shipyard and therefore the town.

Justiniani felt extremely uncomfortable. He well understood the importance of Amiot's shipyard to the town's economy. But he did not control the press, he explained to Amiot—he could not dictate either to the opposition paper, Oest-France, or to the reporters on both papers who served as part-time correspondents for major newspapers and radio stations in Paris and elsewhere. Amiot asked him to do what he could. Before Justiniani printed anything, said Amiot, would he please call him or Monsieur Corbinais?

In the late afternoon, the local customs officer boarded the Israeli boats to make the final on-site check, in accordance with the clearance papers issued by the customs authorities in Paris. He joined his Israeli hosts in a holiday toast. As he walked through the boats, the customs official noted that there were no markings in Hebrew and that the only identification was the wooden Starboat name plates on both sides of each bridge—this in conformity with the papers he had in hand showing the boat's sale to the Oslo firm.

Karish had been living in Tabak's apartment and staying out of sight since his arrival earlier in the week because he was a familiar face to many of the locals from his long stay in 1967. On this last day he permitted himself to venture out to see the town again and do some shopping.

He was recognized in the first shop he entered. "Have you come for the holiday, Commandant?" asked the proprietor.

In a candy shop, he asked for a large quantity of chocolates in small bags. "Holiday gifts for orphans," he explained.

It was important for the men to have food in their stomachs to keep from being sick when they hit the open sea and the young sailors liked chocolate. Karish carried a transistor radio to hear the weather reports, but the rain that had begun to lash the town boded ill. The gaily decorated streets were filled with people carrying shopping bags and gift-wrapped packages, hurrying head-down against the wind-driven rain.

With the departure of the shipyard workers for the day and the early onset of darkness, sailors swarmed up from below decks to stow provisions brought down to the pier by the supply officer and his assistants, to tighten lines, lash down barrels, and complete final preparations for sailing. A few of the junior officers who had been stationed in Cherbourg for some time obtained permission to take some of their recently arrived colleagues to an early dinner at a seafood restaurant. Their intention was to demonstrate their newly acquired savoir-faire and introduce the newcomers to crusty, crawly things that usually appall Israelis brought up on kosher food. Some of the newcomers gamely picked at mixed seafood platters under the raucous prodding of the Cherbourg veterans, while others stuck to bread. The newcomers got theirs back when the proprietor emerged from the kitchen to indicate gently to the "veteran" who had ordered the wine that he had chosen the wrong kind.

On their way back to the port, some of the officers piled into the salvaged wreck owned by Chief Engineer Avraham Nave. They had to push it first to get it started. The car was well known in town because of its muffler roar and its black door,

which fitted oddly into an otherwise gray car. The car had no first gear or reverse and, as Nave discovered when he neared the quay, no gas either. With departure from Cherbourg close, he had not filled the tank. The car stalled on a railroad track a few hundred yards from the dock, and they had to push it. Senior officers were impatiently waiting for them when they sprinted to the boats through the gusts lashing the waterfront. “Where have you been?” snapped Karish. “We’re sailing at eight.”

For Cherbourg residents the rain rattling their windows made home seem even snugger. Whatever wanderings of the heart Frenchmen may indulge during the year give way Christmas Eve to the embrace of the family. Dinner tables are graced with turkeys, and trimmed Christmas trees transform living rooms. Most families have their main meal before going to church, but some make do with a light meal until after returning from church when they sit down to oysters, foie gras, and similar delicacies. The loneliest man in Cherbourg on Christmas Eve is the naval lookout manning the observation post on the breakwater at the main entrance to the harbor.

Kimche’s plan to make his getaway when the townspeople would be gathered around dinner tables deep in the bosoms of their families had been dashed by the early evening weather forecast. The storm had become a Force Nine gale, in which even the captains of ten-thousand-ton freighters—forty times larger than the Saars—would be reluctant to put to sea. The barometric low was still heading west across their intended path. The next forecast, at 10:00 p.m., was just as discouraging. Unless the low turned north toward Scotland, there could be little hope of departure this night. The five captains had joined Kimche for the weather report; he told them to return for the midnight forecast.

Kimche still hoped the three-day-old storm might veer in the next few hours. Limon had joined him in the captain’s cabin. Periodically radiomen entered with transcriptions of weather reports from a variety of sources. Radiomen and equipment had been brought over from other boats to reinforce the Soufa’s radioman. They used an international handbook giving times and wavelengths of weather reports around the world. French radio and the British navy’s weather service were monitored, but the main source was the BBC. Even the Cherbourg fishing fleet relied on the BBC because the British tracking stations were farther west.

Late in the evening, Corbinais came down to the quay to see the boats off. The shipyard guard posted at the head of the pier flagged the executive down.

“I don’t know what’s happening,” said the guard, “but there seems to be lots of activity on the boats.”

Corbinais assured him that everything was in order. For Corbinais, a former French naval engineer, the Saar project had been an exceptional professional and personal experience and this night of parting was laden with emotion. He admired the Israeli naval personnel and had learned much from them, particularly from naval architect Shahal, with whom he had worked closely. Shortly before eleven, Corbinais drove to Trinity Church for Mass. As the choir’s voices soared at midnight in the fourteenth-century church, Corbinais quietly added a prayer of his own: “May they reach safe harbor.”

The message Kimche was getting from the heavens at that precise moment was not optimistic: the midnight forecast portended no change in the weather. The moment of decision was close at hand. To miss sailing this night might be a mere annoyance and a brief delay or it might mean the loss of the boats with all that that meant for the navy's future. Despite their caution, Kimche knew, it was not possible to hide completely the extensive preparations that had been made for departure. The likeliest alternative departure date was New Year's Eve, which meant keeping the men hidden for another week. It also meant more time for some suspicious French official to put together the loose ends the Israelis had inevitably left lying about or for leaks to emanate from Frenchmen who knew or suspected that the boats would not be going to Oslo. The navy could lose half its missile flotilla to a single suspicious gendarme. If the escape plot was uncovered, the miffed French would be unlikely to raise the embargo for a very long time.

On the other hand, the dangers of departure were real. The waves out in the Channel were up to forty five feet high and the wind was over forty five miles an hour. To leave and then be forced back into harbor by the storm would most likely torpedo the entire operation—the French authorities would hardly regard the departure of the boats a midnight in the middle of a severe storm as a routine training exercise or an attempt to deliver them to Oslo. If the boats pressed on into the Bay of Biscay in the face of headwinds and towering waves, it was questionable if all would make it across. Twenty-five years before, a storm in these same waters had faced General Eisenhower with the same kind of agonizing calculation about the launching of D-Day. He had in fact postponed the invasion by a day and then daringly decided to aim for a predicted clear-weather "window" on June 6. The scale of that decision had of course been immensely grander but the poignancy of Kimche's dilemma was not much less. He recalled the remarks attributed to a French general facing a critical decision. 'I want you to be strong," the general told his officers, "because fears and hesitations I have of my own."

There was no hesitation evident among Kimche's officers, who made it clear they were eager to sail if there was even a marginal chance. They pointed out that the first Saar, which had arrived in Israel shortly before the Dakar was reported missing a year before, had participated in the search for the submarine in a Force Seven gale, the severest the eastern Mediterranean normally sees, and had ridden out the storm well. But, for all their enthusiasm, Kimche knew they were awaiting his judgment. Although Kimche might solicit his officers' opinions, the final decision was his alone. He would put it off until 2:00 a.m., but no later. If they waited for subsequent forecasts there was no certainty that they would be clear of French territorial waters before first light; he wanted to be well away in case of pursuit. Mulling over the midnight forecast, which had referred to severe gale-force winds, Kimche called for an English dictionary to see if "severe" was something less than serious. The dictionary offered no consolation.

The captain of the flagship, Lieutenant Commander Arye Rona, who had been busy with the boat's preparations all day, suddenly remembered that he had forgotten to remove his belongings from the hotel. Dashing down to the pier, where his car was still parked, he drove the few hundred yards to the hotel and ran up the stairs. He gathered up two huge dolls he had bought for his daughters—the

main object of his concern—and whatever else he could grab, leaving a good part of his possessions behind as he flew out the door.

The captains did not return to their vessels after the midnight forecast but remained with Kimche in the crowded cabin of Boat Eight, conversing quietly and drinking coffee. There were about ten people. Since only six could sit on the two benches straddling the table that jutted out from an end wall, the others stood. On the table lay the weather map, updated regularly by Lieutenant Geva. Periodically there would be a knock on the door and a radioman would enter and hand the navigation officer a sheet of paper with the latest weather bulletin. Nothing in Kimche's demeanor betrayed his tension. Limon, puffing on his pipe, said little, but his strong presence seemed to be willing the boats to sea. As the clock on the wall showed them slipping into the next day, Limon briefly abandoned his taciturnity and urged Kimche to leave this night. "If we who have such an interest in leaving are hesitating because of the weather," one of the officers present would later recall his saying, "then we can be sure no one will pursue."

The decision, however, was Kimche's alone. The lives of the crew and the fate of the boats were his responsibility and neither Limon nor naval headquarters could order him to sail against his judgment. It was clear to him that he could not risk sailing unless the weather forecasters offered some hope of the storm turning.

A loud "hello" from the dock momentarily broke the tension. The shipyard guard, who seemed to be slightly tipsy, had come down from the pier entrance to wish them a Merry Christmas. Returning from church a few minutes later, Corbinais told the guard he could go home: he did not want him there when the boats sailed. Corbinais himself joined the officers in Kimche's cabin. At 1:00 a.m. a police car halted briefly at the head of the pier and then moved on. This was one of the routine checks made several times each night to guard against a Palestinian attack on the boats.

A few moments after one-thirty a radioman entered with a weather bulletin just announced by the BBC for ships at sea. Sitting at the table, Kimche read it aloud. The wind was shifting from west to northwest, said the bulletin, and its speed was diminishing. The atmosphere in the small cabin instantly became electric. The storm was turning. Kimche calmed his captains; he wanted confirmation. It came on the 2:00 a.m. forecast given by both the BBC and French radio. The wind was shifting towards the north.

Kimche looked up at his captains.

"We're sailing," he said.

Glancing up at the round brass clock on the wall, he set departure for two-thirty. The officers synchronized watches and dispersed to their vessels.

Limon clasped Kimche's hand. "Good luck," he said. Limon descended from the boat along with Corbinais and Supply Officer Shachak, who would be staying behind in Cherbourg to tidy up.

As they waited in the rain on the pier, the supply officer said to Limon, "How lucky it was that they expelled us from the arsenal."

Limon agreed. "From there, Haim, we wouldn't have gotten out."

The captains made a final survey of their boats to make sure that everything movable was lashed down. They rechecked navigation maps and spare parts as they went down the items on their pre-sailing check lists.

Tabak assembled his crew in the CIC of Number Twelve. He could read on their faces both eagerness to get under way and concern at what awaited them outside the harbor.

"We're sailing at two-thirty," he announced. "We're going out into a stormy sea and you may feel sick at the beginning. You all know what we came here for. Our success depends on you. To your stations."

His was the inboard boat in the rear row of Saars and would be the last to pull away. From the vessel's bridge he could see his own apartment two hundred yards behind him. Several figures were silhouetted in the windows of the living room. With his wife, Esther, were the Israeli fiancees of two of the officers and the wife of a third, all of whom had apartments in the building.

Esther had come down to the quay early in the evening to bring him a pillow, something he could not sleep without. Her concern about the storm was apparent on her face, and Tabak's deputy, a strapping young officer, tried to jolly her: "As long as we're on the boat, there's nothing to worry about."

Tabak blinked a flashlight towards the apartment window in farewell. The lights in the apartment went on and off in reply.

At two-thirty Kimche's engines exploded into life. Tabak pressed the engine-room buzzer twice and his own engines thundered. The roar as the other boats joined in was so awesome that Esther Tabak was certain it could be heard all over Cherbourg. The acrid smoke pouring out of twenty exhausts smarted the eyes of the men on deck.

As Kimche's boat, inboard in the first row, slipped its lines, Shachak and Corbinais leaned into the wind and shouted "Bon voyage" over the noise. Someone on the bridge waved back. In the dim light from the streetlamp at the end of the pier Shachak could see tears on Corbinais's face. "There go four years of my life," said the Frenchman. Nearby, Limon stood silently. He noticed one other person on the pier, a young woman who appeared to be crying. One of the sailors had apparently failed to hide his imminent departure from his girl friend.

Kimche's boat was the first to pull away. The others followed at evenly spaced intervals. Lieutenant Commander Rona lit the mast lights so that those captains unfamiliar with the harbor could follow. Each vessel lit stern lights, embedded deep in their sockets so that the boat following had to be directly behind in order to keep the lights in view. Looking at the town falling astern, Kimche could see the familiar pattern of lights growing dimmer. An illuminated Christmas tree decorated a freighter they passed but no movement could be seen on the deck.

The order to start engines had been greeted with applause by the crewmen. Their long wait was over at last. Despite the security precautions that had marked the voyage of the eighty new crewmen to Cherbourg and kept them hidden aboard ship, the men had not been led to believe that anything illegal was involved.

Dr. Horer, who had gone to sleep early, was wakened by the blast of the engines. He made his way up to the deck to see the boat pulling away from the pier. It struck him as odd that they were going out on a training exercise without having been briefed beforehand.

"We're going home," an officer told him with a broad smile.

"You mean they've released us?" asked Horer.

"We're escaping," said the officer.

The word quickly spread through the boats: They were not just sailing home. They were on the run.

From the pier, the boats' navigation lights were lost to view within a few minutes. Shachak and Corbinais walked to their vehicles but Limon remained standing on the pier, the collar of his blue trench coat turned up against the rain. The young woman had disappeared. Limon wanted to be sure that the storm out in the Channel did not force one or more of the boats back to port. He waited half an hour before walking back to his car.

There was still one more task to perform. At the nearby Hotel Atlantique he had to wait a few moments before hearing Amiot's sleepy voice respond to his knock. "C'est moi, Felix. Mocca." Amiot was in his robe when he opened the door and ushered his visitor inside.

"I want to inform you," said Limon, "that the Starboat boats have sailed."

Amiot bowed his head and began weeping. Limon sensed the old man's relief that his contract had been honored. The Frenchman poured cognac into glasses and the two men toasted each other and the operation's success. Before turning to leave, Limon took his billfold out of his jacket pocket and handed Amiot the check for $5 million.

Chapter 12

Running Free.

The sea and wind rushed at them in the darkness as they emerged from the shelter of the Cherbourg breakwater but the land mass of England to the west shielded them from the worst of the storm. The boats maintained the formation Kimche had spelled out before departure as they moved through the Channel—a column of three boats with the Soufa in the lead, and a parallel column of two. They attempted to stay half a mile apart—far enough to avoid collisions but close enough to keep track of the next boat's mast lights. The wind was at their back, and long swells carried them down the Channel. It was not until they emerged into the Bay of Biscay that the sea's fury caught them. Mountainous seas thundered out of the west where the storm had been raging for the past three days—waves as high as a three-story building foaming out of the blackness. From the northwest, to which the wind had shifted, came smaller waves moving very fast. The boats tossed dizzyingly in this cross-turbulence and were soon scattered over the sea's surface. Kimche ordered that no one venture out on deck unless secured by a line around his body and under the surveillance of an officer. Even for the most veteran sailors aboard, this was the worst ride of their lives.

On the bridge of the Soufa, Lieutenant Geva was serving the first watch as duty officer. Half an hour after departing from Cherbourg, he flashed the command vessel's signal light toward the other boats to alert them to a communications check. "This is number one," he said into his walkie-talkie. "Count off." The other four boats responded by pre-designated number. When Geva checked again an hour later, there was no response from the Herev, at the rear of the two-boat

column parallel to his. Geva asked the officers aboard the boats closer to the Herev's position to attempt to raise it on their walkie-talkies but the efforts were fruitless. Projector flashes likewise drew no response. Geva called down by telephone to the Soufa's commander, Lieutenant Commander Rona.

"They can't be missing," said Rona when he reached the bridge. "Try them again." When all attempts failed, Kimche was summoned. Sleep was still heavy in the flotilla commander's eyes as he reached the bridge. "This is all we need," he said when he heard Geva's report. He ordered speed reduced and continuous attempts made to raise the Herev on the radio.

Aboard the Herev, Skipper Haim Shaked, soaked from exposure on the bridge, had gone below to change clothing. The storm had battered his vessel badly, knocking out its radar. As he pulled on dry clothing in his cabin, he sensed a change in the boat's motion; instead of pitching up and down, it was rocking from side to side. Either the waves had shifted direction or the boat had.

Shaked pulled on his oil slicker and raced up to the bridge where he had left his deputy in charge. "What's happening?" asked Shaked.

The deputy was surprised at his worried tone. He pointed at the stern light of the vessel some distance ahead of them, bobbing up and disappearing in the stormy waters. As soon as Shaked could focus on it, he knew they were in trouble. The Saars had two stern lights; the boat ahead had only one. Questioning his deputy, Shaked quickly grasped what must have happened. Another vessel, running for the port of Brest, had cut through the scattered Israeli formation. His deputy, mistaking it for the lead Saar, had turned east to follow it.

Shaked altered course to the southwest and increased speed in an attempt to catch up. He tried to raise the other boats on his hand-held radio and flashed his signal light, but there was no reply. Only as dawn forced itself through the storm clouds did he see the other four boats to the northwest, moving slowly. He had outrun them in the darkness, and hastened now to rejoin the formation.

Micha Zand had positioned the NETANYA at the northern end of the Bay of Biscay on Christmas Eve. He spoke by radio telephone to Binny Telem in Haifa who ordered him to cruise near the Ile d'Ouessant, west of Brest. The deputy navy commander, who was monitoring the operation from his home, informed Zand that there was a problem with the weather; the boats might not put out from Cherbourg this night. The officers and crew of Zand's commandeered freighter were still at a loss about their sudden departure and their seemingly aimless circling. Before he went to sleep, Zand informed the duty officer of the emergency wavelength to which the ship's radio had been turned. If there was any call, he was to be immediately wakened. Zand wakened on his own in the darkness and glanced at his watch. It was 4:00 a.m. and the ship was pitching badly. On the bridge, the duty officer greeted him drowsily and said the radio had remained silent.

"A lot of small boats passed us in the night," he said offhandedly. "They were moving fast and heading south."

Zand permitted himself a trace of a smile and prayed that the radio would continue to transmit its silent message that all was well.

The mad roller coaster continued for the Saars as day lit the raging sea. Some bridge officers lashed themselves to their chairs. As the boats rose higher and higher toward the crest of a wave, a huge green wave would lunge from behind and crash just astern. Then the descent began, a stomach-turning downward rush in which the helmsman would begin to feel the wheel reluctant to respond as speed increased. When the boat plunged into the bottom of the trough, the surging sea brimmed the deck and seemed about to submerge it. Then the vessel somehow pulled itself loose and began its agonizing climb again. For the men on the bridge, it was an extraordinary and frightening sight. Below decks the crew would feel the boat shudder from the strain and wonder whether it would rise up out of the trough.

Except for an occasional terse order and the noise of the storm, there was almost total silence; most of the men were too sick to talk. Anyone venturing topside wore an oilskin over a heavy sweater and dungarees. The strain on the helmsmen fighting the wheel to keep on course required their frequent rotation. Instead of one crewman handling the throttles on the bridge, two men were assigned on the flagship by Lieutenant Commander Rona because of the strain and the constant alterations of speed.

Each wave had to be played correctly if the boats were to avoid damage. Kimche stood on his bridge for hours with a stopwatch adjusting the boat's speed. If the propeller was turning too swiftly when the boat was descending a wave, the prow could be thrust into the water and control lost. If the boat was too slow in climbing out of the trough, tons of water would crash upon its stern. Kimche had hoped to sail at twenty-five to thirty knots, but this proved impossible. An average speed of eighteen knots was finally arrived at.

The constant changes of speed ordered by the bridge required quick and precise response from the engine room. Although most of the crew members were sick, they worked steadily, keeping buckets close to hand. Dr. Horer, who was himself never seasick, prayed that there would be no injuries that would require him or his medic to transfer to another boat in this sea. Chief Engineer Nave, on the command boat, periodically ascended to the bridge to see what was happening topside and to stare at the tumultuous sea. Kimche's face and voice were calm but Nave could see the tension in the commander's clenched fists.

As navigation officer, it fell to Lieutenant Geva to work out course that would compensate for the winds buffeting them from the starboard quarter. The strongest such wind he had ever made a calculation for in his officers' course was thirty knots. The winds now were seventy knots. As the boats neared Cape Finisterre, jutting out from the Portuguese coast, he saw on the radar that his calculations had been several degrees off—the land mass loomed dead ahead. The boats turned into the wind in order to work their way around the cape.

The wind subsided somewhat on the second night, but the sea was still a fury. Kimche was too busy leading his storm-tossed flock to communicate with Haifa where the tension in naval headquarters mounted. Messages began to pour in when the boats were off Portugal: "Where are you? Please report position. What is condition of boats and crew? What is fuel situation? Why have you not reported? Please reply." The radioman rapidly decoded the Morse signals, removed his earphone and trotted up to the bridge with the written message. It was not just the

navy command that was expressing concern but the General Staff and Defense Minister Dayan as well. The queries were coming in so fast that Kimche could not reply. He finally raised Telem at home on the radio telephone. “If you’ll stop sending messages for a minute, I’ll answer them,” he said.

Periodically, as his vessel topped a wave, Kimche scanned the sea to check on the presence of the other boats. Unless they, too, were cresting a wave at that moment, he could not see their lights. It would sometimes take him more than ten minutes to account for all his charges.

In the sheltered bay on Portugal’s southern coast where he had dropped anchor, Captain Amnon Tadmor had been following the progress of the storm on the radio since the early hours of Christmas Eve.

“Do you think they’ll sail in this?” his chief mate had asked.

“I don’t know,” said Tadmor. “I wouldn’t take the Lea out in this weather. And if I were out, I’d seek shelter.” His ship was twenty times the size of the Saars. As he waited, he could pick up messages being sent from Haifa to other Zim ships along the boats’ route. He himself made radio contact with his brother who was serving as chief mate aboard one of the backup ships.

“What are you doing in the area?” asked the brother.

“I can’t say,” said Tadmor.

“Well, I think we’re on the same business.”

When Haifa informed him Thursday morning of the boats’ departure, Tadmor ordered his radioman to raise Kimche on the naval frequencies assigned them by headquarters. Contact was made close to dusk on Friday, the 26th, a Morse message from the Soufa informing him that they had just rounded Cape Vincent at the tip of Portugal. Tadmor informed Kimche of his precise location. It was 10:00 p.m. when he saw them rounding the corner of the bay five miles away—five small boats showing only navigation lights and moving fast.

The empty pier in Cherbourg was taken note of on Christmas morning by residents of the adjacent apartment buildings but awakened no suspicions. The Israelis were taking boats out for testing all the time, and Christmas, after all, was not a Jewish holiday. Even their failure to return by the next morning—Friday, the 26th—failed to ruffle the pleasant post-holiday torpor enveloping the town. Journalist Rene Moirand, who covered marine affairs for *La Presse de la Manche*, had still not heard about the boats’ absence at six on Friday evening when he took his daughter to the family dentist for treatment of a toothache. The dentist was the distinguished looking Dr. Michel, president of the Jewish community in Cherbourg. He seemed to Moirand unaccountably excited. As Moirand took off his coat, the dentist looked at him as if expecting the journalist to remark on something.

“You’ve seen?” Michel finally burst out. “They’ve gone.”

When the elderly dentist saw the uncomprehending look on Moirand’s face, he hastily turned to his young patient.

The dentist’s agitated state puzzled the journalist. As he drove home with his daughter, he suddenly thought of the Israeli boats. Could that have been what Dr. Michel was referring to? After dropping off his daughter, Moirand drove down to

the port. The pier was empty. It was not unusual for the boats to be out, even at night, but Moirand recalled Debre's remark to Mayor Hebert at the launching of the Terrible two weeks before—a solution for the five vedettes was in the offing, one that would be acceptable to both sides. Moirand did not think the boats had gone for good, but if they had, then it was plainly some arrangement to which the government was party. A former naval officer himself, Moirand thought the most likely solution was for the boats to be dispersed "for testing" to other ports—Dieppe, Le Havre, Brest—and after a few months to be permitted to slip quietly away to Israel.

Dropping in to his office, he found an unusual amount of activity for what should have been a quiet news night. The Israeli boats, he quickly discovered, were the cause of the buzzing. They had been gone, it seemed, for almost two days and there were rumors that they would not be coming back. There had been unusual goings and comings all day between the maritime prefecture and the arsenal, which had apparently inspired the rumors. Unknown to the journalists, Amiot himself had telephoned the duty officer at the prefecture at ten on Christmas morning to inform the authorities, as he was legally obliged to do, of the departure of vessels built in his yards. He left his seemingly routine notification to wend its way upward through the chain of command and departed for his holiday retreat.

For a year now, Moirand had been sitting on the story of the embargo. If the boats had indeed gone, there was no longer any need for restraint. The reporter knocked on the editor's door.

"Is it true, Monsieur Justiniani, that the boats have gone for good?"

"I don't know, Monsieur Moirand," said the editor, "but in any case we're not going to write about it."

He had promised Amiot not to do so without first consulting him, explained Justiniani, and he had been unable to locate the industrialist.

Frustrated, Moirand returned home. He could only hope that the story would not break anywhere else during the weekend. The journalist was relaxing with his family when the doorbell rang at eight-thirty. It was highly unusual to have unexpected callers at such an hour. When he opened the door he was astonished to see Dr. Michel, plainly agitated.

"I'm very sorry to be troubling you at home," apologized the dentist. "May I speak to you privately?"

In Moirand's study, a conscience-stricken Michel began: "About what I told you…"

"I already know," said Moirand.

Michel explained that he had been asked to help look after the Israeli families who had remained in Cherbourg after their menfolk had sailed. He begged Moirand not to make use of the information that he, Dr. Michel, had so injudiciously let slip. Moirand assured Michel that the departure of the Israeli boats was already well known in Cherbourg. In fact, however, Michel had just given Moirand the first confirmation that the boats were not coming back. But with Justiniani refusing to run the story, there was nothing Moirand could do with the information. He was also a correspondent for Radio Europe and for Paris newspapers but his primary loyalty was to *La Presse de la Manche*. As marine

reporter he was supposed to write the story for the local paper and he did not regard it as ethical to file first for another outlet. Half an hour before the midnight deadline, he telephoned the newsroom to ask if Justiniani had changed his mind. The reply was negative.

Not all Cherbourg's journalists, however, were bound by Amiot. *Oest-France* was preparing a story on the boats for Saturday's edition with a front-page headline reading "Where Have They Gone?" More importantly, journalists employed at both provincial papers had already begun feeding the story to the major newspapers and agencies on Friday night. Anthony Mann, back in London, was alerted early that evening by his Cherbourg stringer whom he had asked to keep an eye on the boats. Mann was able to get the story into the early edition of the Daily Telegraph of Saturday, December 27, which hit the streets of London between 9:00 and 10:00 p.m. Friday. The headline read "Israeli Gunboats Vanish." He then succeeded in reaching Limon by telephone in Paris, to get his reaction in time for the second edition.

"We got our money back from the shipyard some time ago," said the Israeli official. "The gunboats were sold to a civilian concern, I think." In that case, said Mann, it was odd that Limon had attended the launching of the last boat only two weeks before.

The discretion of Cherbourg's journalists, who had kept the story of the embargo under wraps for a year, would give way within hours to worldwide headlines as the awesome power of the modern media was unleashed. Mann's story in London was picked up by the Associated Press and was on the wires shortly before midnight. Moirand was called at home ten minutes to midnight by an editor at Radio Europe in Paris.

"What's happening with your Israeli gunboats?" asked the editor.

"It's on the wires," exclaimed Moirand, with a wrenching recognition that he had been scooped.

The editor read aloud the one-sentence dispatch from a French agency which had picked up the AP story: "Five embargoed Israeli gunboats have disappeared from Cherbourg."

"All right," said Moirand. "I'm going to work."

Between midnight and 3:00 a.m. the journalist wakened by telephone the admiral commanding the arsenal, the head of naval security, the chief of police, the head of police intelligence, the chief of customs, and others—a dozen persons in all. Generally it was the official's wife who answered, with a mixture of alarm and annoyance. The duty officer at the arsenal reported that the lookout at the harbor entrance on Christmas Eve had seen no boats leaving port in the storm. Moirand speculated that the champagne his newspaper had sent as a Christmas Eve present—in appreciation for the help the navy gave it in reporting on sinkings and other nautical events—had probably not sharpened the lookout's alertness. Moirand wanted to know whether they had sailed through the main exit on the western side of the harbor, or whether they had slipped out the smaller, dangerous eastern exit. He also wanted to know whether they had turned north or south upon leaving harbor.

The reaction of those officials who chose to respond to Moirand's questions was that the boats had left Cherbourg in a perfectly legal fashion for a destination that

was not Israel. The customs agent who had handled the paperwork for the shipyards, Georges Leveque, was unhappy about being wakened in the middle of the night. When Moirand told him that newspapers all over France would be running the story on their front pages in the morning, Leveque's tone of sleepy annoyance changed to wide-awake alarm. "I'll call you back in half an hour."

When he called, he read from a document from the Bureau for Export of Armaments in Paris. It described the sale of "warships without military armament" to the Starboat Company for "supply missions between the Canadian coast and oil rigs off the Alaskan coast." The boats, said Leveque, were to be refitted in Norway for the Alaskan operation.

This Alaskan diversion had been thrown into the pot to compound the confusion over the destination of the boats if Starboat's Norwegian and Panamanian connections became an issue. Suspicious minds began to speculate that all these exotic venues were merely a cover for an Israeli destination. Like many other journalists around the world this night, Moirand spread a map of Europe on his desk. On the phone to the radio editor in Paris, who was scanning his own map, he tried to estimate how far the boats could travel with fully loaded fuel tanks. The two journalists' rulers swiveled north toward Scandinavia and south toward the Mediterranean.

At that very hour, the objects of their concern were bobbing with almost empty tanks around their mother ship eight hundred miles to the south. A pronounced swell caused Kimche to change the original plan to fuel all five boats simultaneously, for fear that the boats alongside the LEA might be holed if they were swept against the freighter. Instead, two boats at a time would take on fuel from lines extended over the LEA's stern. Implementing the techniques they had been practicing off Ashdod, the LEA's crew tossed thin heaving lines onto the decks of the boats. Attached to these light lines were heavier lines which the navy men hauled onto their decks. These lines, in turn, were linked to flexible steel pipes which the men aboard the LEA slowly played out into the water as the sailors aboard the Saars pulled. Although the pipes had to be lifted only about six feet from the water to the decks of the boats, the exhausted and undermanned crews had difficulty manhandling them aboard.

The fueling began about midnight and proved a slow and tedious business. The first pair of boats were still nursing from the LEA when dawn lit the beautiful bay around them. From a nearby fishing village, boats began putting out to sea. The LEA, during the days it had been waiting, had drawn no attention, because ships frequently anchored in the sheltered bay. But its sudden mothering of five small vessels with the cut of warships did not go unnoticed. The first fishing boats paused as they caught sight of the vessels and then continued out to sea. Finally one boat turned back and the Israelis knew they would soon have visitors. Close to 8:00 a.m. a boat put out from the village and headed straight toward the Israeli vessels, lying two hundred yards offshore. It halted near the LEA and a uniformed man with a white cap and three stripes on his sleeve, apparently a police sergeant, attempted to talk to the men on the deck. The Israelis did not respond except by signaling him not to draw too close. The sergeant looked up at the LEA's name and Haifa registry painted on the merchantman and marked them down on a pad. He

could be seen studying the Starboat sign on one of the Saars and writing again. The rest of the boats were ordered to unhook their signs before he reached them.

Kimche raised Tadmor on the radio. “Let’s get out of here.”

Tadmor raised anchor and towed the two vessels linked to his ship out of territorial waters, continuing to fuel them on the way as he had practiced off Ashdod. While the vessels were regrouping, a helicopter with official-looking markings took up position off the LEA’s bridge. Two men were aboard and they appeared to be reporting by radio and photographing but they made no attempt to contact the Israelis.

What alarmed Kimche most was the sputter of his engines and the white smoke pouring from the exhausts after the refueling of his boat. A look at the color of the liquid in the fuel-tank gauge confirmed his fears—water had somehow gotten into the fuel.

Chief Engineer Officer Nave was aghast. “We’ll have to get rid of the fuel,” he said. Kimche vetoed the idea. The LEA did not have enough fuel to refill the boats a second time. Kimche proposed another solution. Since water sinks in oil, it might be possible to drain it from the bottom of the fuel tanks.

“Can we do it?” he asked.

“We’d be risking engine failure,” said Nave.

“I want a clear answer, yes or no,” said Kimche. “Knowing the importance of our getting these boats to Haifa and what will probably happen if we go into Gibraltar, do you think we can make it?”

Nave looked at Rona and Geva as if for help. “That’s not a fair question to ask me,” he said. Kimche, however, persisted, and Nave finally nodded. “We’ll have to work hard at the draining.”

Most of the crew pitched in for the next few hours in draining water from the tanks until the color of the liquid in the valves turned yellowish. Under Nave’s direction, they would drain off water, wait for more to settle, and then drain again. Periodically Nave would judge how water-free was the fluid emerging from the tanks by tasting it with the tip of his tongue. The fueling of the five boats and the slow draining of the two whose fuel had been mixed with water took the better part of the day but it at least gave an opportunity for brief naps to officers who had not slept for two days.

Weariness probably accounted for the tangling of fuel lines in the propeller of the last boat being fueled. Captain Tadmor turned to the navy diver who had been dispatched by Karish aboard the LEA and who had been complaining for the past ten days at having been given a no-work assignment. “Now you know why you’re here,” said the LEA’s skipper. “Put on your suit and earn your keep.” The diver extricated the lines without damage to the propeller.

The Saar crewmen aboard the LEA were transferred to the boats as welcome reinforcements, along with a supply of food and spare parts. It was not until Saturday afternoon, December 27, that the fueling was completed. The fuel on the two boats might still be tainted but Kimche decided that if they had to refuel earlier than planned the DAN, in the central Mediterranean, would be asked to sail westward to meet them.

The parting from the LEA was quick and without ceremony; an exchange of Shaloms between Kimche and Tadmor. The latter sent across a letter to his family

to be mailed when the Soufa reached Israel. Eager to make up for the delay in fueling, Kimche led his formation southeast, toward the Strait of Gibraltar.

Zand had kept his ship circling in the Bay of Biscay until the boats reached the orbit of the LEA. Now, as the NETANYA headed back toward Antwerp, Haifa signaled him that the boats' escape was being reported by the BBC. For the first time, Zand informed the NETANYA's captain what their mission had been. "You can tell the crew," Zand said.

Most of the Israelis involved in the operation had believed that the boats' departure would pass unnoticed, or at least without publicity. Not a word had been written, after all, about Boats Six and Seven—virtually no one had known about their irregular leave taking a year before, not even the Cherbourg journalists—and no French official had chosen to make of it a public issue. Even the resultant eviction from the arsenal had been handled discreetly so that the Cherbourg public was unaware that the Israelis were being punished for having run off with two boats. The paperwork legitimizing the departure of the last five boats was entirely in order and it seemed possible that they, too, would be able to slip anchor and quietly sail away. Even if the French government became aware of the ploy and took umbrage, it would be against its own interests to make a public issue of the matter.

This time, however, the eye of the press was fixed upon the boats, and there could be no discreet closing of accounts. The discovery that an embargo existed made the boats a story. It was not a very important story—five unarmed gunboats were not impressive men-of-war—but one that nevertheless required an accounting of why the embargo had been a secret until now and why it had suddenly ended. It was the dramatic nature of the boats' disappearance and the mystery enveloping it that turned this political story of limited interest into an international cliffhanger. Oest-France's question "Where are they?" would within a few hours be repeated around the world. If the Christmas Eve timing had been aimed at catching the French authorities off guard, it also coincided with the slack news season that usually prevails during the holiday week when politicians and other newsmakers are resting from their labors. A Christmas Eve departure of embargoed Israeli gunboats for an unknown destination was a holiday gift of exceptional generosity for news-hungry editors.

Amiot's brief call to the maritime authorities on Christmas morning had been making its way through the defense establishment like acid through a copper wire in a time bomb. When a senior official routinely called the Maritime Prefecture from home to ask if there was anything special to report, the unsuspecting duty officer passed on the message received from Amiot shortly before. The sale of the boats to Norway and their pending departure were known to some officials, but even to them the Christmas Eve sailing into a gale seemed most peculiar. The supervising officer asked if the departure had been reported by the lookout on the breakwater. "No, sir," said the duty officer. Puzzled, the supervising officer telephoned the shipyard but got no reply. He promptly wired a report of the boats' departure to the Defense Ministry in Paris.

Because of the political sensitivity of the embargo and the mounting news reports, officials on duty at the Elysée Palace decided to interrupt President

Pompidou's holiday vacation at his country home and inform him of the unusual development by telephone. A year later Pompidou would tell General Cazelles, who had chaired the critical meeting of the Interministerial Committee on Arms Exports which approved the Starboat sale, that when he was first notified of the incident he had an intuitive feeling that the boats were sailing towards Israel, not Norway. Nevertheless, on this Christmas afternoon he gave no operative order other than to confirm whether the boats had departed legally. If the boats were in the legal possession of Norwegians who chose bizarre hours of departure, it was not a matter for official concern.

The protocol of Cazelles's committee meeting was duly checked the following morning by Defense Ministry officials along with customs records and other relevant documents. All appeared to be in order. When a ministry spokesman was wakened that night by journalists seeking a reaction to the midnight bulletins on the boats' departure, he was able to issue a statement at 2:00 a.m. affirming that the vessels were civilian craft that had been sold to a Norwegian firm in a routine commercial transaction.

This did not still the troubled waters for long. The Norwegians had been reading the news dispatches out of Cherbourg and Paris with interest and the possible political implications had not been lost upon them. If Israel was involved in some hanky-panky, the reports could implicate Norway as an accomplice in the eyes of the Arab world. Early Saturday afternoon, while the boats were still being fueled off Portugal, the Norwegian ambassador in Paris issued a statement that the Starboat Company did not appear in standard registries of Norwegian firms. An hour later officials in Oslo declared that the Starboat boats were not registered in Norway and therefore were not entitled to fly the Norwegian flag.

Instantly the story took on new proportions. It was not just a mystery anymore but an extraordinary international caper. The Israelis were apparently running off with the boats, with or without French complicity. For the French authorities, either of these possibilities was as distasteful as the other. If there was complicity, France's position in the Arab world—and its credibility—would be seriously compromised. If the Israelis had made off with the boats by tricking Paris the government would be a laughingstock. Few public bodies are more conscious of their dignity than governments of France. Even staunchly pro-Israeli officials like Premier Jacques Chaban-Delmas felt a sting of anger at becoming a subject for ridicule.

The official who vented his sense of outrage most forcefully was Defense Minister Debre, whose ministry was most directly involved. Debre was a staunch supporter of the embargo. Limon had found him the most difficult of all French ministers to deal with. Some Israeli diplomats attributed his unfriendliness to Debre's distancing himself from his family's Jewish origins—his grandfather had been a rabbi although Debre himself was a Christian. In outlining alternative courses of action, Debre included an option that air-force planes "interdict" the fleeing boats. An attack on foreign nationals in international waters was a grave matter but so was France's honor. The Israelis had not been operating according to the niceties of international law either. According to the premier's own account later, he rejected the idea forcefully. "I don't want the air force to move," Chaban-Delmas told Debre.

In Israel, the extraordinary reports from France slowly penetrated the Sabbath detachment from worldly news that the population normally permits itself. Orthodox Jews, who do not turn on their radios on Saturdays, learned of the episode from secular neighbors. The Israeli public had not known of the Cherbourg boats or the embargo until now. No Israeli source had ever leaked the story and the only public mention had been two little-noticed wire-service briefs from Paris in recent weeks, inspired by the Mann article and the article in Combat Fleets, reporting that the French embargo included five Israeli patrol craft. Haifa residents on balconies and rooftops began peering out to sea in premature vigil.

The Israeli public's chortle at the reports was not shared by the government, most of whose members had been in total ignorance of the plan to get the boats out of Cherbourg. Golda Meir, who had confided the matter only to her Kitchen Cabinet intimates, had been assured that the boats would probably be well into the Mediterranean before any public explosion in France over the issue, if indeed there was to be any. But the delay in fueling and the enthusiasm with which the press was pursuing the story had brought on an uproar even before the boats were past Gibraltar. If the French Mediterranean fleet attempted to intercept, the most likely place would be the narrow strait. What Mrs. Meir did not want was any physical confrontation that would endanger the boats and exacerbate relations with France, relations that would in any case be stretched taut by the escape.

Growing increasingly concerned as the reports from abroad built up through the evening, she told aides, "The matter is getting too serious. I want a meeting of the Cabinet tonight."

It was 1:00 a.m. Sunday when the Cabinet gathered. A factual presentation was given by Zvi Tsur, the senior aide to Dayan who had been the liaison between Limon and the defense establishment on the Cherbourg arrangements. Various scenarios were explored by the Cabinet, including a possible attempt by the French fleet to intercept, along with response options. Admiral Avraham Botser, the navy commander, said he regarded a French attack as unlikely, though the Egyptian navy might attempt to intercept as the boats approached the eastern Mediterranean. The Saars in Israel, already armed with missiles, would be deployed to meet this contingency if necessary.

Several of the ministers expressed anger at not having been consulted beforehand. Some were upset at the operation itself. Justice Minister Yaacov Shimshon Shapiro asked why the boats had not been sent to Norway and only later transferred to Israel. Tsur said it was for fear that the boats would be impounded in Oslo. Defense Minister Dayan said little and left it to his deputy to handle the ministers' questions. Despite the assurances from the military, the meeting broke up with a foreboding that an adventure had been launched whose outcome could not be predicted.

The boats approached Gibraltar late Saturday afternoon in rough seas, which caused speed to be reduced to twenty knots. As the familiar profile of Gibraltar loomed to port, a signal light flashed a routine query from atop the rock: "What ship?" The boats made no reply. A Lloyd's helicopter monitoring traffic through the strait circled briefly overhead in an attempt to identify the boats but could detect no identity numbers or flags. Fifteen minutes later the light atop

Gibraltar flashed again: “Bon voyage.” The men on the bridge of the Soufa laughed at this evident signal of recognition.

“When the British admiral was informed that five boats were passing without offering identification,” speculated Kimche to his officers, “he must have known it was us. It took him a quarter of an hour to get his staff together to raise a toast to us for screwing the French.”

Shortly afterward, the BBC reported that a Greek vessel entering Gibraltar had reported five unidentified boats entering the strait. It seemed to the Israelis an elegant British way of notifying the French of the boats’ passage without becoming directly involved in the affair themselves. Not to report the passage would have been an unfriendly act. The report meant that the French could now have no doubt about which direction the boats were heading.

The original route drawn up by Geva would take the boats through the central Mediterranean on a direct route to Haifa. Kimche decided now to distance himself from the French coast by taking a southerly route that would place his vessels in a well-traveled shipping lane about forty miles off the coast of North Africa. Although Kimche felt it unlikely that the French navy would attempt interception, many of his officers disagreed with him. As they passed through the strait, Geva calculated that French warships from Toulon could easily intercept. Granting the possibility, Kimche wanted other ships around so that he could alert the world if it happened.

Chapter 13

Eye of the Storm.

The fading storm was still at their backs as they entered the Mediterranean but the Israeli sailors now had the feeling of being on home ground. One of Nave’s men kept polishing every piece of brass in the engine room out of sheer joy. Nave himself was busy changing injectors and fuel filters every hour to prevent the recurrence of the blockages due to the tainted fuel. Listening to the radio, the men began to realize that they and their five small boats were at the focus of world attention. Journalists were said to be flying out over the North Sea and the Mediterranean in rented planes to search for them. One report had them headed for Alaska. Late on Saturday, Europe Number One Radio reported the Lloyd’s agent in Gibraltar sighting five small vessels headed eastward. The vessels, said the agent, flew no flags.

The Saars passed many ships, including American and Russian freighters, but no one seemed to pay them special note. Off Algeria, the French fleet finally made contact. A twin-engined Atlantique observation plane from the fleet’s air arm based in Nimes in southern France circled overhead for three hours and took photographs. Whenever it made a low run from the side, in an apparent search for identifying numbers, the boats turned their bows toward it.

The sailors who appeared in the photographs developed a few hours later were in civilian clothing but French intelligence officers had no trouble identifying the vessels. If French warships from Toulon attempted to intercept, the Saars would

attempt to outrun them. However, they would be dead in the water for more than twelve hours during their second refueling. The French knew the boats' range and could easily calculate when they would have to stop.

Towards evening, a small plane with civilian markings appeared overhead. Radiomen aboard the boats heard the excited voice of a radio reporter saying he had just spotted the five Israeli boats from a plane he had rented on Malta. With darkness, Kimche changed course and headed for the tiny island of Lampedusa between the African coast and Italy, remote from any shipping lane. As they drew near the next day, the men on the bridge saw a single ship drifting on the horizon. Kimche recognized the familiar profile of the DAN.

The French pilot boarding the LEA outside Dunkirk was an old acquaintance and he greeted Tadmor boisterously. "You clever bastards really did it to us," he shouted. Tadmor was startled for a moment before he realized that the Frenchman was referring to the escape of the boats as reported on the radio, not to the Lea's role.

As the pilot oriented himself on the bridge, his expression suddenly froze. He stared at the pumping equipment and the extensive oil stains on the rear deck. The crew's efforts to clean them had been only partially successful. "You didn't have anything to do with it, did you?" asked the pilot in astonishment.

"Are you crazy? We've got a cargo of phosphates to deliver."

The pilot kept staring at the pumps and the oil stains and then, with a widening grin, turned to Tadmor and winked.

Avi Primor, the press secretary at the Israeli embassy, could hear his footsteps ringing as he and the embassy's charge d'affaires, Eytan Ron, followed their escort through the empty corridors of the Quai d'Orsay. They had received a highly unusual Sunday summons to the Foreign Ministry to meet with the minister himself, Maurice Schumann. The Israelis could read the anger on Schumann's face the instant they were ushered into his office, although it was not clear whether this was feigned or real.

The minister wasted little time on formalities. The French government, he said, did not want to believe that the stories being broadcast about the five Israeli boats were true. "It is clear to the French government that the boats sold by Israel will not be going to Israel." If, however, it became clear to the French government that it had erred, then "les plus graves consequences" would follow. These consequences would be particularly felt, said Schumann, by Limon, who had signed a document waiving Israel's rights to the boats, and by Primor, who had been issuing statements to the same effect. "The French government of course does not want to believe these stories," reiterated Schumann.

Even before the summons to the Foreign Ministry, Primor had felt the tempo of events building up over the weekend. He had been wakened early Saturday morning by a reporter from Agence France Presse checking out the story from Cherbourg about five embargoed Israeli patrol boats that had disappeared Christmas Eve. Yes, said Primor, Israel had ordered the boats in Cherbourg but it had since renounced its interest in them. They had been sold, he understood, to a

Panamanian company but whether they had taken delivery he didn't know. The reporter sounded highly skeptical and rang off.

A few moments later the phone rang again. The caller identified himself as the AFP duty editor who had asked the reporter to call. "Excuse me, please, but I just want to check. You are Avraham Primor, the spokesman for the Israeli embassy?" The editor gave a telephone number and asked whether this was Primor's office number. Primor confirmed.

"Now, about these boats," said the editor. "You say they were sold to a Panamanian company?" Primor went through the story again. The French press had not yet picked up the Mann story and had been ignorant of the boats' existence. From the editor's questions, pauses, and intonation, Primor could sense him slowly ingesting the meaning of this odd tale—that there had been warships built in Cherbourg for Israel that virtually no one knew about, that these boats had been embargoed and no one knew about that either, and that they had now disappeared into a storm on Christmas Eve, ostensibly bound, as the journalist understood, for Panama. "This is an unbelievable story," said the editor, using a phrase that encompassed both the bizarre nature of the story being offered and an inkling of the tremendous tale—the true tale—that must lie behind it.

Revelation of the boats' departure by the press sent the three governments implicated—France, Israel, and Norway—scurrying for legal cover. A French Defense Ministry spokesman, asked by reporters on Saturday afternoon about Oslo's denial of the boats' Norwegian identity, said, "According to the documents presented by the firm, it is Norwegian." He suggested that the Norwegian authorities may have checked out the wrong company name. "The affair is confused," he said wearily, "and we're trying to shed light on it." At the Foreign Ministry, a spokesman denied reporters' suggestions that the French government might have been party to the breaching of its own embargo. "It's just not true," he said plaintively.

The Norwegian ambassador in Cairo, summoned to the Egyptian Foreign Ministry for an explanation, issued a statement denying his country's connection to the matter. The French ambassador, likewise summoned, said he was waiting to hear from his government. In Oslo, where officials had spent a busy Saturday opening up locked offices and pulling files, a Foreign Ministry spokesman announced that the Starboat Company, which was registered in Panama, did have a post-office box in Oslo but had no other connection with Norway. Investigation had established that the boats were not flying Norwegian flags when they left Cherbourg, said the spokesman, nor were there any Norwegian nationals aboard. Although an import license was required for the purchase of boats abroad, no application had been made in Norway for the five boats built in Cherbourg. If the boats arrived in Norway, the spokesman said, they would be detained.

In the face of these strong denials, Paris could not maintain its previous position, which had dumped the matter in Norway's lap. On Saturday night, the office of Premier Chaban-Delmas issued a new statement. "Upon learning that the Norwegian government contests the nationality of the company to which the gunboats were sold, the French government has opened an inquiry." The statement said that the French government had consented on November 18 to the sale of the vessels—unarmed vessels, it emphasized—to "a commercial firm

claiming to come under Norwegian law." It had done so after Israel had agreed in writing to waive its claims to the vessels in return for the refund of its money.

With Ambassador Eytan on a holiday in the Swiss Alps and Jerusalem maintaining silence on the matter, Primor—who would in time become one of Israel's senior diplomats—was the sole official spokesman for the Israeli side. A word he kept hearing from the journalists to whom he repeated his official story deadpan was r*ocambolesque*, fantastic. Enterprising journalists who tracked down four Israeli naval personnel still in Cherbourg were told that the Israeli crews had been asked by the Norwegians to sail the boats to their new port—a provision indeed covered by the formal request from Siemm. The journalists quoted them as saying that the Israelis had been joined on the voyage by Norwegian officers and noncoms. This statement, if actually made, was virtually the only outright untruth passed on to the press by any of the parties. But the half-truths were providing fog enough.

In Panama, an official of a local law firm—Arias, Fabrega and Fabrega—told Reuters that his firm had formed and registered the Starboat Company on behalf of a London law firm he refused to identify. Although Arias was resident agent for Starboat, the official said, the Panamanian law firm was not its head office. He declined to give further information.

The Lebanese government, in whose interests de Gaulle had supposedly imposed the embargo following Israel's raid on Beirut Airport, did not reciprocate France's gesture in this strained hour. In announcing the Lebanese government's plans to put the boat affair on its agenda, a government source said, "The question uppermost in Lebanese minds is what effect this affair will have on French-Arab relations."

The British press, reveling in the embarrassment of their neighbors across the Channel, gave the sale of the boats "to a non-existent Norwegian company" top play in their weekend editions. "It looks as though the Israelis have pulled off a cheeky coup," wrote the Sunday Telegraph. With the failure of any port to note the arrival of the five boats for refueling, said the paper, it seemed increasingly likely that they were heading for a rendezvous with a tanker at sea.

Greek merchant-marine authorities issued an alert to all coastal vessels and harbors to report any sighting of the missing gunboats. Maritime officials in Athens said that if the boats were flying an internationally recognized flag, Greece could not by international law deny them refueling facilities—a clarification intended to head off anticipated Arab protests. A deputy premier of the army-backed government in Greece voiced admiration for the Israeli exploit. "When a country wants to survive, it shall survive," he declared. "A small nation under duress can bring forth unsuspected latent strength. The same goes for Greece."

In Cairo, foreign military attaches reported apparent preparations for an Egyptian naval force to put to sea. In Israel, reports were received that the Soviet Mediterranean fleet near Crete had weighed anchor.

Chapter 14

Homecoming.

Fueling from the DAN was well under way when a mastful of antennas appeared on the horizon. As it drew closer, Kimche could make out through binoculars the shape of a Russian spy trawler. The ship had plainly been tracking the Israeli craft for some time. It made no pretense of just happening by. Sailing straight toward them, it dropped anchor three hundred yards away and calmly took them under observation. Only three men could be seen above decks, one of them holding a camera with a long lens. The other two were presumably the captain and the officer of the watch.

Despite the uninvited guest, the fueling operation went perfectly. Floodlights were turned on as darkness set in. The car ferry-turned-tanker sent a rubber boat across to the Saars with a supply of food and cigarettes. One of the engines in Boat Number Twelve, Tabak's vessel, had developed a crack in a cylinder head on the second leg of the journey and the vessel was traveling on only three engines. Kimche decided to fuel Tabak's boat first and to send it on ahead because of its reduced speed. Accompanying it would be Boat Number Nine, with Karish aboard. It seemed highly unlikely to Kimche that the Egyptians could hope to ambush high-speed PT boats, but he decided to split his force. Tabak's troubled boat with Karish's as escort would take a route north of Crete, because it was the shortest. The rest of the boats would sail south of Crete. At 10:30 p.m. Monday, the last three boats completed their fueling. The Soviet trawler was still in place when they moved off at thirty knots.

Haifa businessman Mila Brenner was wakened by the phone at 2:00 a.m. The pause and faint rustle he heard when he lifted the receiver signaled an overseas call. A distant voice with a Scandinavian lilt asked for Mr. Brenner.

"This is Christian Siemm," the caller said. Despite its agitation, Brenner recognized the voice of the son of his old friend and business associate Martin Siemm.

"We've got problems," said the younger Siemm. The boat affair, he explained, had created a major political storm in Norway. At its center, alone, was his father. Could Brenner come to offer support? Could he come on the next available flight?

Brenner was a partner in the Maritime Fruit Carrier Company, the Israeli shipping company that had ordered more than a score of ships from the firm headed by Siemm. Although Brenner himself had played no part in the Cherbourg episode, he could not ignore the plight of his friend and long-time business associate.

It was not easy to get a plane ticket during the Christmas season, but Brenner managed to book a 7:00 a.m. flight on a plane to Zurich, from where he had a connection to Oslo.

Brenner wakened a contact in the defense establishment to inform him of his intention to fly to Oslo. The message was passed on to Zvi Tsur, who was appalled at the notion. Israel's intention was to maintain a low profile to the point of invisibility, at least as long as the boats were at sea. For the expansive Brenner, who knew virtually nothing of the elaborate cover operation, to fly to Europe and implicate Israel publicly would be disastrous.

At 5:00 a.m. Tsur telephoned a close aide and Motti Friedman and told them to head Brenner off at Ben-Gurion Airport. The two men, flashing special passes, went through passport control and found their quarry in the departure lounge. They pressed him to abort the trip, stressing the extreme delicacy of the affair. When he said he could not abandon his friend, they hinted that he would be exposing himself to charges of violation of national security. As they spoke, boarding for the Zurich flight was announced over the public-address system. Brenner bid goodbye and passed through the gate.

When he landed in Oslo at 9:00 that night, Christian Siemm was waiting for him at the airport.

"How's Father?" asked Brenner.

"All right," said Christian, "but we've got problems with the government."

As they drove towards town, Christian Siemm gave Brenner a quick fill-in. There were legal problems—apparently Starboat had not been properly registered—and there were questions about its foreign-currency arrangements. But the basic problem—the reason the authorities were making such a fuss—was political. The largely conservative coalition government was under attack by newspapers and leftist opposition for its alleged part in the boats' escape. The critics said that the episode violated Norway's neutrality. Shipping interests were particularly upset, for fear of an Arab boycott against Norway's large tanker fleet. The Liberal Party was threatening to bring down the coalition unless the government disassociated itself from the episode by taking legal action against Siemm for violating the country's neutrality and for being a party to acts harmful to Norway politically and economically. A measure of the seriousness of events was that no one in the Cabinet had gone home for the holiday. Brenner was told that the collapse of the government appeared imminent.

After checking in at his hotel, he was driven to the elder Siemm's house. It was surrounded by floodlights and huge guard dogs. On the street were police cars with flashing lights.

"His life has been threatened by the Fatah," Brenner was told.

Inside, he found his old friend very troubled and grateful for his appearance. Like the Israelis involved in the episode, Siemm had hoped that the departure of the five boats with legal cover would pass quietly. The only Norwegian involvement was a few sheets of stationery with the Starboat letterhead, a rented postal box in Oslo, and a small Starboat medallion Siemm had displayed on the gateway to the Akers property. The scandal that had suddenly intruded on his orderly life had shaken him, particularly the charges that the former underground leader had harmed Norway's national interest.

The day before, under intense public pressure for clarifications, he had issued a statement affirming that Starboat was registered in Panama and that he was its Norwegian representative. "It was only a short time ago that the company I represent acquired the five boats in Cherbourg," the statement said. "As far as I know, they did not fly the Norwegian flag. I regret that the company's international obligations forbid me from releasing more complete details."

The statement had only whetted the demand for more information. Brenner was told that meetings with several political figures had been arranged for him this very evening, as well as a television appearance. Brenner had not slept since the

2:00 a.m. phone call, but the pace of events was keeping him wide awake. He put in a call to Limon in Paris to inform him that he was going public to defend Siemm. Limon, aghast at the notion, spoke cautiously, as if fearing a phone tap, and said he would call back. When the call came—Brenner assumed it was from a public phone—Limon cautioned him not to make any public statements.

The television interview came first—live on the 11:00 p.m. news broadcast. An outgoing, avuncular personality, Brenner was not intimidated by the warnings against his unauthorized plunge into muddy waters. His firm, the biggest foreign client of the Norwegian shipbuilding industry, he told the interviewer, was the major shareholder of Starboat. Basing himself on what he believed to be Israel's fallback cover story, he said the Cherbourg vessels would be used for servicing oil-drilling rigs off Israel's Mediterranean coast. This was the first public statement by an Israeli that Israeli interests were involved in Starboat or that the boats were heading for Israel. Brenner's revelation would infuriate Limon and other Israelis involved in the affair but the statement in distant Oslo by a little-known Israeli businessman that conflicted with previous reports involving Panama, Alaska, and Norway only added to the general confusion.

Asked why his company had bought gunboats when other vessels would better serve their purpose, Brenner replied that it was difficult to obtain suitable craft because of the oil boom in Indonesia and other places. As for the apparent intrigue surrounding the sale, it was nothing unusual: "It is not customary in the oil business to advertise one's next moves and the transaction was therefore carried out with some discretion."

The boats, he stressed, were not warships but unarmed vessels. He acknowledged that in times of war they could be armed, as could any vessel. If Norwegian law had been inadvertently broken in this affair, he, Brenner, assumed full responsibility, because it was done at his request. His friendship for Norway was well known, he said. As an officer in the British merchant fleet in World War II, he had navigated the first supply ship through a mined fjord to Trondheim in the wake of the retreating Germans. The tie was renewed and strengthened by his shipping activities.

Referring to the Starboat episode, he said, "If things were the other way around, if Norway were in the same position as Israel, I would have done the same for Norway." Siemm, who was also interviewed, said he had founded the Starboat Company on behalf of several financial groups, "some of them Israeli."

From the television studio Brenner was taken to two different locales in Oslo. At each place he was introduced to several important-looking political figures. It wasn't entirely clear to him who they were, but one was apparently a Liberal minister. Brenner touched the same points he had made in the television interview and found the atmosphere receptive. At one point one of the politicians said something to Martin Siemm in Norwegian.

"He said to tell you that Norway is a friend of Israel," said Siemm.

When they parted for the evening, Siemm told Brenner, "I think the political crisis is over."

Detectives were guarding the corridor outside Brenner's hotel room when he returned. Dead weary, he glanced at his watch before getting into bed. It was 2:00 a.m.

General Cazelles heard the news of the boats' departure with considerable bemusement. He was at his sister's home in the south of France, where he had gone for the holiday. Just six weeks before, his committee had approved the boats' sale to Norway; the radio was now reporting them off Gibraltar. Cazelles immediately thought of the published reports that France was negotiating the sale of fifty Mirage fighters and other armaments to Libya despite its embargo on arms sales to the Middle East.

"The government is clever," he told his sister. "It's letting the boats go to Israel and the planes to Libya."

When he returned to his office after the weekend, a summons from Debre awaited him. It was clear to Cazelles from the moment he was ushered into the defense minister's office that Debre was not amused. The minister rebuked Cazelles for his committee's approval of the boats' sale without having sufficiently established the bona fides of the purchaser. Cazelles was appalled by the rebuke, since he was convinced that Debre himself had to be involved in the boats' departure. The general did not yet realize it, but he was about to pay the penultimate price for his country—his career.

Newsmen tracked Amiot down to his retreat in Cannes. The shipyard owner insisted that the Norwegian firm he had sold the boats to was real, not a dummy corporation, as many were beginning to allege. He had correspondence from the firm and had met with its officials in Paris and Cherbourg.

The senior civil servants who gathered Monday in the Matignon, the offices of the premier, could sense the bureaucratic mine field they were being drawn into by the boat affair. They were informed by Chaban-Delmas's aide that each of their ministries was being asked to provide documents and explanations regarding the affair in time for the Cabinet meeting in two days. Even before the facts were gathered, it was clear that there were enough officials guilty of negligence and, most probably, conspiracy to provide the political guillotine an awesome feast.

Coastal listening stations in Sicily picked up an unusually large number of Hebrew messages in the clear and in Morse during the night. Italian maritime sources reported Israeli ships of an unidentified nature moving through the southern Tyrrhenian Sea, between Sicily and Sardinia, and in the waters between Sicily and Tunisia. Unidentified experts in Naples were quoted as saying that NATO tracking stations had been following the boats' movements since they entered the Mediterranean but were keeping silent so as not to disclose their whereabouts to a potential enemy. An Italian trawler reported seeing the gunboats off eastern Sicily on Tuesday morning, escorted by "numerous other Israeli ships," including an oil tanker and two submarines. The Norwegian press carried reports that a former Norwegian whaling factory ship may have refueled the fleeing boats.

For the Israelis, sailing without escort, the sense of danger grew the closer they got to home. If an interception was attempted by Egypt, it would likely be in the eastern Mediterranean. The Israeli navy command did not anticipate Soviet intervention but the government was less certain.

Once again the boats had to plow through stormy seas but there was a west wind at their back. Passing through the Aegean at night, they skirted two

unidentified ships. The two Saars north of Crete ran into thick fog. Tabak and his chief engineer checked the cracked cylinder head again and decided that the fault was small enough to permit the engine to be run without danger. The fourth engine allowed them to increase speed from twenty-two knots to thirty.

Aboard the Soufa, a sailor named Haim had been too sick to get out of his bunk since entering the English Channel. He was the best cook in the flotilla and had been brought from Israel by Shaked as a gift to the flagship for the voyage. The problem with Haim was that he became wretchedly seasick even in a gentle swell; the storm had rendered him totally immobile. Lieutenant Geva found his sympathy for Haim's condition steadily diminishing as the half-strength crew, many of its members also sick, labored round-the-clock to keep the vessel moving.

"This can't go on," Geva finally told him. "You've got to get up and relieve someone. You can be a lookout on the bridge. You wouldn't have to do anything but stand there."

"But I can't stand," groaned Haim.

Geva pulled the covers off the cook, helped him to his feet, and handed him his rough-weather gear. After escorting Haim up to the bridge, Geva propped him against the mast and lashed him to it with heavy line. Haim groaned as the boat danced dizzyingly in the waves.

"I'll have someone bring you down when the watch is over," said Geva. "Keep your eyes open."

Several hours later, Geva was talking to Kimche in the captain's cabin when he suddenly leaped to his feet. "My God, I've forgotten Haim," said the navigation officer. The watch had long since ended. When Geva told Kimche what had happened, the commander told him to go up personally and cut Haim loose. "And don't ever do it again." Geva found him ashen faced and too weak to protest. The officer cut him loose and helped him down to his bunk.

Fifteen hours after splitting up, Kimche's formation linked up with Tabak and Karish east of Crete. As they pushed through the rough waters, the lookout on the Soufa suddenly bellowed, "Planes dead ahead." Two warplanes were fast approaching the formation at a low altitude from the east. One of them peeled off and dived toward the boats. It leveled out and roared over the masts with its wings wagging before pirouetting up into the sky. In that brief pass, the sailors could make out the Star of David on the Phantom's wings.

Despite the crisis, President Pompidou had not cut short his Christmas vacation at Cajarc, three hundred miles south of Paris. By telephone he made it clear to his Cabinet colleagues and subordinates in Paris that he wanted a low-decibel reaction. Paris would plainly have to show its displeasure over the affair some way, if only as a sop to the Arab world, but Pompidou did not want thunder.

"Remember, I'm not General de Gaulle," he told a caller.

His was a statesmanlike approach that recognized that angry roars and flailing about would only augment the embarrassment. The situation was an extraordinary mixture of farce and political humiliation and required extremely judicious handling. Polls showed that three-quarters of the French population applauded the Israeli getaway. On the other hand, the boats' escape exposed the government as either criminally inept or Byzantinely devious.

Although government officials were insisting that the boats had been legally cleared for departure by customs and the Defense Ministry, the harbormaster of Cherbourg insisted that the captains of the boats had broken a century-old law obliging them to inform his office of their sailing and destination twenty-four hours ahead of departure. However, visiting journalists found the residents of Cherbourg clearly not sharing the embarrassment of the central government. They expressed delight at the escapade and saluted the Israelis with "well done."

Pompidou returned to Paris Tuesday night and met the next day, December 31, at a working lunch with Premier Chaban-Delmas, Defense Minister Debre, and Foreign Minister Schumann before the regularly scheduled Cabinet meeting. Despite their fury at the Israeli government, the four agreed that it was not in France's interests to sever relations with Jerusalem. Pompidou also opposed a showy witchhunt for conspirators within France itself. What had to be determined was who would pay the price. The biblical practice of sending a goat off into the desert on the Day of Atonement burdened by the high priest with the sins of the nation may not have been fair to the goat but it was healthy for the nation—a piece of folk wisdom instinctively understood by the high priests of politics through the ages.

Schumann demanded the suspension of General Bonte, the official most directly connected with the "Norwegian option." He also proposed the banishment of the Israeli purchasing mission headed by Limon. However, Pompidou said a distinction should be made between the mission as such, which had placed more than $1 billion worth of orders with French industry over the years, and Limon personally.

Debre was particularly adamant about Limon. The Israeli official had violated the most basic standards of diplomatic behavior, asserted Debre, by signing a false declaration—namely, that Israel was ceding its claim to the boats. Debre also demanded the dismissal of General Cazelles. The general was probably innocent of conspiracy but he should have made it his business, argued Debre, to have the identity of the purchaser checked out. Although Cazelles was a protege of Pompidou's, the president reluctantly agreed to offer up his head.

The ground was laid for the Cabinet meeting, which got under way in the afternoon. Participants were handed detailed reports on the Cherbourg affair that had been drawn up by the officials summoned to the Matignon two days before. The reports traced developments from the start of the boats' construction four years earlier. A report from the Renseignements Generaux cited the contract signed the week before between Limon and Amiot rescinding the earlier contract between them and the contract between Siemm and Amiot. One report also mentioned the Starboat name plates observed on the boats by the customs officer on the afternoon of December 24. A paper submitted by the prime minister's office noted that the contracts between Amiot, Siemm, and Limon had not been approved by any government representative and apparently did not include a non-reexportation clause. An RG report stated that an eyewitness had seen the boats leave "fully illuminated." The RG even noted remarks made the previous day to Italian television by some of Cherbourg's leading citizens, including Mayor Hebert, "who treated the incident in his usual ironic manner."

Among the officials summoned to the Cabinet meeting was Jacques Marti, who had signed the customs clearance for the boats. A veteran of bureaucratic battles, the Corsican had prepared for the occasion by bringing copies of the relevant documents he needed to protect himself. Missing from the documents the Cabinet had been presented by various ministries was the permission given by the Defense Ministry to Customs to issue final customs clearance. When a ministry official denied that such approval had been given, Marti distributed copies of the missing document.

Pompidou rejected a proposal that relations with Israel be severed. Nor, if France wished to retain a middleman position in the Middle East, would it recall its ambassador to Israel. He outlined instead the steps agreed upon at the luncheon with his senior ministers. Glancing frostily at the ministers and senior civil servants around the long table, he said, "We have been made to appear ridiculous because of the incredible lightheadedness and intellectual complicity of our officials."

Before the meeting ended, an aide entered the room and handed Pompidou a note. The five Cherbourg boats, it said, were entering Haifa harbor.

They had arrived off Haifa close to noon but were ordered to stay out of sight of the coast until dark. A daylight arrival shown on television, the Israeli government feared, would be flaunting their escape in Paris' face. The sea this day was the worst it had been since the Bay of Biscay and for six hours the captains struggled to keep position. Instructions from navy headquarters for the debarkation were pouring through the radiomen's earphones. Journalists and television crews from all over the world were waiting for them ashore but the boats' entrance would be as low-key as possible. They would not enter the main harbor but the adjacent port of Kishon, where they would dock at the Israel Shipyards. Officially the boats were civilian and the men would remain dressed in civilian clothing; overalls would be ferried out to the boats for the men to don before disembarking. Officials of the Netivai Neft Oil Company would be on hand to "take possession" of the vessels. No one would speak to the press except for Karish, who would field questions at a press conference but say as little as possible. Kimche's identity as commander of the operation would not be revealed.

Light planes carrying cameramen circled overhead periodically. With darkness, the boats headed toward the Bay of Haifa. In the anchorage outside the port, a score of freighters waited to load oranges. As the Saars passed among them, one of the merchant ships sounded its whistle in recognition. Within seconds all the freighters were sounding a raucous salute.

As the Saars turned into the tricky approaches to Kishon harbor Kimche asked all captains to place their walkie-talkies next to the ship's public-address system so that he could address all hands. "This is a historic day for the navy," he said. "These boats that we have brought will double the navy's strength. It's been a difficult passage but you've performed splendidly. Well done."

The Saars came into the dock at five-minute intervals, their own sirens sounding. Television projector lights glaring directly into their faces blinded the helmsmen and captains feeling their way and more than one feared that the voyage would be marred at the very last moment by collision with the dock. Sailors

onshore had to force their way through the press of newsmen to take the docking lines. The foreign journalists were astonished at the youth of the crewmen—teen-agers in civilian clothing—and noticed that their pallor contrasted sharply with the weatherbeaten faces of the bridge officers.

When Lieutenant Commander Ben-Zeev shut down the engines of Number Eleven, he had fuel left for only ten minutes' sailing. In the week since they had left Cherbourg, he had had no more than three hours of sleep and had lost thirteen pounds. Tabak, on Number Twelve, glanced at the boats neatly aligned again at the dock, as they had been a week before in Cherbourg, and thought of all that had transpired since his first arrival in Cherbourg to oversee the testing of the Saars. "This hasn't been a week's voyage," he thought. "It's been a two years' voyage."

In the engine room of Number Eight, Nave listened for a moment to the deep silence of the engines after their shutdown. They had endured more in the past week than any test could inflict on them and they had proved faithful. Mounting the steps to the deck, he emerged into the blinding glare of the floodlights.

The press conference, attended by more than a hundred journalists and television crewmen, was held in the shipyard canteen. Karish, an accomplished raconteur, curbed his expansiveness for the occasion. For close to an hour he told about the weather they had experienced en route and provided deliberately inane answers in English to the questions hurled at him.

"How did you leave Cherbourg?"

"How? Well, normally."

"Who gave you permission to leave?"

"We got notice from the company to go, so we went."

"How is it that you, a naval officer, take orders from a commercial company?"

"No problem. I was told to sail, and sailed. Is that a customary practice? I don't know."

"Who gave you permission to sail?"

"I didn't deal with the formalities. The company's agent took care of that. I only know that I had permission to sail."

An official of the Netivai Neft Company was introduced to the press and said he was taking possession of the boats for his firm. The boats, he said, would be used for general purposes in connection with offshore drilling.

The crews were bused across Haifa to the naval base in the main port, where they were joined for an emotional reception by their families and a jubilant Moshe Dayan. In a brief ceremony, the defense minister handed each of the captains a large Bible for his boat. Exhaustion prompted most of the men to make their farewells early and drift off with their families to their first deep sleep in a week.

As the party wound down, others were starting up all over the country. It was New Year's Eve.

The hour of the diplomats had arrived. It was for both sides now to firmly assert their national dignity while simultaneously easing back from confrontation. On New Year's Day, the Israeli ambassador in Paris was summoned to the Quai d'Orsay to be informed by Foreign Minister Schumann of the government's decision the day before to request Limon's recall. From there, Ambassador Eytan

hurried back to his embassy to change into tails and make his way to the president's New Year's reception at the Elysée. It would be Pompidou's first meeting with an Israeli representative since the boat affair.

The ambassadors filling the reception hall awaited the confrontation with delicious anticipation. There would, however, be no diplomatic spectacle. Pompidou shook Eytan's hand firmly and moved on to the next ambassador in line without comment. The year before, de Gaulle had utilized his formal address to the assembled diplomats to chastise Israel for its raid on distant Beirut Airport. Pompidou, in his remarks, avoided any allusions to Cherbourg and confined himself to calling for universal peace. When the diplomats mingled at the subsequent reception, Eytan showed Deputy Foreign Minister Jean de Lipkowski the car-check stub that had been given him by the doorman upon his arrival. It was numbered 007. De Lipkowski burst into laughter and passed on the doorman's joke to other diplomats.

The Israelis had been braced for far worse than Limon's recall. Foreign Ministry officials had been contemplating which embassy would represent their interests in Paris if relations were severed. Even the move against Limon was relatively mild. It had been anticipated that he would be declared persona non grata which would have barred his subsequent re-entry to the country even as a tourist. Israeli officials had indicated to the French that if they took strong action, Israel would release the texts of the relevant contracts, including the contract that Paris had not previously seen by which Siemm had leased the boats to Netivai Neft. What these contracts added up to was that Israel had done nothing illegal and that the French government had been made a fool of.

Jerusalem termed the French demand for Limon's recall "unjustified," but the official statement lacked the bite of indignation and there was no reciprocal expulsion of a French diplomat, as is usual in such cases. In a Tel Aviv speech, Foreign Minister Abba Eban declared that Israel did not stand as the accused in its dialogue with France, "since there had been no breach of law," but as the injured party. Israel demanded redress, he said, from an unfair embargo policy that withheld arms from Israel despite signed agreements while channeling arms to Israel's enemies. He was pleased to note, said Eban, that the French had put the boat affair "in proper perspective" as a minor episode. Eban informed the French ambassador that the boats were to be used to service and "protect" offshore oil rigs, the latter addendum neatly opening the way to providing the boats with armaments.

There remained only the wrapping up. In Cherbourg, Supply Officer Shachak had begun, the morning after Christmas, to make the rounds of shops the Israelis patronized to pay off any outstanding debts. At the hotel where the crewmen had been staying he called on the proprietor and said, "Monsieur Grenier, let's make the bill." When Grenier noted that he had purchased ten chickens for the absent men's Christmas lunch, the supply officer readily agreed to pay for them.

Three days after the boats' departure, Shachak was asked to report to Cherbourg police headquarters. The police commissioner, Monsieur Foch, happened to live in the apartment beneath Shachak's. Foch had suffered an unhappy relationship with an Israeli officer who had earlier occupied the upstairs apartment, and who viewed Foch's complaints about noise as expressions of anti-

Semitism. Upon moving in, Shachak had made a point of calling on his downstairs neighbor and asking him not to hesitate to tell him when he was being disturbed.

Before going to the commissioner's office, Shachak phoned Limon in Paris to inform him of the summons. Limon told him to be prepared for an expulsion order. Also present in Foch's office when Shachak was ushered in was a stranger, evidently from one of the security services, who remained silent. Foch greeted the Israeli courteously and asked, "What are your plans?"

Shachak said that he wanted to oversee the return to Israel of the equipment and papers of the naval mission and see to the repatriation of the ten Israeli families left in Cherbourg without their menfolk. "We're not going to leave them to the Cherbourg Welfare Department," he said amiably.

Foch gave Shachak no deadline for leaving; the Israeli would stay on for two more months.

One week after New Year's Day, Ambassador Eytan held a farewell party at the embassy for Limon, who was to depart the next day after seven years in Paris. He was to have left in August in any case but to friends who expected to find him jubilant over the success of the operation he seemed saddened, even depressed, by the circumstances of his forced departure. The collateral damage to Siemm, Bonte and Cazelles may have weighed upon him. Limon, however, had no pangs of conscience over having misled the French government. France had violated a contractual commitment. Paramount was the fact that the boats were the backbone of the new navy and that there had been no practical alternative to the escape he had engineered.

"All of you know," he told the Israelis at the party, "that we are fighting for Israel's survival."

Before leaving, he telephoned his farewells to French friends, including General Bonte, and detected no trace of anger toward him among any of them.

For Bonte and Cazelles, the Cherbourg affair would mark a tragic end to illustrious careers. Bonte refused to accept his suspension passively and appealed to France's highest judicial body, the Council of State. He also awaited the verdict of the inquiry committee appointed by the government to investigate the affair. Meanwhile, he retired to a small town on the French Riviera. He was still awaiting exoneration eighteen months after the flight of the boats when he was struck by a motorbike while crossing a street. He died of a fractured skull in a Nice hospital.

Cazelles was summoned immediately after the New Year's Eve Cabinet meeting to the office of Chaban-Delmas. The manner in which the premier's aides turned away in embarrassment when Cazelles arrived was a clear portent of bad news. Chaban-Delmas informed the general that the government had decided on his suspension. He was being suspended, the premier emphasized, not sacked. When Cazelles asked what the difference was, the premier offered no clear response.

The suspension of the generals was hailed by Arab states as a voucher of the French government's non-complicity in the affair. The government could see no way of reinstating the generals, innocent or not, without calling into question its own credibility. After a year, Cazelles requested an interview with Pompidou. When his former patron made it clear that his status could not be changed, Cazelles retired from the army.

Limon, shortly after returning home, began a new career as the Israeli representative of Baron Edmond de Rothschild. The baron, whom he had come to know during his Paris sojourn, had extensive business interests in Israel. Limon's connection to the House of Rothschild would become more intimate when his daughter married the scion of another branch of the Rothschild family. Although Limon's new duties required frequent visits to Paris, he put off returning for half a year after his forced departure.

It was with some apprehension that he finally flew to France to attend a business meeting. Although he had not been declared non grata, the border police could turn him back without explanation. The officer to whom he handed his passport at the airport studied it for some time, turned the pages, looked at it sideways, and then looked up at the tall traveler. "You are Admiral Limon?" he asked. Limon acknowledged his identity. The officer rose and reached over the glass partition to shake his hand.

"Congratulations," said the Frenchman.

While the fate of the Cherbourg boats had been visible to all—much too visible for the parties concerned—knowledge about the fifty embargoed Mirage planes at remote military airfields and aircraft factories was limited to what the parties chose to reveal. The planes would remain a subject of bitter public controversy until Israel finally announced in 1972 that it was waiving its claims and accepting a refund of its money, leaving the planes to be turned over to the French air force.

However, fifty Mirages had already made their way to Israel in packing cases marked "spare parts"—some of them having been disassembled, some shipped in parts straight from the factories. At the Israel Aircraft Industries plant they were put together on a special assembly line, with minor structural changes and an American engine. The reborn aircraft, later to be named the Kfir, was more powerful than the original Mirage. Among the ports through which the "spare parts" were shipped was Cherbourg.

It had begun with the wisp of an idea hesitantly floated at a staff meeting in navy headquarters on Mount Carmel in 1960. The force mobilized by that idea had proved powerful enough to overcome resistance within the navy, opposition by rival services, the deepest instincts of the Israeli General Staff, the technological state-of-the-art, the skepticism of Western navies, and now the French embargo. This force was distilled through a small group of men charged with responsibility for Israel's sea defenses. They had perceived a threat, devised a solution, and moved to implement it, letting nothing stand in their way. Ahead of them still lay the ultimate test—the performance of their homegrown concept in combat against the technology of a superpower.

PART III

War.

Chapter 15

Warship.

The sight of the small boats scurrying out to sea in the morning and returning late at night would become as familiar to residents of Haifa as it had been in Cherbourg. The only change in the boats' appearance initially was the small guns installed on deck. For several months the last five "Starboat" vessels had no weaponry at all, their role as leased civilian equipment continuing to be played out. The twelve "Cherbourg boats," as Israelis came to call them, would require a major transformation before becoming missile boats. Given the absence of Israeli experience, the Defense Ministry turned to Italy, which agreed to install and integrate the complex weapon and electronic systems at La Spezia. However, the Italians subsequently backed down for political reasons and the Israeli navy and Israel Aircraft Industries decided to undertake the task themselves. Technicians worked round-the-clock from rafts alongside the boats in order not to clutter the narrow quays at the navy base. Once again Israel was being pushed into new areas of technology by lack of alternatives.

There was an enthusiastic turnout of volunteers for the flotilla all through the navy. A new kind of warfare was involved, one in which brawn and even seamanship mattered less than an ability to control electronic systems without faltering in the stress of battle. Outstanding officers from the torpedo and destroyer flotillas, all of them with engineering degrees, were chosen to organize the training program. First they had to master the intricate systems themselves, and then devise standard operating procedures that ordinary seamen could cope with.

The systems' complexity was increased by the planners' decision "to leave a man in the loop"—that is, not to automate the missile firing system fully on the grounds that a trained man could distinguish between real and false targets better than any electronic sensor. The crewmen, many of them not out of their teens, would be operating near their maximum capacity. In battle situations they would be called on to make life-or-death decisions in split seconds. There was concern in the navy hierarchy about whether Israeli crews, with their limited experience, would be capable of meeting these demands. The same concern had been voiced by the heads of the German rocket development program in World War II when the V-2s were to be turned over by the scientists at Peenemunde to army crews who

were to fire them against England. Unlike the V-2 crews, the missile boat sailors would be operating under fire against fast-moving targets.

Discipline among the Israeli crewmen differed from that in other navies. Men and officers addressed one another by first name, only the captain being addressed formally as “Hamefakaid” (“Commander”). There was no saluting except by the gangplank sentry when the captain boarded the vessel. If an officer told a passing sailor to mop up a spill, the rating might easily argue the point, noting that it was not his compartment or that he was just coming off watch.

This lack of conventional discipline was balanced by a sense of involvement by the ordinary sailor in the general running of the boat, and by personal initiative. Sailors learned not only their assigned duties but those of others as well. They would not settle for being told that the boat would sail in twenty-four hours—they wanted to know where it was sailing to and why and, if it was a battle exercise, what the tactical situation was supposed to be. Officers took a close interest in the men’s affairs and would visit their homes in the event of family problems or illness. The officers themselves were highly trained and motivated personnel on whom the success or failure of the program would depend.

Within the flotilla, confidence in the direction they were taking grew daily. The crews worked first with mockups and then with the boats themselves as the Saars began to arrive from Cherbourg. Because of the intense concentration involved in monitoring the electronic instrumentation, it was decided that the crews would stand watch three hours, even though the standard four-on/four-off routine would have permitted longer stretches of sleep.

No navy in the West had yet developed a comprehensive battle doctrine for missile warfare and a completely new way of thinking was required. In combat, captains would not be on the bridge observing the enemy through binoculars, but below decks, watching dots moving on screens in the Combat Information Center. Electronic impulses flitting across the spaces between opposing fleets would now determine the course of battles.

Unlike conventional shells, missiles were not in the lap of the gods once fired but could be manipulated by one or both sides while in the air. The small radar in the Gabriel missile itself would lock on a target “illuminated” by the large radar on the launch vessel—the fire-control radar. The missile would “ride the beam” provided by the fire-control radar until about halfway to target, at which point the missile’s own radar would take over the homing and free the radar on the boat to guide another missile. The side being attacked, if it had an EW system, could attempt to baffle the incoming missiles with false signals. However, should the enemy attempt to do this to the Gabriel, the operator on the launch vessel could take back command from the radar on the missile, override the jamming, and steer the missile to target.

Unlike the Gabriel’s system—called “semi-active homing” because of the missile’s partial dependence on a beam from the launch vessel—the Styx employed an active homing system, in which the missile followed its own radar signals to the target without the mother ship’s having to light the way. This mode would be employed by virtually all missile systems to be developed in the West, including the French Exocet and American Harpoon and even the later versions of the

Gabriel, because missile ranges came to extend well beyond radar range and they could therefore not be beamed onto target by the mother ship.

Even-Tov had chosen the semi-active approach partly because the Soviets were expert at jamming and he believed beam-riding could overcome any jamming systems that the Osas and Komars might carry. The main reason, however, was his uncertainty over whether his theoretical calculations concerning the Gabriel's ability to home in on a target were correct. The missile's small radar would have to distinguish the target through the electronic "static" that radar soundings elicit. Even-Tov decided that the missile had best be helped at least halfway on its course by a beam-ride from the mother ship to ensure that it was close enough to the target to discern its signal clearly. If worst came to worst, and the Gabriel's unconventional radar failed altogether, the missile could ride the radar beam projected by the launch vessel all the way to target.

The Israelis were for long totally ignorant of the characteristics of the missile they would have to face. If Western intelligence sources knew anything about the Styx, they were not telling. Not even a picture of it was available. Many experts believed the Russians incapable of developing sophisticated homing radar. They were convinced that the Styx was merely a ballistic missile—in effect, a shell with a longer-than-normal range and a larger-than-normal payload but without an electronic brain that could chase its prey. The Russians, Western authorities noted, had gone through World War II without developing radar. Even the names of the Soviet missile boats, *Komar* ("Mosquito") and *Osa* ("Wasp"), were cited as evidence that the Soviets themselves did not attribute killing powers to their weapon system. Another school of thought believed it unlikely that such an expensive weapon would have been developed without a homing capacity but few believed the Styx capable of hitting a small target.

Commander Herut Tsemach, a brilliant electronics officer, had been summoned to Erell's office in 1964, two years after the Soviet missile boats had been delivered to Egypt. The deputy navy commander asked Tsemach to look into the question of the Styx: "Do we have a problem? If so, what do we do about it?"

It would take Tsemach six months to think the problem through. He had worked on a homing system for the Gabriel after being seconded to the IAI by the navy. He had provided important input but clashed with Ori Even-Tov over different engineering approaches and was forced off the project. Trying now to imagine how his counterpart in Soviet naval headquarters in Leningrad thought, and examining what was known about Soviet missile technology, he concluded that there was indeed a problem. In a paper submitted to Erell, he sketched out possible solutions for jamming or deceiving the enemy radar. For the moment these solutions remained on paper.

Commander Shoshan, head of the navy's electronic division and future commander of the Eilat, had also been asked by Erell to examine the problem. Shoshan had read in a foreign maritime magazine about the commercial availability of chaff dispensers. Chaff, strips of aluminum, had been dropped in large quantities by air forces in World War II to confuse enemy radars by reflecting their beams the way airplanes did. They were being offered now as rescue devices for lifeboats. Fired from hand-held dispensers, they could be picked up by the radar of search vessels from far greater distances than flares could be seen. After

obtaining Erell's approval of a budget allocation of 20 pounds sterling, Shoshan ordered twenty of the chaff rockets from abroad.

In an experiment carried out near Haifa, Tsemach manned a radar on the shore as Shoshan sailed past on a torpedo boat and fired a single chaff rocket. By radio, Tsemach reported to Shoshan that he could still clearly see the boat on the screen. Shoshan and two assistants then fired three rockets simultaneously. Tsemach reported that he could no longer distinguish the ship because of the confusion of images. The men were jubilant—the radar lock could be broken. But a more sophisticated answer would have to be found than hand-held dispensers. They would also need EW instruments that could blind the Styx's radar by jamming or tricking it with false signals.

The first order of business was to construct an instrument that could identify enemy radar emissions by their electronic fingerprints, including the distinctive radar used in the guidance of missiles. This electronic intelligence is the basis of ESM (Electronic Support Measures), whose task is to signal the presence of an enemy and warn of incoming missiles. Such instruments existed in some advanced navies but none was available to Israel. Developing them from scratch could take years. Tsemach decided to try improvising a detection device from available materials. Scouring the navy's warehouses in Haifa, he came upon World War II American radar equipment that could provide the basis for the system. With the assistance of one of the electronic plants beginning to be established in Israel, he devised a prototype detection instrument. It was declared operational in just six months, an effort for which Tsemach would receive the coveted Israel Prize for technology in 1966. The instrument was placed aboard the EILAT before it set out on its doomed voyage in October 1967. When divers retrieved the instrument from the sunken destroyer, it was found to have faithfully recorded the distinctive emission of a Komar's fire-control radar in Port Said homing in on the EILAT. The operators on the EILAT had failed to identify it so the destroyer did not stay out of range.

Tsemach heard about the EILAT's sinking on his car radio as he returned from a Sabbath outing with his family. He drove to naval headquarters and found everyone in shock.

"Well, their missiles do hit, don't they?" Erell said to him mordantly.

Tsemach phoned the senior engineering officer who had been the principal advocate of the Styx-can't-hit school. When Tsemach reported that Styx had not only hit but sunk the EILAT, he heard the officer gasp, "Mama mia."

In the next few days, Tsemach visited survivors in hospitals at home to obtain a description of the missile attack. It quickly became apparent that the Styx had not only muscle but a formidable brain as well. Tsemach came down with the flu during this survey and was visited in his home atop Mount Carmel by Commander Rami Lunz, slated to become the navy's next chief intelligence officer. The two men talked of the need for an active EW system that would not only monitor incoming missiles but also deceive them. Known as ECM (Electronic Counter Measures), this system included jamming and deception. If ESM could provide technical details such as the enemy radar's wavelength and pulse rate, then similar emissions could be sent by ECM to the enemy radar to drown out its emissions with brute electronic force or divert it into pursuit of electronic ghosts.

Tsemach spelled out the outlines of what had already taken shape in his mind. Despite the sophistication of some of its elements, it was a relatively simple system whose great advantage was that it was achievable within a reasonable time and at reasonable cost. Lunz recognized Tsemach's genius in being able to provide quick and practical answers to complex problems without becoming bogged down in the search for ever more clever solutions. Russia's Admiral Groshkov, who built up his country's postwar fleet, expressed his preference for such rough-and-ready solutions over the brilliant-but-prolonged approach when he asserted, "Good enough is the best." What Tsemach proposed appeared to be good enough.

The wooden-hulled fishing vessel *Orit* set out from Ashdod in mid-May 1970 to work the waters off northern Sinai. The Six Day War had opened new fishing grounds for Israel's small trawler fleet, particularly during the warmer months when there is scant fishing farther north. Off El Arish, the four-man crew cast two nets. After hauling in the catch, they continued westward. By the light of deck lamps, two crewmen, aged seventeen and twenty-one, began sorting out the fish and storing them below. They were concentrating on their work and so did not see the bright light lifting over the western horizon and speeding silently in their direction through the night sky. A violent explosion in the water nearby knocked them off their feet. The boat's lights went out and the vessel shuddered. Another missile, following close behind, exploded alongside the small vessel, shattering the wooden hull.

The two young crewmen lifted themselves off the deck and found themselves uninjured, the wooden timbers of the vessel having absorbed much of the blast. Feeling their way in the darkness, they stumbled on the engineer lying mortally wounded near the bridge. Below decks they found the captain dead. The two crewmen strapped lifebelts on the wounded engineer and on themselves. As they prepared to leap into the water, they saw two more missiles diving at them. Fortunately for them, they remained on board as the missiles exploded in the water. Discovering that the engineer had died they strapped his body to a large plank in the hope that it would be washed ashore.

The pair slipped into the water and began swimming toward the Sinai shore eleven miles to the south. Almost twenty-four hours later they reached it, staggering ashore at Bardiwill Lagoon. The exhausted pair dug themselves into the sand as protection against the cold desert night. At dawn they began walking and soon met a Bedouin fisherman. He gave them food and hot tea and took them across the lagoon in his small boat to an Israeli settlement, the farthest west in Sinai. A few hours later the two young crewmen had been helicoptered back to Israel and were telling their story to naval intelligence officers.

The Egyptians had demonstrated that the Styx could home not only on a twenty-five-hundred-ton destroyer but also on a seventy-ton wooden boat. Most officers in Israeli naval headquarters had believed the Saar boats too small to be hit by a Styx but the Orit was one-third the size. For the moment there was nothing the navy could do about it except avoid surface encounters.

Even before becoming the first victim of the new missile technology, Israel was already far ahead of anyone else in the West in coming up with a system to counter it. The platform for the new system was being built in the Cherbourg

shipyard and the EW outlines were being drawn up in Haifa by Tsemach. Following the sinking of the *Eilat*, Tsemach had no problem getting all the funding and engineering personnel he needed; the problem was obtaining the necessary electronic equipment. He toured NATO countries but found that they had nothing serious to offer. Although the United States had begun development work on anti-Styx jammers in the early 1960s, it was not yet sharing this equipment even with its NATO allies. Tsemach had been able to put together his initial detection system with found items and some local development work but Israel's electronic base was not yet at a level to produce the sophisticated equipment Tsemach had conceived to ward off missiles by jamming their radars or sending them false signals. He turned instead to a major electronics firm in Italy that could meet his specifications and provide the project with its own considerable electronics input.

In addition to the electronics, Tsemach and his team developed a chaff system that had no parallel elsewhere. It included the use of both long-range and short-range rockets—the former to create a diversion in the early stage of battle and make the enemy waste missiles on electronic shadows, the latter to divert missiles that managed to home in on the Israeli vessels by creating a large decoy target at the last moment that left the real target off center. The chaff had to be fired according to a precise sequence and failure of nerve or confusion by the men responsible for it could lead to disaster.

The critical importance of EW to the entire program became even more apparent in the mid-1960s, when the Israelis learned that the Styx had a twenty eight mile range. The range of the Gabriel, still in the development stage, was less than half that, only twelve miles. This meant that for a lengthy period at the beginning of a battle—perhaps half an hour—the Saars would be exposed to missiles and could not hit back. Without the EW cover, there would be no way of crossing the fifteen-mile-wide "missile belt", as it was called, in order to get within Gabriel range of the enemy ships. No navy in the world had anti-missile EW on small boats, but for the Israeli navy these were ships of the line.

The Gabriel's range had been fixed to permit the missile—initially intended to be mounted on destroyers—to outreach the guns of the Egyptian Skory destroyers. Discovering that the Gabriel was outranged by the Styx, the naval command debated the possibility of asking Ori Even-Tov to change the characteristics of his missile by developing a new motor for long-range propulsion. The idea was dropped because the change could drag out the development process for an extended period. It was deemed preferable to have an operational missile in hand as soon as possible, even if its range was limited. This would prove one of the most important executive decisions in the entire program.

The deadliness of the Styx was proved again during the Indo-Pakistani war in 1971, when the Indian navy used the missile to sink a destroyer and a minesweeper on the open seas, as well as several vessels in a Pakistani port.

To some Israeli naval officers, the concept of EW seemed a flight of fancy, a conceit of the electronics spooks that had little relevance to real combat. When Tsemach briefed missile boat commanders for the first time on his EW approach, he was challenged by Lieutenant Commander Eli Rahav, the officer who had led the torpedo boats in the action off Romani in July 1967 in which two Egyptian vessels were sunk.

“I don’t believe in all this hocus-pocus,” said Rahav. “What we need are boats that move fast.” Stung by the phrase “hocus-pocus,” Tsemach said, “All right, your boat will get the equipment last.”

Which it would.

The sinking of the EILAT reverberated in naval circles throughout the world. France, whose experts had been briefed on the development of the Gabriel by the Israelis, began developing its own sea-to-sea missile, the Exocet, a few months after the sinking and other European countries launched similar development programs.

Even before the Amiot shipyard in Cherbourg had completed the last of the Saars in 1969, it received orders for similar missile boats from Greece. Within the next few years it would receive orders for more than fifty more from Asia, South America, Europe, and Arab countries. Other shipyards around the world also entered into production. The United States navy, reacting strongly to the belatedly recognized danger of the Soviet missiles, began to pour large sums into the development of EW systems—over-extravagant sums, according to some American experts. In 1970, under the command of Admiral Elmo Zumwalt, it would also begin to develop its first effective sea-to-sea missile, the Harpoon. Zumwalt was the first “black-shoe” admiral from the surface fleet to become chief of naval operations after a string of admirals from the air arm. He was determined to restore offensive capability to other naval elements rather than relying so heavily on its vulnerable carriers. Israel’s diminutive navy, meanwhile, was moving steadily along its own course.

When the Gabriel was designed for use against destroyers, it was presumed that the missile boats on both sides were too small a target for missiles. Erell had therefore envisioned the second series of six Cherbourg boats which had the larger 76mm guns engaging the enemy missile boats with shellfire. The sinking of the *Orit* demonstrated that small boats were also vulnerable to missiles. The Gabriel would prove equally able to hit pinpoint targets. The opposing missile boats then would be using their missiles against each other, not gunfire, which meant devising entirely new tactics.

It fell to Hadar Kimche, as the first commander of the missile boat flotilla, to turn the Saar from a bare platform into a warship. Building on concepts originally advanced by Binny Telem and others, he took the boats out almost every day to test the tactics as they were formulated. In the battle doctrine being developed, the primary objective was to cross the missile belt while evading the Styx’s long reach with EW, speed, and maneuver. The enemy could theoretically keep out of Gabriel range by launching his Styx at maximum range and then beating a retreat to nearby harbors before the Saars’ superior speed could close the gap. The answer was somehow to use EW to draw the enemy near, to confuse him about the Israeli boats’ whereabouts, and then to pounce on him from out of an electronic cloud somewhere near effective Gabriel range.

The flotilla received a major boost in efficiency in 1970 when four years of work on a tactical trainer was completed. Officers trained individually or in groups in endless permutations of combat situations—confronting various combinations of enemy craft, by night and day, in stormy weather and calm, with gunfire or

missiles. Computer readings informed them whether they had sunk the enemy or gone down with all hands. In group debriefings, the officers were encouraged to evaluate one another's performance frankly and the youngest ensigns were free to question even their squadron commander's judgment.

In hundreds of war games the missile boat officers skirmished with enemy fleets using tactics known to be employed by the Egyptian and Syrian navies. The "Arab" commanders in these games were naval intelligence officers who created a worst-case situation for the Israeli commanders facing them by using their knowledge of the Israeli missile boat capabilities.

Confidence steadily grew among the missile boat men as the pieces of the system began to come together. Confidence and constant drilling were essential for men who would have to charge an enemy with a reach twice as long as their own—a reach whose lethality in the sinking of the EILAT was still fresh in everyone's mind. One officer whose confidence in the EW defenses was less than total was the man who had devised them, Herut Tsemach. He could only make an educated guess as to the way the Styx system's electronics worked. He had guessed correctly in 1964 that his opposite number in Leningrad would install a homing device in the Styx, but determining what kind of device was another matter. If he had guessed wrongly, the electronic umbrella he had devised for the Israeli fleet could prove a shroud.

Chapter 16

Red Sea Command.

Four small patrol boats were moored in the bay at Sharm al-Sheikh, near the southern tip of the Sinai Peninsula, when Captain Zeev Almog flew down in August 1972 to assume command of Israel's Red Sea fleet. Aside from five vintage landing craft, the lightly armed patrol boats made up virtually the entire naval force responsible for preventing infiltration along Sinai's long coastline.

Almog, who had established his reputation as leader of the naval commandos, received a strong hint from the chief of staff, General David Elazar, that the size of his fleet might not be his major problem in his new job.

In a tone only half joshing, Elazar said to him after the change-of-command ceremony, "Any boat that breaks down at sea, Zeev, I'm going to hold you personally responsible for."

Elazar related that he had gone out with Almog's predecessor in a patrol boat whose engine failed after ten miles. "Never mind that the problem turned out to be that they simply hadn't checked the gauges before sailing and had run out of fuel. We'll put that aside for the moment. What I will never forgive is that I was stuck on that damn boat vomiting my guts out for five hours before they could get another boat to us."

Elazar's complaint was still echoing in Almog's mind the next morning as he settled into his new office. At 9:00 a.m. he laid the papers he was studying aside and said to his deputy, "Let's take a look."

The base seemed deserted when they stepped out into the hot sunlight. Neither the sound of human voices nor machinery interrupted the howl of the wind. Entering the barracks, the two men found virtually all base personnel, including officers, sound asleep. Almog was astounded at seeing a navy unit succumbing so completely to the phenomenon of Bedouinism, which sometimes afflicts military units stationed for long in the desert—a lassitude deriving from the heat, the remoteness, and surrender to the enormity of the surroundings.

The acquisition of the Sinai Peninsula in 1967 quintupled the length of shoreline in Israel's hands and gave the navy an operational relevance it never had before. Upon it fell the prime responsibility for preventing Egyptian landings on Sinai's long coast and protecting the oil fields captured along the Gulf of Suez.

Skirmishing in these waters during the so-called War of Attrition in 1969-70 brought the naval commandos and the small Red Sea fleet into their own. Hitherto a highly trained but little-used elite force, the commandos under Almog staged eighty raids across the Suez Canal and the Gulf of Suez. The most daring was the raid on Green Island, a fortress two miles south of the Suez Canal. In a night attack, frogmen swimming underwater against a strong current came silently out of the sea to eliminate the sentries and penetrate the fortress's heavy defenses.

In September 1969 a tank force transported by naval landing craft crossed the Gulf of Suez in the largest amphibious operation Israel had ever staged. The tanks rolled up Egyptian defenses along a fifty-mile stretch of coast before being retrieved and ferried back to Sinai.

Thus, while half the navy was building a missile force at the cutting-edge of military technology in Mediterranean waters, the other half was waging old-fashioned cut-and-thrust warfare in the south.

The Strait of Tiran, whose blockade by the Egyptians was a *casus belli* of the Six Day War, was opened in that war when Israel captured Sinai. But there was another pinch point a thousand miles south where Egypt was threatening to blockade Iranian oil tankers and other Eilat-bound shipping—the Strait of Bab al-Mandeb between the Arabian peninsula and the horn of Africa. Dayan asked the navy to develop vessels with range enough to prevent Bab al-Mandeb from being sealed off. Naval architect Haim Shahal was in Cherbourg when Dayan's request was passed on to him. He turned again to Lurssen in Bremen, designers of the Saar. Basing themselves on one of their existing vessels, the German shipbuilders came up with a design for a 415-ton boat—80 percent larger than the Saar—with a three-thousand-mile range. This was enough to reach Bab al-Mandeb, linger to patrol or fight, and return without refueling.

The technological know-how that had begun accumulating with the Saar project enabled Israel Shipyards in Haifa to undertake construction of the new *Reshef* ("Flash") class boats with the help of Israel's burgeoning electronics industries. The first two vessel based on the Lurssen design were scheduled to be launched in 1973. Too large to be transferred to Eilat overland, they would have to sail around Africa to reach the Red Sea.

Since leaving the commandos eight months before, Almog had trained on missile boats in order to prepare for his new task. But when he surveyed the tactical situation as Red Sea commander, Dayan's proposal made little sense. To

reach Bab al-Mandeb from Sharm and return would involve sailing in a seventy-mile-wide waterway lined all the way by hostile shores. Along most of the route, the boats would be outside Israeli air cover while subject to Arab air and sea attacks. Almog saw no feasible means of controlling Bab al-Mandeb from Sinai, even if he had thirty missile boats.

But he did see an urgent need for missile boats in the Gulf of Suez where Egypt now had four Komars. These were a threat not only to the Israeli patrol craft but also to any Israeli invasion fleet that might again attempt a landing on Egypt's Gulf of Suez coast in order to outflank the Egyptian defenses along the Suez Canal. The arrival of the Reshef-class boats would permit Israel for the first time to challenge Egyptian naval supremacy in the Gulf of Suez.

Until then, Almog would have to make do with what he had. Although the prospect of war seemed unlikely, he determined to give his existing fleet an offensive capacity in the event war broke out before the arrival of the missile boats. His four patrol boats, called *Daburs* ("Hornets"), were American craft designed for river duty in Vietnam. They were armed with one light 20 mm gun and two machine guns. The boats could deal with infiltrators in rubber boats or other lightly armed craft but they had not been conceived for serious naval combat. Almog decided they would have to behave as if they were until something better came along to replace them. A 20mm gun could not sink enemy warships but at close range there was a chance of hitting a fuel tank or an ammunition locker. Intensive drills were begun in closing to "zero range."

Almog ordered that the three-day patrols of the Gulf of Suez that the Daburs had been going out on once a month be expanded to ten to fourteen days. In addition to operational information thus gained, familiarity with the gulf would increase the crews' confidence when the time came for doing battle in these waters.

With the Daburs pretending to be destroyers, Almog directed that the tank landing ships (LST) pretend to be patrol boats, for all their garbage-scow appearance. Fitted with machine guns and 20mm guns, they would sail along the Sinai coast to protect against infiltrators. But the main task of the LSTs remained the strategic one of transporting an invasion force across the Gulf of Suez. The General Staff had rejected a navy request to build a fleet of new landing craft but the five retread LSTs in hand—one of them a converted African ore-carrier—could do the job. One of Almog's first priorities was to draw up detailed plans for the LSTs to transport hundreds of tanks across the ten-mile-wide gulf in forty-eight hours by ferry runs. The Egyptian Komars were a particular problem for Almog because of the danger they posed to the large and slow-moving LSTs which had no EW defenses.

Meanwhile, at Sharm al-Sheikh, the naval base began to prepare for the missile age. Jetties were built out into the anchorage for the Reshef boats, barracks were constructed for the crews, and a cave was blasted out of a cliffside to serve as a storage hangar for missiles and an electronics laboratory. The work regime instituted by Almog was greeted initially by murmurings among the men. "He thinks he's still with the commandos," was one remark that reached his ears. But desert lethargy rapidly fell away before the tasks he laid down. The decision to extend the Dabur patrols in the Gulf of Suez meant that a new infrastructure had

to be built up along the western coast of Sinai to service the vessels. Jetties were repaired or built from scratch at a number of points, fueling equipment and water-storage tanks installed, and a communications network established.

"I don't know if there's going to be a war," Almog told his men, "but if there is we won't be caught with our pants down."

In May 1973 an Egyptian de Castro patrol boat crossing the Gulf of Suez fired on Ras Sudar, the northernmost Israeli naval base in the gulf. Ensign Zvika Shachak, commanding a small Bertram patrol boat about to be phased out of service, returned fire from five thousand yards. Neither side's firing was effective. When Shahack reported on the incident to Almog, he was forcefully rebuked.

"Why were you firing at that range?" demanded Almog. "You weren't the Graf Spee."

The ensign was shortly afterward given command of a Dabur. Before leading a two-boat patrol into the Gulf of Suez in mid-August, he was briefed by Almog. "If the Egyptians try it again, you are to close on them as soon as they open fire. You can begin squeezing off shots at fifteen hundred yards, but hold off until six hundred yards before you open sustained fire. Then keep closing to zero range."

A chance to put these directives into practice was not long in coming. Shortly after arriving at Ras Sudar, Shachak was warned by radar of a vessel approaching from the Egyptian side of the gulf. A burst of fire directed at the naval base indicated that it was the de Castro trying the same maneuver. This time it was not an old Bertram that emerged in pursuit, but two larger and speedier Daburs. The Egyptian patrol boat turned and fled towards home.

With Almog's rebuke still fresh in his ears, Shachak began squeezing off shots at about a thousand yards and held off sustained fire from both Daburs until six hundred yards. The fire was effective and the Egyptian vessel began to zigzag in an attempt to avoid hits, thereby permitting the Israeli vessels to narrow the gap. As they drew almost alongside the damaged vessel, however, both Daburs found their ammunition exhausted. At this point the boats were ordered by naval headquarters in Tel Aviv, which had been monitoring the skirmish, to break off contact and return to base.

Shachak was expecting Almog to have warm words for him at the debriefing but once again he was given a cold shower. "You should have used less ammunition until you closed on him. And if you were out of ammunition, so what? You still had Uzis, you still had grenades, you still had your bow. You could have rammed him."

A humbled ensign returned to his boat, wondering whether he would ever again get a chance to close to zero range.

Chapter 17

Dress Rehearsal.

Commander Yaacov Nitzan gripped the gun in the darkness as he sat in the high-backed commander's chair on the open bridge of a missile boat cutting

through a velvet sea. The voices of the watch officer and helmsman drifted out occasionally from the adjacent wheelhouse. Below decks half of the crewmen were trying to catch up on their sleep in the brief interval between watches. Nitzan raised the gun and fired. At three thousand feet a parachute opened and a flare hung in the sky.

"Til," shouted Nitzan into the intercom. "Til, til."

As the Hebrew word for "missile" echoed through the vessel, boots pounded across the deck. Within seconds all battle stations reported ready and guns were clattering.

Nitzan had acquired a supply of distress rockets from the merchant fleet and distributed them to the captains of the four boats in his squadron. They would be fired at odd hours of the day or night to simulate a missile attack. The drills were an essential part, psychologically as well as operationally, of antimissile training. With the memories of the EILAT and the Orit never far away, it was essential to inculcate confidence that the Styx could be dealt with. The men were forbidden to take their boots off even when sleeping so that they could get to their stations no more than seven seconds after the alarm was sounded.

Binny Telem succeeded Botser as O/C Navy in 1972 and gave top priority to completion of the missile boat program with which he had been intimately involved since its inception. The myriad pieces were coalescing but the system was not yet fully operational. Although the Gabriel had proved that it could hit its target, each firing was still being prepared by technicians from Israel Aircraft Industries, not by sailors. The EW system had not yet been completely installed nor the EW tactics fully developed and there were numerous bugs to be worked out of the engines, the 76mm gun, and other elements. The awful memory of the navy's impotence in the Six Day War instilled a breathless pace into the work of Telem and his officers, even though there was no sense of imminent conflict.

Things began to gel early in 1973. Missiles were now being launched by regular crews and hitting targets as small as dummy torpedo boats. The pinpoint accuracy was a happy mistake stemming from Even-Tov's poor command of French. The objective he had been given at the beginning of the program was to develop a missile capable of hitting the Skory destroyers then constituting the backbone of the Egyptian fleet. When he conferred with naval officers in France to ascertain the radar cross-section of a destroyer, one of the figures given him was forty thousand but he had misunderstood *quarante* to mean fourteen thousand. To hit so small a target the radar had to be far more sensitive. The mistake was discovered by Shalif and Peleg Lapid some time afterward on the basis of their own calculations but Shalif urged Lapid to keep quiet about it in order not to cause a delay in the program. Only when it became apparent that their principal opponent was no longer destroyers but missile boats did the Israeli team appreciate their luck.

Lapid, the electronics officer who would inherit Tsemach's post, was responsible for refining the EW tactics. Although the Soviets had made tremendous advances in rocket engineering since World War II, they were not believed by Western experts to have moved in their radar development much beyond the state-of-the-

art at the end of the war. To be safe, however, Lapid adjusted the EW defenses as if he were up against the current state-of-the-art.

In May, a four-boat squadron was put at his disposal for the first extensive exercise in the EW tactics that had been developed. The lessons learned were spelled out for the entire flotilla and the new tactics were driven home with repeated exercises at sea and in the tactical simulator.

In July, Commander Michael Barkai was appointed flotilla commander. Known to his colleagues as Yomi, the Rumanian-born officer was a short, combative figure whose aggressive style of command set him apart in the navy. He thrived on pressure himself and maintained pressure on all around him. His men feared his tongue-lashings, which were laced with vulgarisms in Hebrew and Yiddish and he did not hesitate to chew out officers in front of their men. The officers came to refer to these dressings-down as Yomization.

Anecdotes about him were legion. On a training exercise as a squadron commander, one of the two staff officers running the exercise with him in the CIC failed to heed an order quickly enough, and Barkai sent him up to the bridge in punishment. When the other officer attempted to say something in defense of his colleague, Barkai sent him down to the engine room and ran the rest of the exercise himself. During his term as commander of the Ashdod naval base, the diminutive officer used to take on hulking stevedores in fistfights when they tried to bar the entry of his car into the strikebound port area he had to pass through in order to reach the base.

His aggressiveness was offset by other traits which made him respected by all who dealt with him. On a personal level, he was regarded as a *mensch* who did not stand on ceremony. Any sailor could approach him with his problems and be assured of a sympathetic hearing. Operationally, the tension he introduced into his command translated into a high state of readiness. His grasp of the complicated elements involved in this new kind of warfare, and his capacity for command, inspired confidence. Although he had been with the flotilla just two years and was junior squadron commander, it had been his squadron that Lapid chose to carry out the EW exercise, because of the electronic engineer's admiration for Barkai's quick grasp. Like Kimche, Barkai had come to the missile boats from the submarine flotilla, where he had spent ten years. He brought with him the submariner's analytical approach, exactitude, and operational discipline.

At the flotilla ceremony in which he assumed command, Barkai opened his address with a salutation that drew laughter from the ranks: "Fighters of the Missile Flotilla."

The navy's combat history had been modest at best, and the only unit whose men were ever referred to as "fighters" was the commandos. But the laughter died quickly before Barkai's sober mien. He made it clear to the men in the olive-drab ranks before him that he regarded them as fighters, not just sailors. If the testing came, he affirmed, they would prove it to the world.

Barkai undertook the study of his new command methodically. Leading the flotilla out on exercises, he found to his dismay that he could not wield control over more than two or three boats at a time. With larger formations the radio net produced a confusing babble of voices. He could not follow what was happening, let alone direct it effectively. The flotilla commander did not have his own staff or

his own vessel but made use of the CIC of the boat in which he happened to place his flag. Both he and the boat's captain used the same plotting table, on which the battle picture was displayed in the form of dots representing the shifting position of the boats of both sides. Barkai had to rely on the boat's officers for his staff needs and for communication. The quality of these officers varied with each vessel.

After a few brief exercises, Barkai decided that it was impossible to continue operating this way. Missile boat formations moving into combat at forty knots in intricate maneuvers aimed at evading incoming missiles were more difficult to control than conventional task forces in the best of circumstances. Close coordination was essential, because the EW efforts had to be carefully orchestrated if they were to induce nervous breakdowns in the incoming Styx missiles. Coordination was also necessary in order to maneuver the enemy fleet into effective range of the Gabriel.

Barkai decided to create his own hand-picked staff which would operate with him independently of the staff of the boat they happened to sail on. He would choose for this the best of the officers available to him. From his former flotilla Barkai obtained one of the vertical plastic panels used in submarines as plotting boards. It would be hung in the CIC of whatever missile boat he was on to spare him the need to share the boat's plotting table. It was primarily to test this new command system that Barkai called for three days of maneuvers by the entire missile boat flotilla to be held the first week in October. The maneuvers would be ending on Thursday night, less than twenty-four hours before the onset of Yom Kippur.

The two new Reshef-class missile boats would participate. The RESHEF had come off the ways of the Israel Shipyards in February in the presence of Prime Minister Meir; the KESHET had been launched at the end of August. The boats hit the water virtually combat-ready, unlike the Cherbourg boats, which had required years to be converted from boat platforms to missile boats. The two boats were to depart in mid-October for their month-long foray around Africa to the Red Sea. Israeli merchant ships would fuel them en route, as with the Cherbourg boats, and they were to be ready for the possibility of a military challenge from Egypt when they penetrated the Strait of Bab al-Mandeb.

Although Dayan had ordered construction of the large boats for the Red Sea area, the navy believed their primary usefulness would eventually be in the Mediterranean. The Saars did not have the range or the stability in bad weather for long-range operations, and the navy command, increasingly confident of the missile fleet's combat potential, was now thinking in broad operational terms, not merely of coastal defense. The RESHEFS' larger size permitted the mounting of a second 76mm gun along with seven missiles, and there were fifty crewmen compared with forty on the Saars.

Commander Eli Rahav, the torpedo-boat officer who had been appointed commander of the Reshef-class squadron, took the Keshet out on a three-week shakedown cruise to Italy in mid-September. The RESHEF was waiting off Crete to meet it on its way back. The two boats, approaching from the west, would play the role of the enemy in the maneuvers Barkai had organized.

To Admiral Telem the Saars made a grand sight as they swept past the breakwater in column and headed out into the Mediterranean Tuesday morning,

October 2. It had taken all of the three years and nine months since the last of the Cherbourg boats arrived in the Bay of Haifa to create an operational missile boat flotilla. From a "fourteen-knot navy"—the cruising speed of the destroyers—they had become a thirty-knot navy. Shaping the original concept into a steel-and-electronic reality had been an excruciating task, and two of the Saars were still not fitted with missiles. They were still useful as gunboats, however, and were favored as command vessels by squadron commanders and by the flotilla commander because of the additional space in the CIC afforded by the absence of missile-control consoles. Boat Number Six was now in dry dock for overhaul, so that eleven Cherbourg boats and the two Reshef-class boats would be participating in the exercise, the largest and most extensive yet held. It would be the first time that all systems would be tested simultaneously in what amounted to the missile boat flotilla's first full dress rehearsal.

War seemed well beyond the horizon to Telem, even though his senior intelligence officer, Captain Rami Lunz, had for the past few days been reporting unusual movements of the Egyptian fleet which had gone on alert status September 25. As signs accumulated, it became increasingly apparent to Lunz that this was not just a routine exercise. On Sunday, September 30, Telem summoned a staff conference to hear Lunz's report.

"The signs are clear," said the intelligence officer. "I say this is war."

Telem remained dubious but he ordered Lunz's warning passed on by telephone to every navy unit by a senior staff officer, rather than by telegram, to ensure that the message was taken seriously. He also requested a meeting for Lunz with the chief of military intelligence on the General Staff, General Eli Zeira. To lend support to his intelligence chief's presentation, Telem accompanied him to Zeira's office. After patiently listening to Lunz detail the Egyptian naval preparations, Zeira discounted the idea of war.

"Why do you maintain there will be no war when my G-2 insists there will be?" asked Telem.

"Because I have better information," said Zeira.

Even though similar signs were coming from other arms of the Egyptian military, Zeira remained convinced that Cairo was not ready for war against Israel and that all these movements were part of a large-scale military exercise. The Syrians had also strengthened the deployment of their army opposite Israel, but Zeira and his staff believed Damascus was bracing for a possible Israeli attack. Syria would not attack without Egypt, Zeira said to the naval officers, and Egypt would not attack before it had bombers capable of striking at Israeli air bases and missiles capable of hitting Israel's cities in case Israel attacked Cairo. Zeira's arguments persuaded Telem as they had the rest of the military establishment. Just a few months before, there had been similar indications of Egyptian war preparations. Zeira, standing fast against the prevailing opinion of the General Staff, had said there would be no war and had been proved right. The Egyptians, he argued, simply were not ready to meet Israel in an all-out war and knew it.

Telem left Zeira's office feeling somewhat chastened at having challenged the intelligence chief's judgment, but Lunz remained convinced that the Egyptians were about to embark on war. This feeling was reinforced on Monday, October 1,

the day before the Israeli missile boats put to sea for their exercise, when the Egyptian navy went to the highest state of alert.

Naval headquarters had been shifted the year before from Haifa to General Staff headquarters in Tel Aviv. Then Chief of Staff Haim Bar-Lev, who ordered the move, believed that the naval command on its "Olympus" atop Mount Carmel, as he referred to it, was too detached from the rest of the armed forces for proper strategic integration. Bar-Lev blamed that lack of integration for the attack on the LIBERTY in the Six Day War. It was from navy command's new premises in "the pit," the underground command bunker in Tel Aviv, that Telem followed the early part of the flotilla's maneuvers.

He was ferried out to the fleet to join Barkai for the last stages and witnessed the smooth functioning of the new command system. The flotilla commander's own staff marked positions on the vertical plotting board with grease pencils and transmitted Barkai's orders to the other boats without interfering with the crew of the host vessel. As they sailed back toward Haifa Thursday evening, Telem looked at the thirteen boats in formation with profound satisfaction. The exercise had gone brilliantly. The missile boat flotilla was now as ready as it could be. The one unknown—one on which all else hinged—was the efficacy of the EW system in diverting incoming missiles. This could be proved only in the ultimate test of combat.

Debriefing of officers got under way early Friday morning. Telem had wanted the men released by 1:00 p.m. so they could reach their homes in time for a last meal before the Yom Kippur fast began at sundown. However, Lunz wakened him at 4:00 a.m. to present worrying new evidence of Egyptian preparations. Telem decided to cancel all leaves. At the General Staff meeting Friday morning, attended by Dayan, it was decided to place the standing army on the highest state of alert. The families of Soviet advisers had inexplicably begun flying out of Egypt the day before. In Syria, Soviet families had been hurriedly placed aboard buses and driven toward the port of Latakia, where a Soviet ship was waiting to evacuate them. Israeli intelligence learned that the buses had been turned around halfway to Latakia and driven back to Damascus Airport where the passengers were transferred to Soviet transport planes for an even speedier getaway. The possibility that the Egyptian military exercise and the Syrian defensive alert were only covers for a planned attack could no longer be dismissed.

The review of the flotilla's maneuvers had just gotten under way at the naval base when Barkai strode into the room. "The debriefing is off," he announced. "We're on alert. Get back to your boats and prepare them for action."

Chapter 18

War.

In the final hours before Yom Kippur, the pace of life around the country perceptibly slowed to a halt as the nation prepared for the most solemn day in the liturgical calendar—the Day of Atonement. Stores and offices closed by 1:00 p.m.,

radio stations went off at two, buses stopped running and the streets emptied as the population ate its pre-fast meal and dressed for synagogue. The Haifa naval base, however, had never seen more activity than on this day as hundreds of men swarmed over the missile boats to prepare them for combat.

For more than a year, the Cherbourg boats had been used for patrols against terrorist incursions from the sea. For this role, one of the missile pods had been detached from the vessels and temporarily replaced by a 20mm gun suitable for use against small craft. The missing launchers now had to be replaced, the missiles themselves brought from armories to be installed, ammunition lockers stocked, fuel tanks filled, and a myriad of other details attended to. Work would continue until midnight. The base kitchens had been closed in anticipation of Yom Kippur so battle rations were broken out.

With darkness, Telem dispatched the *Herev* ("Sword") to serve as a forward radar picket opposite Egypt. As cantors in synagogues chanted the Kol Nidre prayer, the boat, commanded by Lieutenant Shmuel Peres, eased out of Haifa harbor. Peres sailed south and took up position off the Sinai coast. Visibility was excellent in the moonlight but nothing could be seen or heard. A few score miles away, two armies faced each other along the Suez Canal but on this holy night the desert seemed still to be sleeping the sleep of the ages.

In the northernmost fort of the Bar-Lev Line, code-named Budapest, which abutted the sea, a small naval unit attached to the army garrison had been reinforced during the week by an officer who was aware of Lunz's warning. "There's going to be a war," the ensign told the army captain commanding Budapest.

Two hundred miles to the south, Zeev Almog assembled his men in a small amphitheater at the naval base at Sharm al-Sheik after Yom Kippur services conducted by a chaplain. The cold and silence of the desert night enveloped them. Almost all the men were fasting. According to intelligence reports, said Almog, referring to Lunz's warning, war might break out tomorrow. "Because of this and because of the holiness of the day, no one goes to the beach tomorrow. Beginning at dawn, all anti-aircraft positions on the boats and onshore will be manned."

Night shrouded the movement of the Arab armies as they made their final preparations, but the intentions of the Arab leadership would be revealed to Israel before dawn in faraway London. There, a highly placed Egyptian source informed the head of the Israeli Mossad that Egypt and Syria would launch an all-out two-front attack this day. The report, when it reached Jerusalem, stunned the Israeli leadership. Guided by Intelligence chief Zeira's assessment that there would be no war, the army had not mobilized its reserves, which constituted two-thirds of its fighting strength. Desperate efforts now began to summon the reservists to arms and get them to the two fronts. It was clear that they would not reach the front before the Arab armies struck.

Meeting in the Pit with Gen. Elazar, Telem was able to offer the chief of staff the only measure of solace he would receive this day. The missile boat flotilla, he reported, was ready and the crews were at their stations. The frantic pace at which the navy had driven itself since Admiral Erell began breathing life into the missile boat concept a decade before had managed by a hair to bring it to a state of readiness at the time of testing. It would be up to the navy to keep the sea lanes

open for vitally needed war materiel and to prevent the Arab fleets from harassing Israeli coastal cities.

The RESHEF and KESHET were to have set out in ten days for their voyage around Africa to the Red Sea. The war had now caught up with them in the Mediterranean, where their advanced electronic systems and ability to stay at sea for extended periods would be put to effective use.

Against thirteen operational Israeli missile boats, two of them without missiles, the Egyptian navy had fourteen boats and the Syrians nine. The decisive factor, however, was not the number of boats or missiles but the five-to-two disparity in range between the Styx and the Gabriel and the ability or inability of the Israeli EW system to overcome that handicap.

The Egyptian and Syrian coasts were roughly equidistant from Haifa—about 100 miles. Telem had the advantage of working on interior lines which enabled him to switch his boats between the two fronts as the need arose. The Syrian fleet posed the more immediate danger. Its boats could slip down the Lebanese coast unseen by Israeli radar and suddenly dash out to sea to lob missiles at Haifa's oil refineries or at the city itself, less than twenty miles from Lebanese waters and thus well within Styx range.

The war had not yet begun but Barkai obtained Telem's permission to dispatch two boats northward at 10:00 a.m. Saturday to serve as a blocking force in case the Syrians tried to come south. The boats would take position off the northern Lebanese coast, out of sight of land, and await further orders. One of the boats was the *Mivtach*, the first Saar to be launched, six years before, at Cherbourg. The other was the RESHEF, launched in Israel just seven months before. The *Mivtach* was still not armed with missiles, but its guns were operational.

In synagogues on Haifa's slopes, worshippers glancing out the windows noted with surprise the holiday stillness being broken by two missile boats moving out of the harbor. The boats cleared the breakwater and turned north.

Despite the shutdown of newspapers, radio, and television on this day, it would soon become apparent to Israelis all over the country that something unusual was happening. The burr of tires cutting through the Yom Kippur silence, normally indicative only of an ambulance delivering a pregnant woman or a cardiac case to hospital, began to be heard with puzzling frequency as the morning wore on. Army vehicles were making their way into residential neighborhoods. Following a well-drilled mobilization procedure, military couriers with lists of names and addresses emerged from the vehicles and scanned house numbers. If the reservist was at home, the courier handed him a call-up order to report to his unit's assembly point. More often than not, the courier was directed by a wife or neighbor to one of the neighborhood synagogues.

Herut Tsemach was in his Haifa home when the phone rang. Like most Israelis, he had never heard the phone ring on Yom Kippur. Against his instincts, he picked up the receiver. It was his sister calling. "What's happening?" she asked.

"I don't know what's happening," he said in annoyance. "Why are you calling on Yom Kippur?"

"There's traffic on the streets," she said. "Something seems to be happening."

Tsemach hung up and looked out the window. Cars were indeed moving. Their headlights were lit, to indicate that they were on official business and thus not

offend those observing the sanctity of the day. Tsemach was on terminal leave from the navy before retirement, but he telephoned his former superior at headquarters to ask what was happening.

"I can't tell you on the phone," said the officer.

"Can I come down?" asked Tsemach.

"I'll be happy to see you."

Tsemach made the hour's drive to the navy's new headquarters in Tel Aviv where he was informed of the war footing. The officer who had replaced him as head of the electronics division, Peleg Lapid, was in Europe. Tsemach's offer to resume his post temporarily was warmly welcomed. He drove back to Haifa to put on the uniform he thought he had put away for good. Around him on the road, private vehicles were carrying sober-faced reservists heading for their units.

At the Haifa base, meanwhile, Barkai was periodically dispatching boats as the hours passed. He sent a pair to join the first two which had gone north and ordered three pairs to the south to take up nighttime ambush positions rehearsed many times on the simulator. Watching the activity with a deep sense of frustration was Barkai's twenty-five-year-old operations officer, Ehud (Udi) Erell. The son of Admiral (ret.) Erell, Udi had successfully completed an examination for promotion a few weeks before. He and two other young officers were to be divided among three choice postings—command of the two Cherbourg boats still without missiles and flotilla operations officer. Erell had craved command of one of the boats, but Barkai, with whom he had served before, prevailed upon him to take up the staff position. After six months, Barkai promised, Erell would go directly to command of a fully armed missile boat.

Watching the boats move out on Yom Kippur morning, Erell bitterly regretted his choice. A war command was a war command, even of a gunboat without missiles. Shortly before 2:00 p.m. he pointed out to Barkai that the vessels at the dockside were fast disappearing. "If we don't get on one soon, we're going to miss the war." Carrying his plotting board, Barkai boarded the *Miznak* (Boat Number Three) with his staff and ordered its captain to cast off and head north. As the boat was leaving harbor, the sailors heard the sirens going off in the city. The war had started.

Zeev Almog saw them before he heard them. Glancing up at the sky as he was about to enter his office at 2:00 p.m., he spotted the formation of MIGs coming out of the southwest. The planes began to peel off and dive towards the nearby airbase.

"The show's begun," said Almog to the officer alongside him.

"Should I sound the siren, sir?" asked the officer.

"What are you waiting for?"

There were twenty-six MIGs in all. Two Israeli Phantoms, the only planes at the base, rose to meet them. One of the MIGs scored a direct hit on the radiotelephone antenna on a hilltop, which served as the main communication link with headquarters in Tel Aviv.

A plane circled overhead and Almog said to his deputy, "This one's coming for us."

The MIG dived at the Daburs in the harbor but the guns that had been manned since dawn put up a curtain of fire that sent the plane spinning into the water. Seven other planes were brought down by the two Phantoms, which survived the air battle intact.

Within moments, reports were streaming into Red Sea headquarters from naval outposts all along the western coast of Sinai. Egyptian helicopters, apparently laden with troops, were crossing the Gulf of Suez along its length and landing behind Israeli lines. Some were shot down by Israeli Mirages from a base further north but most had gotten through. In the afternoon an Eilat-bound tanker flying a foreign flag reported being attacked in the Red Sea by an Egyptian submarine that fired four torpedoes. All missed and the sub did not attempt a surface attack.

With communications now garbled, it was not clear what was happening along the Suez Canal or on the Golan Heights. One thing, however, was already apparent—this was not a local action but a general war.

Chapter 19

Latakia.

The four boats in the northern task force were waiting for Barkai off the Lebanese coast when he arrived on the *Miznak* in the darkness. On the way up, headquarters had informed him that a state of war existed and authorized him to sink any enemy ship he encountered. Barkai felt personally affronted by the Arab surprise attack; that it had come on Yom Kippur made him angrier still. Before moving into Syrian waters, he detached one of the radio headsets dangling from overhead hooks in the CIC.

"This is number one. Captains, to your communications stations."

From one of the loudspeakers in the CIC ceiling came the first response.

"Number two here, sir."

The other captains responded in pre-designated numerical order.

Although there was a Russian spy ship in the area, Barkai spoke in the clear in order not to waste precious time coding and decoding messages. If the Russians did pick up his words, by the time they were translated in Leningrad and sent on to Damascus the action would be over.

The task force's objective, Barkai told his captains, was to draw Syrian warships out of Latakia, Syria's main harbor, and sink them.

"If they don't come out, I mean to sail into the harbor and destroy them with our guns. We're going in close enough to heave our docking lines if we have to."

In his combative mood, that was precisely what Barkai intended to do, despite the danger of the coastal guns. This would be the first testing of the system on which the navy had expended its energies and hopes for the past decade. He was determined that this night would not end without drawing blood.

Deploying the boats in battle formation, Barkai swung his force wide to the west, towards Cyprus, in order to avoid Syrian coastal radar. The approach to Latakia would be made from the north, the direction least expected. The boats

sailed in two parallel columns—the *Miznak*, *Gaash*, and *Hanit* to port and the *Mivtach* and RESHEF several miles closer to shore and slightly astern.

Thirty-five miles southwest of Latakia, the *Miznak* at the head of the western column picked up a sighting on its radar. At the plotting table in the center of the CIC, a seaman receiving the targets' position from the radar operator placed a dot on the translucent map spread across the tabletop. Although the two men were just a few feet from each other, they conversed via headsets in order to keep down the noise in the confined space. The *Miznak's* own position was indicated by a slowly moving point of light projected upward from a lamp beneath the table's translucent top linked to the vessel's gyroscope. A second seaman, using colored pencils to differentiate friend from non-friend, linked the dots placed by the first seaman, giving the officers scanning the table a clear picture of the course, identities and relative speed of all boats in radar range.

Watching the radar reports being plotted on his own vertical board, Barkai followed a vessel four miles to the northwest moving across their course at rapid speed as it headed toward Latakia in an apparent bid to escape the Israeli formation. The bridge reported her to be sailing without lights and having a low silhouette. It was almost certain to be a Syrian warship, perhaps a torpedo boat on picket duty, but Barkai could not rule out the possibility that it was a civilian vessel, perhaps from Cyprus, caught in the war zone.

To test its reaction, Barkai ordered the *Miznak* captain to fire shells in the boat's direction, but not to hit it. Doubts about the vessel's identity ended when it responded to the 40mm rounds with several desultory bursts of machine-gun fire. A projector on one of the Saars illuminated the target and showed it indeed to be a Syrian torpedo boat. The vessels in Barkai's column opened fire, but the small craft, in full flight, passed unharmed through the plumes.

In the CIC of the RESHEF on the right flank of the Israeli formation, Commander Micha Ram ordered full power as he moved to head off the Syrian craft. Sitting on a high stool from which he could see all the instruments around the room, he called out the code designation assigned to the target and ordered the weapons officer to fire on it with the vessel's guns. The torpedo boat was too small to warrant expenditure of a missile.

Firing was directed entirely from the CIC. The gun was even loaded from below decks, a carousel automatically feeding shells upwards. The radar and fire-control systems on the RESHEF, unlike those on the Saars, were Israeli-manufactured. The weapons officer checked a scope to ensure that the gun's fire-control radar was locked on the designated target and then pushed a console button. The men in the CIC could hear the 76mm gun begin to bark overhead.

Firing had commenced at six miles—an extreme range. The results were too distant for the men on the bridge to observe in the darkness but after several dozen shells the radar operator announced "Target dead in the water."

The commander of the Syrian torpedo boat, Lieutenant Ali Yehiya, had accomplished his mission as an outer picket. A few seconds before his radio went dead, he alerted his headquarters that he was being attacked by three enemy warships, as Syrian records obtained by Israeli intelligence would reveal. Syrian naval headquarters ordered a minesweeper on picket duty closer to shore to head for the cover of the coastal guns at full speed. Three Syrian missile boats that had

just headed south from Latakia were notified of an enemy force approaching from the west.

At this critical juncture, on the verge of the first hazardous crossing of the missile belt, Barkai decided to abandon major elements of the plan that the flotilla had worked on so arduously and to improvise. He had considered requesting air assistance; if the enemy boats were kept busy dodging planes the Israeli vessels stood a better chance of making it across the fifteen-mile missile belt safely. But it was questionable on this first night of the war whether planes would be available on short notice and there was no time to wait. If the Syrian missile boats had left harbor and the torpedo boat had alerted them to the Israeli presence the boats were probably already scurrying back to port, he believed.

Addressing his captains on the radio, Barkai ordered the *Hanit* to stay behind to finish off the torpedo boat with gunfire. He was determined that the battle results be decisive and that every disabled enemy vessel be sunk. The remaining four missile boats would move directly towards the coast. They would forsake not only air cover but also some of the intricate EW maneuvers they had rehearsed so painstakingly. The bantam-sized officer who had not hesitated to take on the longshoremen of Ashdod in fist fights was determined to intercept the Syrian boats and did not want to risk precious time by being overly artful. “If the enemy’s out there he’s between us and the coast,” Barkai told his commanders. “It’s not important to know exactly where. We’re going full speed for Latakia.”

The RESHEF, in the lead as the boats swung east, picked up a radar sighting fifteen miles to their front. It was the Syrian minesweeper. Still out of Gabriel range, it was running for shore. The two Saars in Barkai’s wing, his own *Miznak* and *Gaash*, were moving at forty-knots and drew parallel to the RESHEF and *Mivtach*.

The *Gaash* fired first, launching a Gabriel at the maximum, twelve-mile, range. Barkai winced and felt like swatting the captain of the *Gaash* on the head. “Too long,” he groaned as he watched the image of the missile on the radar screen fruitlessly chasing the target. The target had been in range when *Gaash* fired but in the two minutes the missile was in the air the minesweeper pulled out of range.

Aboard the RESHEF, Ram focused on the plotting table as the range closed. When the RESHEF was less than eleven miles from target, he addressed the weapons officer: “Prepare missile for firing.”

At the missile-selection console, the operator designated one of the boat’s missiles and pushed buttons to confirm that its electrical connections were functioning. “Missile ready,” he said. The weapons officer locked the fire-control radar onto the minesweeper. “System on target,” he announced. Ram descended from his stool to check the radar in one corner of the room, the plotting table in the center, and the three consoles against the opposite wall. Satisfied that the radar was locked onto the correct target and that the target was in range, he leaned over the operator at the central console and pressed a white button labeled “Permission to Fire.” In missile firings, only the captain was permitted to push this button. As he did so all the buttons on the panel turned red, and a grating alarm sounded throughout the vessel, below decks and above. The bridge officer looked down at the deck to make sure that no sailor was standing near the launchers.

The center of activity now shifted to a rotating cubicle on the open bridge, the optical director. Atop the cubicle was the fire-control radar, with its large dish antenna. The cubicle was a "slave" to the radar, turning as it turned. The radar was locked on the Syrian ship, invisible in the darkness. Inside the cubicle, wearing a helmet, was the "aimer," who would physically launch the missile and start it on its course. With the alarm raucous in his ears, he kicked aside with his left foot a metal safety shield and pressed down on the firing pedal beneath. Instantly the alarm ceased throughout the boat and the top of one of the white fiberglass missile pods on deck swung open, revealing the pointed snout of a Gabriel. The engine of the missile ignited for a fifth of a second and the Gabriel shot into the sky.

The small flame from its exhaust traced its trajectory as it arced upward for 1,000 feet, then dove towards the sea, leveling off at 60 feet. Looking through fixed binoculars, the aimer used a joystick, reminiscent of the Luz control, to guide the missile, which had been launched only roughly in the direction of the target, into the center of the circles etched on the binocular lenses. In doing so he was placing the missile in the path of the radar beam with which the binoculars were aligned.

As soon as the aimer reported the missile in the center of his binoculars, the weapons officer in the CIC below said "Over to beam-ride." A console operator pushed one of the buttons before him. The missile now flew down the track of the boat's radar beam which was locked on the target. As it neared the minesweeper, the missile signaled that its own radar had picked the target up.

"Missile ready for homing," said the radar operator.

"Over to homing," said the weapons officer.

A button on one of the consoles lit up, indicating that the missile was now homing on the target with its own radar, freeing the RESHEF's fire-control radar to start a second missile on its way while the first was still in the air. The first missile, which had been programmed to stay at 60 feet for most of its flight to avoid being hit by waves should there be any, had dropped down as it approached the target and was now skimming six feet above sea level. The image of the missile on the radar screen merged with the target and the bridge officer reported on the intercom a flaring of light on the horizon.

The cheer that went up aboard the RESHEF was echoed by the men in the naval command center in Tel Aviv which was monitoring the task force's radio communications. The first Gabriel ever fired on an enemy target within range had struck home. The fire control radar meanwhile had locked onto the target with a second missile. The captain again pushed the "Permission to Fire" button and two minutes later the bridge reported a second hit.

The RESHEF's Israeli-developed search radar picked up three unidentified vessels close to the Syrian shore. The vessels were not discerned by the Saars' European-purchased search radar on which they were swallowed up by the land mass behind them. The Israelis had presumed that their ESM would give ample warning of enemy missiles but the Saar commanders were totally surprised when fast-moving dots suddenly appeared on the radar screens heading in their direction. On the decks, men could see balls of light arcing over the horizon to the southeast, off their starboard beam, and heading towards them.

"Til, til, til."

Silence gripped naval headquarters in Tel Aviv the moment Barkai's report of incoming missiles was heard on the radio net. His voice was level, but the officers in the command room could detect its tautness. It was the first time missiles were being fired at Israeli vessels since the sinking of the EILAT and the Orit. The devastating results in both cases were etched in the mind of every man aboard the boats and in the command center.

No one in headquarters was tenser than Herut Tsemach. On his educated guesses the lives of the two hundred men in the attack force were at that instant riding. So was the navy's ability to wage this kind of warfare. In the absence of hard intelligence on the Styx' electronic parameters, the success of the Israeli EW system depended entirely on Tsemach's intuition. He himself could not guarantee it and he had therefore sought backups. To supplement his electronic systems which were aimed at jamming or deceiving the Styx radar, he had installed chaff—both long-range chaff and short-range chaff. He tailored most of the chaff to the wavelength he guessed the Styx were using but he had included other lengths as well as backup to the backup.

Tsemach had devised the broad mix of EW elements in the hope that at least one of them would prove effective. There had been objections at naval headquarters to turning the boats into "Christmas trees" with space-consuming EW equipment but Tsemach convinced the commanders that a multi-optional defense was necessary to give the boats a reasonable chance of getting through the missile belt. Still another backup were the boats' speed and maneuvering.

The RESHEF and *Mivtach* were closest to the Syrians and appeared to be the principal target. Both began throwing up chaff clouds as they turned toward the enemy and slalomed wildly.

The RESHEF's deceptor and jammer automatically kicked in—instantly analyzing the Styx radar's characteristics and sending back signals to it on the same wavelength in the hope of blotting out the Israeli boat's image and creating imaginary images for the Styx to chase. It was electronic ventriloquism and the men on the boats were for the moment passive spectators. They were aware, however, that among the numerous images the Syrian radars were scanning might be the Israeli missile boats themselves.

As the Syrian missiles headed towards the Israeli boats, the EW decoys began tugging at the Styx's guidance systems. Unlike the Gabriel, which could be guided directly onto target by an operator in the mother ship if enemy EW tried to confuse it, the Styx was a fire-and-forget missile whose dispatchers had no control once it was launched.

In naval headquarters, the radio connection to Barkai went silent after his report of incoming missiles. The wait was excruciating. A minute passed, then another. Finally, Barkai's voice filled the room. "Missiles in the water. They missed." The normally reserved Tsemach let out an Indian whoop as cheering filled the war room. Cupping the top of his head with one hand, he spun himself around the room as if he were a top.

On the boats themselves the tension had not abated. Adjusting their electronic umbrellas, the four Israeli craft charged across the missile belt to press home the first missile boat-to-missile boat battle in history.

The Syrian naval command was stunned by what they were seeing on their radar screens. It thought it knew Israel's naval strength well but the number of vessels being shown was astonishing. Three fast-moving boats had been sighted eighteen miles west and slightly north of Latakia, and a group of ten vessels was seen moving in pairs southwest of Latakia, as reports reaching the West would later reveal. At the same time, a cluster of four helicopters and another group of three helicopters were reported approaching coastal artillery positions. Eyewitness sightings were reported of missiles being fired in the area of the minesweeper, due west of Latakia. To have mustered such strength and such an offensive momentum on the first night of the war on the Syrian front alone meant, as a summary by the Syrian War Command College would subsequently note, that the Israelis had been planning this action for at least two days. Yet it had been the Syrians and the Egyptians who opened the war with a surprise attack hardly eight hours before.

The three Syrian missile boats, two Komars, with two missiles each, and an Osa, with four, fled southward after firing their opening salvo. With their radars showing a vast hostile fleet erupting around them, the Osa—the only one of the Syrian boats with missiles remaining—turned to face its pursuers. It was a courageous choice, because the Soviet-made boats did not have EW, relying for protection only on the superior range of their missiles. The Osa chose for its target the fast-moving boats west of Latakia.

Aboard the RESHEF, Commander Ram gave the order to prepare missiles for firing.

"We've got a problem, sir," said the weapons officer. "Looks like a short circuit. We can't launch."

"Execute repairs as quickly as you can," said Ram.

He altered course to the south in order to head the Syrian boats off from the port of Banias, twenty-two miles from Latakia, to which they seemed headed. If the missile system could not be repaired, he would use his guns.

The *Mivtach*, accompanying the RESHEF, was not armed with missiles. This left only the *Gaash* and the *Miznak* capable of launching a missile strike.

The *Gaash*, captained by Lieutenant Commander Arye Shefler, was closest now to the rapidly approaching Osa. Shefler received Barkai's permission to engage. The two boats raced directly at each other. At 30 miles, two-thirds of its maximum range, the Osa fired. Spewing chaff and sending electronic decoys, the Gaash began vigorous maneuvers. The Styx was still descending when the first Gabriel lifted off the *Gaash's* deck. The Gabriel and the Styx passed each other, heading in opposite directions. The Styx exploded in the water harmlessly but the *Gaash's* sensors picked up a second Styx coming at them. The first Gabriel was still in the air when Shefler pressed the "Permission to Fire" button, which dispatched another Gabriel at the same target. The Osa's second Styx exploded harmlessly in the sea. The *Miznak*, meanwhile, fired two Gabriels at a fleeing Komar.

The Israeli bridge officers saw the Gabriels erupt from their containers on the *Gaash* and *Miznak*. The missiles were distinguishable for a while by their white exhausts as they rode electronic beams toward invisible targets. Then the exhausts became too small to see and for a moment all was silent. The horizon

abruptly erupted in jagged light and across the water came the roll of two violent explosions.

The 560-ton Syrian minesweeper had earlier absorbed two Gabriels and remained afloat. However, the effect of the Gabriels on missile boats one-third the minesweeper's size and loaded with fuel was devastating.

Barkai was monitoring the narrowing gap between the two forces on the radar screen and saw the missile trajectories reaching out towards the enemy. Suddenly part of the screen went blank.

"Udi," he called to his operations officer.

"Sir?"

"Where are the Syrian missile boats?" The two targets had disappeared.

Erell glanced at the screen. "Sunk," he said.

Barkai was stunned. He had sunk enemy vessels innumerable times in simulator exercises but it had not occurred to him that in reality they would instantly be wiped off the radar screen.

The *Gaash's* second missile exploded in the water because the target had been destroyed by the first Gabriel a minute before. In this type of warfare, it was quite conceivable for two combatants to blow each other off the surface in their first exchange of missiles, leaving their second volleys, already airborne, to strike their respective oil slicks.

There was one more Komar to be accounted for. The radar revealed it heading at full speed for shore. Its captain had seen the fate that had befallen his comrades and made quick calculations. He had no more missiles to fire even if he wanted to, he could not outrun the Israeli boats, and there was no port he could reach before the Israeli missiles intercepted him. In the circumstances, all he could do was try to save himself and his crew.

When the Israelis drew close, they saw the boat driven up onto the coast like a landing craft. Barkai was disappointed at not being able to send it to the bottom but he was determined to finish it off. A missile would be useless because the land mass behind the Syrian boat blotted out the radar but guns could do the job as well. Coastal artillery had begun to open up on the Israelis as they approached and Barkai ordered the other three vessels to stay out of range while he went in with the *Miznak*. Moving to within a thousand yards of the beached vessel, the *Miznak* opened fire with its three 40mm guns, stitching the target with shells until it burst into flames and began exploding.

The fifth Israeli boat in the attack force, the *Hanit*, which had been left behind to sink the torpedo boat, had been silent for more than an hour. Barkai began to wonder whether it had been hit by Syrian missiles that had overflown the other four boats and continued in the *Hanit's* direction. The *Hanit* captain now made radio contact. "I had a communications failure but it's all right now." The wooden torpedo boat had taken a long time going under, he said. Barkai ordered the captain to perform the same coup de grace on the stricken minesweeper. The *Hanit* put another missile into the minesweeper and opened up on it with its 76mm gun. The vessel began exploding, turned on its side, and slowly slipped below the surface.

In Tel Aviv, Admiral Telem ordered Barkai to return to base. As soon as the *Hanit* rejoined him, the flotilla commander organized his force and turned towards home.

It was shortly after midnight; only an hour and a half had passed since first contact with the torpedo boat. In this brief period, the nature of naval warfare had been changed. The first missile-to-missile battle in history had been fought and the results were spectacular. The Syrian force had been armed with a powerful missile whose range was more than twice that of its adversary's but the Syrian boats were themselves defenseless. The Israelis had a shorter sword but a powerful shield. The results were more decisive than naval engagements almost ever permit—all five Syrian vessels caught up in the battle destroyed, no Israeli vessel touched.

As the task force set out on the five-hour journey home, Barkai and Erell sat in the cabin of the Miznak with a bottle of whiskey between them. They were exhausted but could not sleep. Their mouths were dry from tension and they were hoarse from shouting orders over the noise of the engines. The implications of what had happened off Latakia was greater than they could yet comprehend.

"We just can't grasp it," they kept saying to one another as they tried to subdue their excitement with an occasional swig of whiskey.

For Erell this night had been, apart from everything else, a vindication of his father whose term as commander of the navy had been cut short by the navy's lackluster performance in the Six Day War. Admiral Shlomo Erell was the man who had turned the wispy notion of a new kind of naval warfare into reality. Udi was a student in Nautical High School when his father began to push the missile boat concept. The young officer recalled his father's visionary gleam as he spoke to him of this new kind of warship and the special elan that would be needed to command them—a mixture of the dashing "ace" quality of the torpedo-boat captain and the discipline of the destroyer officer. When the first Saars started to arrive, the young Erell would accompany his father, by then commander of the navy, on his dockside visits on Saturdays to observe the Saars like a doting parent. Udi remembered the chewing out his father had once given to a hapless duty officer because the boats were not tied securely enough and could be damaged in a storm.

It was now Udi Erell's duty as operations officer of the missile boat flotilla to radio to headquarters a preliminary battle report. It would be two hours before he could muster the dispassionate tone appropriate to an official description of the first missile battle in history.

Chapter 20

Phantom Pursuit.

As Barkai's northern force had been closing on its first target off Latakia, two Saars slid quietly along the Sinai coast three hundred miles to the south and dropped anchor west of El Arish. It was a calm, clear night with excellent visibility.

Commander Gideon Raz could hear the surf above the murmur of the idling engines and see the breakers curling toward the beach. A few weeks before, he had arrived at this point in a rubber boat with Barkai. Measuring the depth with wooden sticks, they had probed for a way between the sandbars that would enable the missile boats to lie in ambush close inshore so as not to be detected by Egyptian radar. It had been a contingency plan for the indeterminate future, not one that Raz had expected to see implemented in real time. He had received a code word earlier indicating that war had begun but he knew nothing of what was happening on the battlefields of Sinai and the Golan.

Raz's two boats constituted one arm of an ambush force. Cruising well out to sea was another pair of boats, commanded by Eli Rahav aboard the Keshet which had been launched in Haifa just a month before. The ambush was to be sprung if the Egyptians attempted a landing behind Israeli lines on the Sinai coast. In the Syrian sector, any engagement would be purely a naval affair, but the boats operating in the Egyptian sector had a support role to play on the flanks of the Israeli ground forces in Sinai. The ambush force maintained radar and radio silence but an Israeli radar station on the coast to the west was to alert them if targets were sighted. The station was located at the northernmost fort on the Bar-Lev defense line on the Suez Canal.

Raz's boat was the *Soufa*, which had been Hadar Kimche's command boat on the Cherbourg breakout. Its guest book contained the names of Limon, Corbinais, and others associated with that episode. Until five months before, Raz had been commander of the submarine flotilla, emerging, like Kimche and Barkai from beneath the sea in order to seek broader command vistas in the surface fleet. After brief retraining, he had been appointed commander of a missile boat squadron and he made the Soufa his command ship. The second boat was the *Herev*, commanded by Lieutenant Peres.

At 10:00 p.m. the shore radar station reported unidentified vessels approaching from the west. Raz was at his station in the CIC when the bridge officer reported flashes on the western horizon. On the radio came the voice of the radar officer ashore. "They're firing at us."

"Raise anchor and activate the radar," Raz ordered his crew. Several targets just outside Gabriel range instantly appeared on the screen. Raz spoke to Lieutenant Peres on the radio. "Skunks at twenty-five thousand meters," he said. "Raise anchor and close on the targets."

Raz informed headquarters that he was setting out in pursuit and asked for air force assistance. His two boats had chaff but no other EW protection; without air cover, they would be too vulnerable.

Out at sea, the other arm of the pincer had earlier been joined by two more boats. The four vessels had been ordered by Telem to pull back to the northeast when they seemed to be circling too close to the Egyptian shore. When Raz's tallyho was heard, Rahav's force was 40 miles from the enemy's reported location. The boats turned and raced towards the coast.

As the southern force braced for action, Telem informed it that Barkai's force off Syria had just been subjected to a salvo of Styx missiles and had come through unscathed. He patched Barkai directly through to Rahav on the communications net so that Barkai could ease the minds of the men in the south. "Their missiles

aren't serious," said Barkai, a reassuring message that did not reflect his true concerns about the danger, which no amount of safe passages through combat in the coming days would relieve. However, to the men in the southern force racing towards the Egyptian vessels the message perceptibly eased tensions.

The captains in Rahav's force saw that they could not reach Gabriel firing range before the enemy had gained harbor. It would be up to Raz and Peres. There were now five targets on the radar screens of the *Soufa* and the *Herev*. Two Egyptian craft that had fired Katyusha rockets at the radar station were being escorted by missile boats as they fled westward. When they drew within Gabriel range, Raz divided the targets between himself and Peres and ordered firing commenced. With the firing of the first missiles all eyes in the CICs were on the tracking screens where electronic impulses sent back by the missiles formed a line leading toward the target. Instead of intersecting with the targets, however, the missiles either fell short, overflew, or went off on a tangent. Subsequent firings did no better. The bridge officers reported some missiles lifting off and falling into the sea after a few seconds. The armaments officers checked the electronic circuits and reported malfunctions in the fire-control radar in both boats. Raz ordered the remaining missiles fired in emergency mode, a fallback procedure that worked no better. In all, eleven missiles were fired without even a near miss.

In the midst of this frustrating pursuit, Raz heard his boat's code name on the radio. A single Phantom, the only aircraft the hard-pressed air force could spare the navy this night, was approaching and asking for guidance onto target. Raz could hear the pilot but could not be heard by him, so Peres guided the plane toward the Egyptian vessels. The pilot reported seeing the missile explosions in the vicinity of the fleeing Egyptian craft. Thinking that the missile trajectory could be adjusted, as with conventional artillery fire, he began suggesting adjustments, such as "four hundred meters short and five hundred left," to the momentary amusement of the navy crews.

The boats held fire to avoid hitting the plane as the Phantom dropped a flare to illuminate the area and dived. A bright explosion lit the night when a bomb hit an Egyptian missile boat.

"My fuel's low," said the pilot to Peres. "I've got to head for home. Thank you." The naval officer would long remember the pilot's polite departing-guest salutation.

Not willing to concede the battle to the air force, Raz and Peres continued their pursuit of the remaining boats, slowly closing to gun range. Contact with the enemy vessels was being maintained by the radar, but the bridge officers could sometimes make out through their binoculars a darker shape against the night horizon which they assumed was the nearest of the blacked-out Egyptian vessels. At four thousand yards, Raz ordered gunfire to commence. To his total disgust, the Soufa's gun jammed after a few rounds. Peres's guns would not fire at all. This immobilization of the guns on both boats, following the malfunction of both their missile systems, was more bad luck than Raz could have anticipated from the law of averages in the worst of circumstances.

Maintaining his pursuit, the force commander ordered his chief technician to get the gun cleared. After twenty minutes, the technician reported that the fault with the gun was apparently linked to the malfunction of the fire-control system

that had aborted the missiles. If at all possible to repair at sea, it would take a long time. They were by now almost due north of Port Said. Raz informed Telem of the situation.

"Disengage," said Telem. "You've done your job. We've already had a success in the north, and I don't want you to proceed westward any more. We're not going to have any more air force help tonight. Come on home."

Glumly, the two captains turned their boats north. Despite Telem's pat on the back, they did not believe they deserved congratulations. The moment they had trained for so intensively, the supreme moment of their professional careers—confrontation at sea with an enemy force — had come and gone, leaving them totally frustrated. In the context of Israel's abbreviated wars—the 1956 Sinai Campaign had lasted four days and the 1967 war had lasted six—it seemed unlikely to Raz that they would ever get another chance to command a missile boat in combat.

Chapter 21

Zero Range.

The two Daburs commanded by Zvika Shachak had entered the Gulf of Suez the day before Yom Kippur. In his briefing before their departure from Sharm, Almog had been guided by naval intelligence's warning of Egyptian war preparations. "I'm going to give you an order I've never given before," said Almog. "Your guns will be manned every day from dawn to dusk against air attack, even when you're docked."

The boats were tied to buoys at Ras Sudar at the northern end of the gulf on Yom Kippur afternoon when their radios came alive with reports of Egyptian attacks along the Suez Canal and at Sharm. At 4:00 p.m. Zvika was ordered to cast off and patrol along the coast toward the Israeli oilfields at Abu Rodeis, to the south. Any Egyptian boats or helicopters attempting to cross the gulf were to be attacked. As darkness fell, the Dabur crews could see the lights of helicopters in the distance crossing from the Egyptian mainland to Sinai. The horizon was lit by a burning oil-storage tank at Abu Rodeis. To the south, the sky was tinted as usual by the flaring of the Egyptian offshore wells at Morgan. Communication with Sharm al-Sheikh had been lost and it was not clear to Zvika whether they were witnessing a localized incident or something else. No one had informed him of war.

At 9:00 p.m. Zvika's radar operator spotted a large target just off the Sinai coast. "We've got no vessels in the area," said the officer at Ras Sudar whom Zvika contacted.

"What do I do about it?" asked Zvika.

"Act according to standing instructions."

Standing orders called for Zvika to attack but instinct counseled caution. With his guns focused on the unidentified target he closed to firing range and switched on his projector. It illuminated a familiar profile, the Israeli tanker CYRENIA, which regularly operated between Abu Rodeis and Eilat. Its captain had decided to

flee from the battle zone under cover of darkness. The ship was riding high in the water on tanks empty of fuel but full of combustible fumes that would have ignited had the Dabur opened fire. Zvika knew many of the tanker's crew members. With a mixture of horror and relief at the near miss, he notified Ras Sudar of the ship's identity. Within moments, orders were transmitted to the tanker captain to drop anchor. It was far too dangerous to attempt this passage now—more dangerous, in fact, than the Israelis realized. With nightfall, Egyptian naval forces had begun mining the entrance to the Strait of Jubal, which the tanker would shortly have reached.

At 10:00 p.m. Shachak heard his code name on the radio. To his astonishment, he recognized Admiral Binny Telem's voice. The MIG attack on Sharm in the afternoon had knocked out radio communications between Telem and Zeev Almog, so the navy commander was contacting the ensign in charge of the Dabur patrol directly from the war room in Tel Aviv. Telem ordered the two Daburs to cross the gulf to Ras Zafaranah and attack any boats they found. Shachak set course for the southwest and headed out into the turbulent waters.

Meanwhile, in Sharm, Almog had sensed something ominous in the afternoon about the way the Egyptian attack was developing. It had a scope and a rhythm that portended bold steps. The attack on Sharm's communications and airfield in the opening minutes of battle had clearly been a softening up, perhaps for a landing during the night. To guard against the possibility, Almog sent out the two Daburs remaining in Sharm and three LSTs to patrol the waters between the base and Ras Mohammed, at the southern tip of the peninsula. This was the likely area where Egyptian forces would land if they intended moving on Sharm. Around the naval base itself, sailors manned defense positions. The army had been able to spare only one armored brigade to defend the vast reaches of southern Sinai, an area larger than Israel proper, and the air force could assign the area only four Phantoms. It would be up to the navy to prevent any seaborne invasion.

At 8:30 p.m., the operator at the air-force radar station at Sharm saw two objects heading rapidly toward the base from the southwest. Almog heard the warning on the radio: "Two helicopters attacking." Before anyone could react, two loud explosions reverberated over the base. In the flames that lit the hill on which the radar station was sited, the huge antenna was seen to have disappeared. The commander of the small armored unit posted at Sharm led a platoon of old Sherman tanks up the steep hill to drive back the presumed attackers. Cresting the winding road, the tanks moved toward the radar station with machine guns firing. As they neared the ruined building, a grenade exploded beside the lead tank. In the momentary silence that followed, the tank commander heard a shout in Hebrew: "Don't fire. We're Jews."

Emerging from the ruined building came air force men carrying four dead comrades. There had been no helicopter attack. The two objects on the screen had been Kelt missiles, which can be fired from airplanes a hundred miles from their target. Homing in on the emissions of the radar station, the missiles struck with powerful warheads containing 850 kilograms of explosives. A similar missile had been fired at Tel Aviv during the day but was shot down over the sea by an air force pilot.

If the Egyptians had hit the radar station, it was because they were preparing something that they did not want seen. But there were other eyes watching in the night. At 10:00 p.m. the radars of the Daburs patrolling near Ras Mohammed picked up dozens of small targets approaching from the west. At the navy's request, an air force plane dropped flares. In their light the commander of the Daburs saw rubber boats filled with Egyptian commandos moving toward the shore. As the Daburs opened fire, the rubber boats turned and escaped through the reefs. The Daburs could not follow but the attempted landing had been foiled.

At 1:30 a.m. two Komar missile boats were detected by ESM instruments thirty-seven miles out to sea and approaching. Almog called in the air force again and two patrolling Phantoms were over the Komars within minutes. One dropped flares and the other dived to attack. The pilot pulled up sharply as shoulder-held Strela missiles came up at him from the Komars. While circling for another pass, the pilot glanced at his fuel gauge and informed Almog that they would have to break off immediately if they were to make it back to base.

The Komars were now almost twenty-five miles out and approaching Styx range. Raising the LSTs patrolling offshore, Almog issued the code word indicating approaching missile boats. The three landing ships turned and ran toward the shore. At 12.5 miles the Komars fired their four missiles. The Styxes passed just over the three ships and exploded inland.

In twelve hours, the Egyptians had attacked southern Sinai with helicopter-borne commandos, boat-borne commandos, long-range Kelt missiles, and Styx sea-to-sea missiles, and had used a submarine to attack a tanker in the Red Sea. They were plainly working according to a bold, carefully orchestrated plan. Almog had no reason to suppose that it had crescendoed.

Zvika Shachak's two Daburs arrived off the Egyptian coast at 1:00 a.m. The hour's crossing of the Gulf of Suez had been extremely rough and most of the men were seasick. In the middle of the crossing, communications had suddenly been re-established with Sharm, which ordered Zvika to break off and return to the Sinai coast. The ensign refused: "I'm operating on direct orders from Telem." In the middle of the conversation, the radio link failed again, to Zvika's relief. He had no intention of being deprived of this chance at combat.

The area of Ras Zafaranah, which they cautiously skirted, was empty of shipping. There was a radar station on the headland, but the Daburs had either not been detected or been taken for Egyptian vessels. Looking at his map, Zvika saw a small anchorage at Marse Telemat, a few miles down the coast. Telem's orders had concerned only Ras Zafaranah but Zvika decided to extend his mandate. As the boats approached the entrance to the small bay, Zvika's radar looked as if they had come upon a school of fish. Numerous fluorescent blips lit up the screen, indicating dozens of small vessels. No one had yet informed the ensign that there was a war on. It was not clear, particularly after his recall order from Sharm, whether Israel was involved in a general conflict with Egypt or in some limited incident in which he did not have the authority to strike at targets not specifically assigned to him. With no radio contact, there was no one to ask. He pondered the question briefly and decided to take his boat in. Ordering the other Dabur, commanded by Ensign Tankovich, to remain in reserve outside, Zvika

eased his vessel in slowly through the bay entrance. This time there would be no question about closing to zero range.

There was no moon, and binoculars revealed only vague shapes looming in the darkness. Zvika threw on his projector and flashed it to the right of the entrance. Fishing boats were anchored around the rim of the bay. The Dabur moved in a slow arc as Zvika vainly scanned the vessels for signs of life. If there were Egyptian forces in the bay, they evidently were uncertain who he was. As the Dabur reached the center of the rim, its light picked up a Bertram patrol boat attached to a buoy. Two rubber boats were attached to the Bertram. The boats were filled with Egyptian commandos dressed in black rubber suits.

"Fire," shouted Zvika.

The Dabur's guns opened up as the vessel kept moving counterclockwise around the rim. Two hundred yards from the commando force, the boat shuddered to a stop. They were on a reef. Zvika shut the projector.

Gun positions dotting the shore opened up on the Israeli vessel. The Egyptians had gathered large forces around the bay, evidently to be transported across the gulf in the fishing boats. Fire from around the harbor was peppering the Dabur, and men were being hit. Zvika ordered his gunners to keep firing on the commando force around the Bertram.

Zvika grabbed the microphone and ordered the other Dabur to enter. Tankovich reported on the radio that he was already inside the bay; he had started in as soon as he heard the shooting. When Tankovich's guns opened on the Egyptian gun flashes, some of the shore fire shifted from Zvika's vessel.

Zvika's chief mechanic went below to start the stalled engine which could no longer be started from the bridge because of a severed connection. When it ignited, Zvika was to operate the throttle until the boat could work itself free. Because of the racket of the firing, however, Zvika could not hear the sound of the engine starting and the mechanic would have to run up to the fire-swept deck after every ignition to inform him that the engine was working. After several attempts, the boat floated free. A water pipe cooling the engine had been hit, and the mechanic, taking off his boot, shoved a sock into the hole.

As the patrol boat turned toward the entrance, an officer got down on one knee and fired several signal-flare rounds at the Bertram. One arced across the water and hit the Egyptian boat dead center, setting it aflame. In its light the rubber boats could be seen to have sunk.

The other Dabur, meanwhile, had also run onto a reef. One of the boat's gunners was fatally wounded in the chest as he exchanged fire with the Egyptian gunners onshore and another crewman took his place. After a few moments, Tankovich worked his boat free and headed out into the gulf.

The sky behind them was aglow. There were one dead and eight wounded on the two boats, almost half of their crewmen. But part of the Egyptian master plan for southern Sinai had been derailed.

Chapter 22

The Gunfighter.

The breakwater at the entrance to Haifa harbor was lined with spectators as the boats of the northern task force returned from the battle off Latakia early in the morning. Word of stunning success off the Syrian coast had quickly spread through the port city. The sailors could see people crowding the rooftops and windows of buildings overlooking the port.

Barkai decided that his boats would not tie brooms to the masts in the traditional symbol of naval victory. They had left a lot of Syrian sailors at the bottom of the Mediterranean. Any flaunting of the victory, he told his men, "wouldn't be respectful to them or to ourselves."

Admiral Telem had come up from the war room in Tel Aviv to lead the debriefing. With him was Herut Tsemach, eager for the first reports from the EW officers. The central figure in the room was the unshaven, bleary-eyed flotilla commander. Hoarse from the night's exhortations, Barkai spelled out in his salty tongue impressions of the new era they had sailed into. The theories they had developed thus far about missile warfare were fine, he said, but in combat, opportunity mattered more than theory. "When you're outside his [the enemy's] harbors you never know when he's going to sortie out. It's like fighting in a built-up area, like shooting around corners."

Whipping both hands up to imaginary holsters like a gunfighter in a shootout, the wiry officer added, "What you need is quick reaction—not to go by the book, but to shoot to hit."

Borrowing from the air force's system of quick turnarounds, the navy set about getting the boats ready for another sortie in a few hours. For Telem this meant not only refueling and rearming but also drawing tactical and procedural lessons from the previous night's combat to be implemented for the second night's mission. The short wars Israel was accustomed to demanded swift battle analysis.

In the Yom Kippur War the Israeli ground army would undertake few night actions, once a highly favored mode of operation. The navy, however, would undertake almost all its operations at night. The darkness made the enemy reliant on his radar and thus gave the Israeli boats' EW advantage full play. The darkness also offered better protection against air attack in enemy waters.

Technicians quickly located the problem with the missile systems on the *Soufa* and the *Herev*; cables to the radar had simply been misconnected. Tsemach introduced some new calculations into the EW system as a result of the first debriefing but found that on the whole the system had worked beautifully.

Looking at the exultant men on the boats, Admiral Telem turned to Tsemach and said, "If not for you, Herut, many of them would be dead." Echoing Tsemach's own feeling, it was a remark he would remember the rest of his life.

While service personnel swarmed over the boats to ready them for their next mission—augmented by top civilian electronic experts mobilized into the reserves—the crews descended to their bunks for a few hours' sleep. The officers lay down on foam-rubber mattresses on floors or desktops. A succession of well-wishers appeared in Barkai's office, and it was late morning before he could lie down. It seemed to him that he had only closed his eyes when he was roused to lead his boats out on their second mission. He had already informed his

operations officer that this night they would go south with the squadron led by Commander Nitzan: “It’s time to let the Egyptians feel us.”

Nitzan’s task force lay all night west of Port Said but the Egyptian navy declined to come out. The only untoward incident occurred when the *Hanit* ran onto a sandbar off Bardiwill on the Sinai coast and could not pry itself loose. Before dawn, Telem summoned the force back to Haifa. Nitzan sent his three other boats back and set course for Bardiwill on the *Miznak* in order to get the *Hanit* free.

As tensions receded with the conclusion of their combat sweep, the weight of accumulated weariness descended upon the officers and men. Nitzan could no longer keep his eyes open. Before going up to his cabin to nap, he drew an arc on the plotting-table map extending twenty eight miles outside Port Said, the range of a Styx fired from the harbor. Tapping the arc, he told his duty officer, “Keep your distance from Port Said.”

Barkai, who had again chosen the *Miznak* as his flagship, had also gone to rest in his cabin. Udi Erell remained for a while sitting on a chair in the CIC, savoring the release of tension. In the dim light, the sailors around him seemed to be half nodding from sleep even as they sat at their screens and consoles. When he looked more closely, he saw that some were indeed sound asleep and he rose to shake them.

Glancing at the plotting-table map in the oddly silent room as he sat down again, Erell sensed through the curtain of sleep that seemed about to close on him that something was amiss. The plotting showed the boat sailing in a straight line parallel to the Egyptian coast. Suddenly the flotilla operations officer realized what was wrong: they should not be sailing in a straight line but swinging out to avoid Port Said. Egyptian radar must certainly be tracking them, and they were almost abreast of the port. As a lone boat they would make a tempting target for the missile boats in Port Said.

Erell was galvanized into wakefulness as he rose again and focused on the consoles. The instruments were issuing unmistakable indications that Egyptian boats were coming out. It was like the familiar nightmare in which a monster is about to grab you while all the people around you are uncomprehending. Missiles were about to be fired at them, the EW had not been activated, and everybody was at least half asleep.

At this instant, a voice crackling urgently over the loudspeaker roused the drowsy men in the CIC. It was Captain Moshe Tabak, Telem’s operations officer at navy headquarters, warning that radio monitors had picked up signs that the Egyptians at Port Said were preparing to fire missiles at an Israeli vessel. There was no time to encode the message and Tabak spoke in the clear even though the Egyptians themselves would certainly pick him up. Erell sounded the alarm.

Nitzan and Barkai, sleep gone from their eyes, rushed down the steps into the CIC. As the bridge officer swung the boat away from the coast and opened full throttle, the officers in the CIC scanned the map and made instant calculations. The instruments indicated two boats coming out of Port Said.

“Let’s turn and charge them,” urged Erell.

Barkai was measuring the distance from their own vessel to the Egyptian boats and the distance between the latter and Port Said.

"No," said the flotilla commander. "We need only a few miles to be out of their range. If we attempt to charge them, they can fire and get back to port before we can hit them."

Erell tried to argue that one of the Egyptian boats might break down in the pressure of the pursuit but Barkai stuck to his command decision. In the absence of a full EW deployment the risk was too great for such a slim chance at the enemy.

The Egyptians were taking time getting into firing position and every minute was bringing the Israeli vessel closer to the edge of Styx range. From the bridge, Nitzan saw a powerful reddish-yellow flash briefly illuminate the predawn sky far to the south. Three more flashes followed in quick succession as two Komars fired their salvos. The missiles themselves soon flew over the horizon into view. Nitzan saw the first ball of fire plunge into the sea far astern and sighed with relief. The second missile also exploded astern, but the third missile kept coming. It passed over the boat and continued for another three miles before exploding in the sea. The fourth missile appeared to be descending straight toward the *Miznak*. It plunged into its wake only one hundred yards astern, and the men in the CIC could feel the explosion. As the Komars on the radar screen turned back toward Port Said, the Israeli boat turned after them, but they made it back to port easily.

"Well, that woke us up," said someone in the CIC.

The *Hanit* was a pitiful sight on its sandbar when Nitzan's force reached it. A boat from the *Hanit*'s squadron that had been guarding the stranded vessel all night was relieved by the *Miznak*, and Nitzan began rescue operations. After lowering a rubber boat into the surf, he placed towlines aboard the stranded vessel and began pulling. But the Hanit would not budge. It had been traveling at high speed when it ran aground and its keel was deep in the sand.

At Nitzan's request, a Dabur patrol boat joined him to help provide leverage in the towing operation. The smaller vessel's lines kept the *Hanit* from going broadside to the waves and thereby being pushed farther onto the sand.

The operation continued all day, and by late afternoon the Hanit had edged well forward. Nitzan was feeling confident that he would soon see it slide free when his radio operator handed him a message from headquarters. A tug was on its way from Ashdod. As soon as it arrived, he was to pass it the towlines and make for the Port Said area where other boats would be rendezvousing with him. The Egyptian naval force in Port Said was expected to come out during the night; the missile boat flotilla would be waiting.

Chapter 23

The Battle of Baltim.

The order for the flotilla to sail immediately for Port Said reached Haifa before all the missile boats had completed refueling. The orderly scene exploded into frenzy as supply personnel leaped ashore, fuel lines were disconnected, and engines roared to life. A gantry was maneuvering a missile toward the deck of the

Herev when the skipper shouted to his men to halt the loading operation and prepare to cast off. Within twenty minutes, eight missile boats had pulled away from the naval docks and were heading southwest from Haifa at thirty knots.

Barkai was lying off Port Said with two boats when the others arrived five hours later. A powerful force was now at his disposal, but the reason for their presence had dissipated even before they arrived. The Israeli army had launched a counterattack this day—the third day of the war—hoping to push the Egyptian forces back across the Suez Canal. The naval command had expected that ground pressure on Port Said just opposite the Israeli lines would compel the Egyptian boats in the harbor to flee to their main base at Alexandria, 110 miles to the west, for fear of being captured or shelled. But the ground attack had failed and the Egyptian boats were not coming out.

Barkai and Telem decided to provoke them by shelling targets in the Nile delta. The Israeli boats had just begun this task when they picked up targets to the west on their electronic sensors shortly after 9:00 p.m. Forming a broad skirmish line, the boats charged. They made a gallant sight, ten warships plunging abreast through the sea at forty knots like a cavalry squadron at full gallop. After half an hour, however, it became apparent that they had been chasing electronic shadows—reflections of clouds or some floating objects.

As they halted to regroup, Barkai asked each skipper to report on his fuel supply and armaments. The boat he was on, the Miznak, was low on fuel, he knew. When the reports came in, he saw that three other boats also had barely enough fuel to get back to Haifa. Barkai informed Telem that he was debating whether to return with his force in view of the fuel problem.

"Why don't you send home the boats low on fuel and stay on with the rest?" suggested Telem.

It was a simple solution but Barkai, his mind full of weighty calculations, hadn't thought of it and was grateful that Telem had. Bidding the *Miznak* farewell, Barkai descended into a rubber boat with his staff, clutching his vertical plotting board like Moses descending Mount Sinai with the tablets. He had just cast off when the task force picked up indications that four Osas were coming out of Alexandria harbor and heading eastward. When Udi Erell heard the report shouted at them, he had a momentary vision of the six missile boats speeding off, leaving the command staff adrift in the rubber boat. The vessels, however, remained in place until Barkai reached the *Herev*. As soon as he clambered aboard, he ordered the force to begin moving towards Alexandria.

It was now 11:00 p.m. Barkai formed his boats into three pairs moving across a broad front. The northern pair was made up of the two large Israeli-made boats, RESHEF and KESHET. The central pair consisted of the EILAT—named for the sunken destroyer—and the missile-less *Misgav*. Barkai positioned the *Herev* with the *Soufa* on the southern wing. It was still not clear that the Egyptians were sailing to meet them: they had not been picked up by radar or by long-range electronic sensors.

Close to midnight, Barkai took his pair of boats close inshore to shell targets at Damietta in the Nile delta. As the gunnery officer of the Herev was preparing to open fire, the boat's ESM picked up readings off Baltim, to the west. Uncertain whether this was another electronic fluke, Barkai ordered Commander Eli Rahav

on the northern wing to disperse long-distance chaff to his north to see if it would draw fire. In a few moments, missiles began arcing toward the chaff cloud from the west. The squadron switched on its electronic defenses and opened full throttle. Once again Barkai decided not call on the air force for help.

The battle line this time was banana-shaped, the two Reshef-class boats on the north having moved farther west than the others before contact was made. Two pairs of Osas were moving directly toward them but were still beyond Styx range. This time it was indeed like a cavalry encounter. Such head-down charges had become as rare in sea battles as on land. In 1798 Nelson had destroyed Napoleon's fleet off Egypt at Abukir, just a few miles from Baltim, in a battle full of maneuver and deployment of strength against weakness. The midnight charge of the missile boats at Baltim was more reminiscent of the long-ago encounter between English and French troops in which the respective commanders, after marching their men up to within musket range, gallantly saluted each other with sweeps of their hats and offered each other side the first shot.

It was clear who would be getting in the first shot at Baltim. Unlike the first night's tumult off Latakia, where the Syrians had been able to snap off their first salvo before the Israelis were expecting it but at less than maximum range, the battle of Baltim was classic in its neatness. The Osas would fire when they reached the Styx's twenty-eight-mile range. The Israeli boats, if they survived this salvo, would attempt to close to within the Gabriel's twelve-mile range. The major maneuvering would not be of boats but of electronic beams.

Tension gripped the men aboard the Israeli vessels as the gap closed. In the CIC of the command vessel, sailors at the consoles and screens began shouting when the Egyptians came into view.

"Here they come."

"Four—four boats."

"Coming right at us."

Barkai and Erell shouted at the men to quiet them down: "Shut up. Everybody shut up."

As the Osas approached to within Styx range, excitement gave way to fear. Despite his cool demeanor, Barkai felt it no less than on the first night. "They can tell you what the missile can or can't do," he would say, "but you can't be sure that the missile knows it, too." The EW defenses lowered the odds of being hit by offering the Styx a wider choice of targets, but the missile boat itself remained one of the targets.

At fifteen minutes past midnight, sensors indicated an Egyptian launch at forty-eight thousand yards.

"They're firing," said a console operator.

Lieutenant Peres bounded up the steps leading to the bridge.

"Where are you going?" shouted Barkai. "You're the boat's commander."

"You've seen the missiles already," said Peres. "I haven't." In fact, Barkai had not seen a missile in the air because he remained at his CIC post in every encounter.

From the bridge Peres could clearly see flashes on the horizon to the west. Pillars of flame curved in the sky and began rushing toward them. In two minutes the balls of fire began descending towards the Israeli boats. Tracers lifted from the

decks and guns barked. The missiles exploded in the sea, their half-ton charges sending up lofty geysers. The Egyptian squadron kept coming, firing three more salvos in the next ten minutes.

Fire seemed to be concentrated against Rahav's boats on the northern wing. The absence of any secondary explosion was reassurance to the bridge officers elsewhere on the Israeli line that none of the missiles had hit their target. With the last Egyptian barrage, fired at a distance of twenty miles, the two pairs of Osas executed a U-turn and began racing back for Alexandria. The pursuit was on.

Barkai addressed his commanders. "We're going to close to ten miles before firing. Anybody who fires longer I will dismiss on the spot." He did not want a repetition of the long shot that had been the first Israeli response at Latakia. Quick calculations indicated that they would catch up with the slower Osas before they could make it back to port. He divided the targets on the radar screen among his commanders. All that had to be done now was to maintain pursuit at maximum speed.

In the naval command pit in Tel Aviv, Admiral Telem studied the three-story-high Plexiglas screen in the dimly lit chamber; the chase was magically taking shape before his eyes in the form of six "friendly" boat markers slowly closing on four "non-friendlies" making for Alexandria on the giant map depicted on the screen. Unseen behind the screen, young navy women moved the boat markers as position reports were fed to them over earphones.

In the CICs of Barkai's force, the men settled down for the long chase. They worked in overhead light kept purposefully dim so as not to interfere with the light on the screens and plotting table. The captains had ample time to brief their men and to ensure that all systems were operating properly. At the plotting tables, seamen continually adjusted the relative positions of the Egyptian and Israeli boats. Reports from other parts of the boat and from other boats—sometimes even from Telem in Tel Aviv—issued constantly from the overhead loudspeakers, some restrained and precise, some almost chatty. Periodically, an officer took one of the overhead headsets to talk to the bridge, gun positions, or engine room. Armaments officers checked the electrical circuits of the missiles to prepare them for firing. Each captain at his plotting table measured the distance between his boat and his assigned target.

The crews fell silent as the gap narrowed. On the KESHET, an officer brought water to the men sitting at the consoles and wiped sweat from their brows as they kept their eyes fixed on the instruments. Barkai's calm and confident voice issuing from the loudspeakers cautioned the captains again to wait until the range was certain. Although the Gabriel's range was twelve miles, the target was moving away, which meant that any missile fired at maximum range would find the target already gone by the time its two-minute flight was completed.

After a chase of twenty-five minutes, Keshet, on the northern wing, reported itself within 10.5-mile range. Ensuring that the fire-control radar was locked on the nearest Osa, Commander Rahav pressed the "Permission to Fire" button. A Gabriel leaped from its pod and the missile aimer on the bridge, picking up its white exhaust in his binoculars, guided it into the radar beam with his joystick. There was a flash on the horizon and the bridge officer shouted, "We hit." At this point Rahav was notified that the KESHET's engine room was taking on water

from a burst pipe. He brought his vessel to a halt a mile from the burning Egyptian missile boat he had hit while the missile-less *Misgav* dashed in from the center of the line to finish off the stricken boat with gunfire.

As the KESHET slowed down, the RESHEF, sailing behind it, fired at the second Osa and scored a hit. Together with the EILAT from the center, which had also fired a missile at the target, the RESHEF closed on the burning Egyptian vessel and hurried it to the bottom with gunfire.

The southern pair of Osas had split, one heading toward the coast and one racing west toward Alexandria. The former was hit by a missile and came to a standstill close to shore but refused to sink. Even when the *Herev* and the *Soufa* poured dozens of shells into it, the boat remained afloat. Not until the captains checked their charts did it become apparent that the Osa was aground.

Glancing at his radar screen on the Reshef, Commander Micha Ram saw that the fourth Osa had meanwhile fled out of range. Either the Saar assigned to hit it had fired at a different target or its Gabriels had missed. The RESHEF was closest to the fleeing boat and Ram ordered pursuit. As his weapons officer prepared another missile for firing, the console operator checking its system reported a short, such as one suffered the first night, off Latakia. Ram maintained pursuit as the technicians labored to repair the missile system. If they failed, he hoped to reach gun range.

On the command vessel, Barkai watched the RESHEF drawing rapidly away from the main force with growing concern. If the boat got much closer to the Egyptian coast, it would be vulnerable to air attack without backing from the rest of the task force. Barkai took the radio handset and addressed Ram

"Come on back. You're getting too far out."

"Just give me five minutes," implored Ram. "We'll have the bug fixed by then."

It would take several more moments of argument before Ram broke off and rejoined the main force, leaving the last Osa to disappear over the horizon in the direction of Alexandria.

Years later Ram would meet an Egyptian naval officer who had commanded one of the Osas in the battle of Baltim. Both were enrolled in the same course at the U.S. Naval War College and quickly established friendly relations.

"Where were you in the line?" asked the Egyptian when he learned that the Israeli had commanded a missile boat at Baltim.

"Second from the north," said Ram.

"Then you were the one who sank me." The Egyptian officer said he and two or three members of the crew had survived the explosion and managed to swim to shore.

Barkai would later tell headquarters that he had experienced a sense of deja-vu during the battle, as if he had already fought it before. He had in fact done so on several occasions in almost identical fashion in the tactical simulator at the Haifa naval base.

Shlomo Erell, who had arrived from Europe earlier in the day, joined Telem in the war room during the battle. The first voice the retired admiral heard on the loudspeaker was that of his son reporting from off the Nile delta near Damietta. In his own youth, Shlomo Erell had been a seaman on small freighters sailing

between Damietta and Latakia, one of the few Jewish sailors in Palestine. His son was now fighting in those same waters.

Telem ordered Barkai to break off his chase. The force was now too close to the main Egyptian naval base at Alexandria. The shore was lined not only with gun batteries but also with shore-to-sea missiles, a weapon the Syrians did not have, and the Egyptian air force was a threat. At 1:30 a.m. the six Israeli missile boats turned northeast towards Haifa.

Chapter 24

Skirmish.

The war at sea had taken on a rhythm of its own, detached from the main battlefields where the Israeli army and air force were staggered by the Arab attack. The navy succeeded, in its actions off Latakia on the first night of the war and Baltim on the third night, in establishing its clear superiority—tactical and psychological—over the Arab fleets. Telem, who met with his peers on the General Staff every morning and knew how badly the land war was going, was determined to do what he could to apply pressure on the Arabs.

On the fifth night, Barkai was dispatched north again with seven boats, more than he had commanded in either of the previous encounters. With luck, the Syrian missile boats still in harbor could be provoked into coming out. Squadron Leader Yaacov Nitzan led five of the boats on a wide sweep toward Cyprus and up toward Turkey before turning back south and pausing off the northern Syrian coast to organize. It became apparent as they prepared to attack that the Syrians knew where they were. Barkai and his staff were with Nitzan aboard the Hetz, the last boat to be built in Cherbourg. The two Reshef-class boats had not joined the flanking move. They were to come at the southern port of Banias straight out of the sea from the west. At ten minutes to one, the two larger boats were ordered to begin their attack. As they moved up to gun range in the darkness, Nitzan and his five boats opened full throttle and swept south at forty knots, unleashing their electronic decoys.

The Syrian radar screens between Latakia and Tartus suddenly began flickering. Five groups of targets, showing seventeen different ships from twelve to twenty miles out to sea, appeared on the screens simultaneously. Helicopters were reported over several different coastal points, and loud explosions were heard at sea. The Syrian naval command ordered two missile boats in Latakia harbor to fire at the oncoming vessels. Two other Osas—in Tartus, to the south—were ordered to fire at the targets off Banias, just up the coast.

Once Nitzan's five boats had rounded the cape, two of them swung out of line and turned in toward Mina al-Baida, location of a Syrian naval base. The pair opened up with their 76mm guns as heavy shells from coastal artillery began to explode around them. The other three boats, including the flagship, continued eight miles down the coast towards Latakia where they were greeted with a barrage of missiles.

To their astonishment, the Israelis saw that foreign merchant ships had been anchored outside the harbor and were being used by the Syrian missile boats as floating sandbags behind which they would take cover after firing. When Barkai informed Telem, the admiral ordered him to fire if he saw a target despite the risk of hitting the merchantmen.

Extremely accurate coastal artillery fire straddled the Israeli boats and forced them to keep zigzagging at top speed as they tried to get a bearing on the enemy warships. Barkai ordered shelling of the port area and an oil-tank farm . The sharp turnings made it a nightmare for the bridge officers who had to keep from ramming other boats in the darkness while avoiding incoming salvos. The battle turned into a melee as the Israeli vessels sought targets of opportunity while trying to avoid becoming targets themselves. The *Hetz* was the first to unleash a missile when it got a bearing on a Syrian missile boat dodging between merchantmen. *Herev* and *Haifa* soon joined in. There were indications that an Osa and a Komar were hit but there was no clear confirmation. Two freighters—Japanese and Greek—were set afire by Gabriels and sank.

Some of the boat commanders left their CIC for the bridge to understand more clearly what was happening. At one point Nitzan was on the bridge of the *Hetz*, with the other two boats in line behind him when he saw a Styx coming straight toward them. The missile passed just over his boat, and then over the other two boats, before exploding in the sea behind the last one. The boat's cook, of Yemenite origin, was manning a machine-gun when he saw a missile apparently heading in their direction. Pronouncing the prayer "*Shma Yisrael*" ("Hear, O Israel") he opened fire. The missile kept coming and he shouted again: "There is a God." His tracers caught the missile, which exploded in mid-air. As with two other reports in the coming days of missiles downed by gunfire, many officers were inclined to believe that the missiles would have been diverted from the boats anyway by the EW.

Although the boats failed to ignite the Latakia oil tanks, a glow in the sky to the south verified the southern force's report that it had set the tanks at Banias ablaze despite heavy missile and artillery fire directed at them.

For the Syrians, the unimagined intensity of the Israeli attacks and the tactics employed obliged a reappraisal of the situation. "The pace of their sorties," Syrian Defense Minister Mustafa Tlass would subsequently write, "indicates either the existence of reserve crews or an error in Syrian intelligence's estimate of the size of the Israeli fleet." A Syrian naval assessment would declare it self-evident that Israel could not keep putting the same boats and crews to sea on so many consecutive days. Most boats and crews would in fact be going out almost every night for three weeks. The Syrian assessment acknowledged that the prolonged stay at sea of the Israeli boats, even on individual sorties, reflected a high technical standard.

After the first night, the Syrian naval command came to realize that the Israelis were using electronic measures to confuse their radar. They nevertheless continued to perceive the Israeli forces as far larger than they actually were. In addition, they were convinced that helicopters were being used to spot targets for the Israeli boats and to strafe shore targets. They came to believe, too, that submarines were being used for spotting targets and that Israeli commandos were

being landed by rubber boats, probably from the submarines, for the same purpose. After the first night's engagement off Latakia, the Syrians would avoid battle on the open sea, limiting their missile boats to short forays from harbor mouths and relying principally on coastal artillery for defense.

The Syrians saw themselves as successfully defending their harbors from numerically superior and technologically advanced Israeli forces. The military leadership would acknowledge that the Israelis, by their aggressive tactics, were keeping the Syrians on the defensive.

For Barkai, the second battle off Latakia, which had lasted close to two hours, was a nerve-racking, frustrating exercise with no clear results. But the Syrians were no longer thinking about attacks on the Israeli coast and Israeli-bound shipping. What concerned them now was protecting their own harbors against the fierce and astonishing attacks the Israelis were mounting.

Chapter 25

Commando Operations.

Fighting a separate war far to the south, the patrol boats of the Red Sea fleet had managed thus far to thwart Egyptian attempts to reinforce by sea the initial helicopter-borne commando landings in south Sinai. The Egyptians had close to 150 fishing vessels and other small boats on their side of the 20-mile-wide Gulf of Suez which could be used for seaborne landings on the long Sinai coast opposite them. They seemed determined to reinforce the twelve hundred commandos who had been helicoptered across in the first wave and they had four missile boats to protect such landings. Even one was enough to neutralize Almog's entire force.

The Egyptian intention was not merely to stage diversionary raids but to seize southern Sinai. Their plan called for elements of the Third Army, which had crossed the Suez Canal, to push down along the eastern shore of the gulf, with key support from the commando units landed in the Israeli rear. Faced only by a single Israeli armored brigade, the Egyptians would be in position to capture half of the Sinai Peninsula speedily—the half with the oil. The bulk of the Israeli army was pinned down in desperate battles along the Suez Canal to the north and would be able to offer little assistance.

Almog was unaware of the Egyptian plan but it was clear from the scope of their attacks that they intended to gain a strong foothold in southern Sinai. His force was too weak to fight a successful defensive battle for long. Given the disparity of forces, the only hope of foiling the Egyptians was to seize the initiative. If Israel could apply heavy enough pressure on the Egyptian naval bases, they would have to invest their energies in defense rather than attack. Almog did not have the boats for offensive operations and the air force could not spare planes to break through the SAM anti-aircraft defenses protecting the Egyptian anchorages. There was, however, one unit that Almog believed could do the job economically and

whose services were at the moment available—the commando unit he himself had previously led.

A transport plane carrying the small commando force he had requested from Admiral Telem landed at Sharm al-Sheikh on the third day of the war. Almog received with less enthusiasm two former naval commanders, Admirals (ret.) Yohai Bin-Nun and Avraham Botser, who had come to volunteer their services. Almog made it clear that he would be happy to benefit from their experience as long as they did not insert themselves in the chain of command.

Top priority was given by Almog to neutralizing the Egyptian missile boats in the early stages of the battle. No Israeli invasion force could safely cross the gulf unless the Komars were removed from the area. An invasion exercise had been carried out in the presence of the General Staff a few weeks before in which a brigade of Russian-made tanks was landed on the Sinai coast by the LSTs. The T-34 tanks had been captured in the Six Day War and refitted. Although far less comfortable for their crews than the American and British tanks in use by the Israeli army, they were effective fighting machines and could pose a formidable threat if loosed into the Egyptian hinterland. The tanks were stored at Sharm near the LSTs that were to transport them across the gulf.

The missile boat threat came mainly from the Red Sea anchorage of Ardaka, 60 miles southwest of Sharm. Two Komars were based there. Two others were located at a port farther south in the Red Sea and did not pose an immediate danger. Ardaka was protected from air attack by batteries of SAM anti-aircraft missiles like those that had taken a heavy toll of Israeli planes along the Suez Canal since the start of the war. Komars venturing out under this umbrella could safely reach the Egyptian-garrisoned island of Shadwan, halfway to the coast of Sinai. From the protected waters around Shadwan, Styx missiles could sink any Israeli vessel trying to swing around the southern tip of Sinai in order to enter the Gulf of Suez. The Israelis would not even know that the missile boats were there if the Komars shut off their radar and were kept informed of Israeli movements by the large radar station on Shadwan itself.

In the absence of air or surface forces to deal with the threat, Almog proposed getting at the Egyptian boats with bare hands. The commandos had been trained for precisely this kind of mission—penetrating defended harbors and affixing limpet mines to vessels. In previous months Almog had proposed a contingency plan for a commando attack on Ardaka in the event of war, but it had been dismissed as impossible to execute both by the naval command and by Almog's successor as head of the naval commandos. The waters of the Red Sea and the 200-mile-long Gulf of Suez were far more turbulent than the Mediterranean, as Chief-of-Staff Elazar could attest. To reach Ardaka meant an arduous nightime crossing in rubber boats and locating their target on the dark desert coast with simple navigation devices. Once there, the commandos would have to penetrate a two-mile-long channel, barely eight hundred yards wide, before reaching the anchorage. If they succeeded in attacking their target, they would have to return the same way, this time with the hornets swarming out of their nest. Because of the SAM missiles, there would be no air cover if anything went wrong and no chance of rescue by helicopter.

Despite the difficulties, Almog believed the operation could succeed. In the predicament they were in, he saw it as the best option available. However, when he spelled it out to his successor as commando leader and the two former navy commanders their opposition was unanimous.

"You've gone off the rails," said one of them.

"You haven't yet plugged yourself in to what's happening here," replied Almog.

He decided on one more try. Conferring with a commando officer who had participated with him on numerous operations, Lieutenant Commander Gadi Kroll, Almog spelled out his proposal and asked Kroll if he would agree to lead the mission. "I'm convinced that this is possible," said Almog. "But if you say it's impossible I apparently have no choice but to raise my hands." The commando officer, a kibbutznik from the upper Galilee, did not hesitate. "I'll do it," he said.

Kroll set out the next afternoon with two rubber boats, each containing a pair of frogmen and two backup men.

The six-hour journey was like a passage across Sambatyon—the roiling river of Jewish legend—as waves from the north mercilessly tossed the small boats.Kroll's navigation was pinpoint and the commando force arrived off Ardaka shortly after dark. The channel they had to traverse to reach the anchorage lay between a small island and the mainland. As the commando boats eased their way forward, the men saw the silhouette of an Egyptian patrol craft blocking the channel. The Israelis had evidently not been seen and Kroll steered his boats to the cover of the mainland shore where they laid up, waiting for the patrol boat to move.

They had not been there long when they heard a faint purr of motors. Out of the darkness came a line of Egyptian commando boats that seemed to be returning from a mission, perhaps on the Sinai coast. The Israeli boats lying close to the rocky shore offered no silhouette and the Egyptian boats moved past them into the channel. The patrol boat did not move from its position and after several hours Kroll decided to return to base: waiting longer would necessitate crossing Egyptian-controlled waters in daylight. On the return run, the boats' fuel ran out before they reached Sinai and Almog dispatched two Daburs to refuel them, despite the patrol vessels' vulnerability to Styxes fired from Shadwan's waters.

The mission's abortion did not discourage Almog. He determined from Kroll's report that the boats had actually penetrated the channel for some distance. If his calculation was right, they had been close enough for the divers to go into the water and swim to the anchorage. He told Kroll that after a night's sleep he would repeat the mission, this time with a third boat carrying extra fuel.

When the commando force returned to Ardaka the next night, there was no patrol boat barring the way. The two rubber boats moved cautiously up the channel and at a predetermined point the two pairs of frogmen went into the water and swam separately into the anchorage. Strapped to their chests was breathing apparatus which emitted no telltale bubbles. On their backs they carried limpet mines. The Egyptians shifted their missile boats to other anchorages periodically, and there was no certainty that there were any in Ardaka this night. If they could not find missile boats, the commandos were to sink any other vessels they encountered.

Shock waves could be felt underwater as the commandos neared the anchorage; Egyptian guards were periodically tossing explosives into the water to foil frogmen.

Kroll rose to the surface and looked about him. The explosions were occurring over a wide area but there was one point where they seemed to be concentrated. He swam towards it underwater with his partner and when he rose again to get his bearings, the silhouette of a Komar imposed itself on the darkness dead ahead of him. The frogmen treaded water as they studied the frequency and location of the explosions. Once they determined the pattern they swam under the boat and attached their mines and timing devices.

The other pair of divers, buffeted by the strong currents, had been unable to find a target. Both pairs made their way back to the rendezvous point at the fixed hour. As the last man clambered aboard the boats, which had been tied to rocks onshore, the backup men cast off. However, the engine on one of the boats failed to start. Repeated efforts to start it were heard by sentries at a nearby Egyptian navy base and tracer bullets were soon searching out the intruders. The four men in the stalled boat hastily tumbled into the other boat which headed toward the channel exit, Egyptian gunfire speeding them on their way. As the boat reached open waters, a loud explosion erupted in the anchorage behind them. Almog would have one less Komar to worry about.

Egyptian commandos who had landed by helicopter on the first day in southern Sinai were being hunted down or giving themselves up with each passing day. One group even surrendered to a navy logistics convoy on the road from Sharm to Ras Sudar instead of ambushing it. As the prisoners were questioned, it became clear how important Zvika Shachak's action had been at Marse Telemat. The commandos in Sinai were awaiting reinforcements and supplies from the boats at Marse Telemat before going into action against Israeli targets. Marooned now in the vast reaches of Sinai, the commandos had lost their will to fight.

Meanwhile, the Israeli military command called on its own naval commando force in Sinai to undertake a desperate mission which even its planners gave little chance of success. All the Israeli forts along the Bar-Lev line had fallen except the northernmost, flanked by the Mediterranean, and the southernmost. The latter, the Mezach, or pier, outpost, was not on the Suez Canal like the others but just south of it on the Gulf of Suez. In it were thirty-seven men, several of them wounded, commanded by a twenty-one-year-old lieutenant. With them were the bodies of five men killed in warding off the Egyptian assault. The position had been cut off since the first day of the war. It was impossible to break through to it and the men inside could not get out by stealth. Army headquarters believed there might be a chance that naval commandos could get them out by sea.

A small commando force was hastily assembled on the sixth day of the war at Ras Sudar and briefed on maps laid out on the hood of a jeep. As they studied the disposition of forces, it was apparent that the operation was close to suicidal. The Egyptians were maintaining a tight ring around the isolated outpost and artillery covered the sea approach. To penetrate it unseen and bring out a sizable garrison, including wounded and dead, would require more luck than anyone was entitled to expect.

The commandos set out in half a dozen rubber boats escorted by three Daburs to protect against Egyptian patrol boats. Each of the rubber boats held only three men, leaving enough room for the soldiers in the garrison if they could be

extracted. The rubber boats were to proceed to a point from which frogmen would swim to the pier. They would attempt to discern a route by which the men inside could make their way to the water unobserved. Headquarters would then contact the commander of the Mezach position to propose the escape with their wounded and, if possible, their dead.

The message would have to be passed on in such a way that the Egyptians, who were undoubtedly listening, would not understand its import. And it would have to be transmitted by officers whose voices were known to the men in the outpost. If the outpost commander agreed, word would be passed to the commandos offshore who would bring the boats in. The operation would be treading a razor-sharp edge all the way and the closer it came to execution the chances of success seemed smaller.

The sea was tranquil as the commando force proceeded northward but the moon was nearly full, which boded ill for a commando operation. Halfway to their target, the Daburs picked up radar sightings to the west and swung off in pursuit. The sightings proved to be false radar echoes and the patrol boats turned north again. The rubber boats meanwhile had proceeded on their own. The commandos could already see the outline of the Mezach pier jutting out into the moonlit water when the silence gave way to the shriek of heavy artillery as shells threw up geysers around them. The Egyptian coastal artillery, directed by radar, also reached toward the Daburs. Headquarters ordered the commandos to pull back. Two days later the men of the Mezach went into captivity.

Ever since Zvika Shachak's inconclusive skirmish with the Egyptian patrol boat before the war, Almog had been pressing for installation on the Dabur of a weapon with enough power to sink a patrol boat, not merely prick it. On the third day of the war, a shipment of anti-tank weapons arrived at Sharm and one was rigged on the stern railing of a Dabur for testing. A sailor balancing the rear of the weapon on his shoulder fired at targets in the water and was able to achieve reasonable accuracy. A fifth Dabur, trucked overland to Eilat, had joined Almog's fleet. He ordered all five patrol boats fitted with the new weapon.

A week after the attack on the Egyptian commando force at Marse Telemat on the opening night of the war, Israeli intelligence reported a new small-boat armada being assembled at Ras Arib, midway up the Gulf of Suez. The Egyptians were preparing another incursion into South Sinai in coordination with a major attack by Egyptian tanks on the Suez Canal front. Almog ordered the commander of the Dabur squadron, Lieutenant Commander Ami Ayalon, to attack Ras Arib that night with all his boats and sink whatever he found there.

Four years before, while serving in the naval commandos, Ayalon had won Israel's highest medal for bravery in the attack on Green Island in the Gulf of Suez.

Arriving at Ras Arib in the darkness, he made out two anchorages. Sending two of his boats into the northern one, he and the two other boats entered the other. Radar showed it crowded with boats. Ayalon divided the sectors with the other captains and ordered them to hold fire until they were close to their targets. The Egyptians appeared to pay no attention to the three boats entering the anchorage until the Dabur guns opened up.

After a stunned pause, fire was returned from the shore and from the anchored boats. Ayalon made a sweep of the anchorage, then led his vessels out, reassigned target areas, saw to the reloading of weapons, and went in again. Ten times the three boats plunged into the anchorage, exited and returned, firing everything they had into the massed Egyptian transport fleet. The sailors threw grenades and satchel charges into anchored vessels they brushed past. Secondary explosions indicated that the Egyptian boats were carrying large quantities of ammunition.

When all his ammunition was expended, Ayalon took his boats out a final time and called on the other two Daburs to take over. This pair had found the northern anchorage empty. They now moved into the southern anchorage and in the light of the burning boats emptied their guns into boats still afloat. Fire from the shore was now more accurate but the pair of boats made it safely out after completing their work. Remaining behind in the harbor garishly lit by flames were nineteen sunken or sinking vessels.

Three nights later, Almog himself led a repeat attack on Marse Telemat where the Egyptians were once more assembling boats. The anchorage was too well defended now to permit another incursion by Daburs, particularly since surprise was unlikely. A suggestion was made to send in the commandos but Almog felt it was too risky in those confined waters. He decided instead on a totally novel approach—using a tank landing ship. The idea had come to him a few nights before. If a heavy mortar mounted on a halftrack could be accurately fired from the deck of a landing craft, the anchorage could be shelled from offshore.

The army commander at Sharm agreed to lend Almog a halftrack and a reservist mortar crew after engineers had determined that the mortar recoil would not punch a hole in an LST's bottom. That night, the landing craft, with Almog aboard, sailed for the gulf. It halted there during the day to permit the mortar crew to practice firing at a partially sunken ship. The hits were satisfactory. With nightfall the LST and two Dabur escorts crossed the gulf in an area not covered by Egyptian radar. They sailed along the Egyptian coast to a point two miles south of Marse Telemat.

From what he could make out on the radar, Almog estimated that there were sixty to seventy boats in the anchorage. The mortar crew adjusted range and at the fire command began dropping shells down their tube. The Egyptians recovered quickly. Shore guns opened up and shells began exploding around the LST. When the mortar commander reported that he had used up his ammunition, the LST captain pulled the vessel back out of range.

Almog, who had been counting the outgoing shells, had tallied only 120. "We took on 150 shells," he told the captain. "Better check to see if there are any left." When the captain reported finding the thirty shells, Almog ordered him to take the vessel back to firing position: "We're not going home with unused ammunition." The mortar crew hastily fired off the thirty rounds, and the LST pulled away. Flames from the anchorage lit the horizon behind them as they crossed the gulf to the Sinai side.

Only eleven days had passed since the Egyptians' bold opening moves in the Gulf of Suez. They were now being assaulted in their home ports by frogmen, patrol boats, and even LSTs. The Egyptian naval command, which had been well informed about the sparse Israeli naval disposition in the Gulf of Suez, was

confused now—as the Syrian naval command had been—by the fierce and unexpected opposition it was encountering. It would become even more confused in the days ahead.

Chapter 26

Sixth Fleet.

Udi Erell winced at the sight of the buckled plates and the missing propeller of the *Hanit* in the Haifa navy yard. With a bit of luck, however, it might yet become his first wartime command. Barkai had relieved the *Hanit* captain following the mishap and given command to Erell. Working round-the-clock, yard personnel would have the boat back in the water in three days.

Since the *Hanit*'s crewmen were all unknown to Erell it perforce became a very "official" boat in which he addressed his men by their rank or job title rather than their first names. He could sense their resentment at his having displaced their popular commander. The Hanit was the boat that had finished off the Syrian torpedo boat and minesweeper off Latakia the first night of the war, and its crew was well knit. Erell discussed the problem with a navy psychologist at the naval base who explained that the men faulted themselves for their captain's reassignment.

On his first night at sea with the *Hanit*, Erell joined the squadron attempting to relieve pressure on the northern position of the Bar-Lev line, Budapest, the only position on the Suez Canal that had not fallen. The boats harassed Egyptian positions opposite Budapest and shelled Egyptian commandos who had landed on the coast behind the Israeli lines.

As they sailed near the coast, Erell was startled to hear the shout of "Til, til" from the bridge. A moment later a machine gun began firing sustained bursts. "Cease fire," shouted Erell as he scanned the instruments in the CIC below decks. "There is no missile."

On most of the boats the officers had run up on deck to verify reports of enemy missiles but Barkai and his staff—Erell among them—had never left the CIC. The new skipper's calm certainty that there was no missile without even going topside to look impressed the crew. When Erell did go up it was to berate the machine-gunner for having fired without permission.

"I'm going to take you off the boat when we get back," said Erell.

The machine-gunner went by the nickname Starter because of a stutter that sounded like a car engine trying to come to life. A giant of a man who worked as a merchant seaman in civilian life, he was one of the few reservists to have won a place on the boats in the war.

He implored Erell not to beach him. "I'll even bring a case of whiskey for the crew," he said.

Satisfied that his message of fire discipline had sunk in, Erell relented. "All right, you can stay aboard. And if you bring that case of whiskey you can even

stay at the machine gun." When they headed back toward Haifa, Erell felt that the atmosphere aboard the Hanit had grown a bit less frigid.

The Syrian and Egyptian missile boats would not challenge the Israeli fleet in open combat again after their initial encounters. For the remainder of the war, the Osas and Komars of the Arab fleets would make no more than brief sorties from their harbor mouths to fire missiles at the Israeli boats at maximum range before dashing back to shelter. For the Israelis, this missile sniping would be no less nerve-racking than fleet actions. As the days passed and the missiles kept missing, it was not a sense of immunity that the Israelis developed but a sense of shortened odds. The officers often talked about it as they sat on the jetty in the late afternoon waiting for the signal to cast off for the night's action. They and their men were becoming more fearful of the Styx with every mission.

There were sometimes two or more enemy missiles in the air simultaneously. In the CIC, faces would pale and sweat break out as the instrumentation indicated a missile heading directly towards them. Sometimes the men sitting at the consoles could not control their bowels but kept doing their job without faltering. Any deviation from the proper orchestration of the electronics and chaff could leave a hole in the defense umbrella. Even properly deployed, the umbrella was not penetration-proof. The constant drilling the crews had undergone proved critical in keeping them functioning flawlessly even when a missile with half a ton of explosives had locked its eye directly on them.

Off the Syrian coast one night, the Hanit's radar operator, tracking an incoming missile, reported it heading for them. In a level voice he reported, "Missile off the screen," which in this context meant that it was too close to be seen by the radar.

Udi Erell instinctively looked up from the plotting table at the bulkhead opposite, half expecting to see the missile bursting through the steel. A detached inner voice said, "Look, you've escaped lots of missiles so far. One has to catch up with you." But the bulkhead did not disintegrate, and a faint vibration indicated an explosion in the water nearby.

The nearest misses were not from missiles but from the radar-controlled shore batteries. For Bridge Officer Gadi Ben-Zeev it was like swiveling through a slalom run as he conned his boat through geysers thrown up on either side by straddles. Ben-Zeev, who had arrived in Cherbourg a few days before the final breakout to captain Boat Number Eleven, had left the regular navy to take over the family hotel in Eilat. When the need for experienced bridge officers on the missile boats arose after the war's first night, he was detached from his normal reserve duty as captain of a landing craft in the south to rejoin the missile boat fleet. One night off Port Said his boat was lifted out of the water by explosions alongside. When they returned to Haifa, he found a hole in the bow where a shell had passed through one side and out the other without exploding.

The sailors were so engrossed in their nightly skirmishes that it was several days before they realized that the rest of the war was not going well. The army and the air force had been surprised not only by the timing of the Arab attack but by the Arabs' will to fight and by the new, Soviet-made weaponry they were employing. Masses of Syrian tanks had broken through on the Golan Heights, swept past hastily abandoned Israeli settlements, and were close to the pre-Six Day War border when Israeli armored reserves, thrown piecemeal into the fight,

halted the drive in a desperate battle. On the Egyptian front, almost all of the Bar-Lev line had fallen in the first hours of the war and hundreds of Israeli tanks were destroyed, mainly by rocket-carrying Egyptian infantry. The air force had been decimated by SAM surface-to-air missile batteries drawn up in dense array behind the Arab lines.

The battlefield turnaround would come on both fronts, but at an agonizing cost. In the north, Israeli armored units pushed the Syrians off the Golan Heights in fierce clashes and reached within artillery range of Damascus's suburbs. Shortly after midnight on the tenth night of the war, Israeli paratroopers, penetrating a gap in the Egyptian lines, crossed the Suez Canal in rubber boats and established a tenuous bridgehead on the Egyptian bank. Armored units would pour through the opening in the coming days to raise havoc in the Egyptian rear. A massive airlift by American air-force Galaxies began landing at Ben-Gurion Airport to replenish Israel's rapidly dwindling stockpiles, particularly ammunition.

In the entire military effort, it was only the navy—the hitherto marginal service—that was performing the way the army and the air force had performed in the Six Day War. The sailors' pride in their own achievements would be offset by concern over the general progress of the war and the Israeli death toll, which would pass twenty-six hundred, the most intensive killing in any Israeli conflict since the year-long War of Independence.

Admiral Telem knew from the General Staff meetings just how serious the situation was. It was for this reason that he had proposed the rescue attempt by the naval commandos at the Mezach position as a way of helping the ground forces even though the chance of success was minimal. In harassing the enemy coasts, the navy was drawing off Arab forces from the main battlefronts—the Syrians had reportedly deployed at least two armored brigades along their coast. The navy's most direct contribution to the land battle was in the Gulf of Suez where it had broken up the Egyptian landing attempts in southern Sinai. General Elazar, the chief of staff, set aside fifteen minutes every morning for a briefing by Telem on the naval situation. Telem admired Elazar for his steadiness even in the first, desperate days, when others around him were seeing apocalyptic visions.

The success of the navy astonished the chief of staff. "I underestimated the navy," he admitted to aides. "All I expected from them was to defend the coast." On the first night of the war, Elazar told Telem to recall Barkai's force as it was making its way north toward Syrian waters. With the Israeli lines collapsing on both the Suez Canal and the Golan Heights, the general did not want the navy getting involved in an adventure that might require the air force to bail it out; every plane was needed this night to stave off catastrophe on the ground. Telem, in his major decision of the war, ignored the order. When he next spoke to Elazar, several hours later, it was to inform him of the stunning victory off Latakia. Buoyed by that one positive report in a night of unremitting grimness, Elazar made no mention of his earlier order.

If he had realized what the navy was capable of, the chief of staff would later say, he would have assigned it a far greater role. The navy, however, had assigned itself roles beyond anything the General Staff was likely to have considered. Elazar heartily approved Telem's proposal to attack Syrian oil installations along the

coast, noting that the navy was saving him aircraft he would otherwise have needed for the task.

Naval task forces prowled every night off the Syrian or Egyptian coast, or both, to keep up the pressure. Telem directed these efforts from his underground command center in Tel Aviv where he chose missions and designated forces. From his glass-enclosed cubicle on the "command bridge," he could watch the shifting deployment of friendly and hostile forces in the Mediterranean battle zones and in the Gulf of Suez on a giant Plexiglas screen in the situation room. The screen also showed relevant factors like the state of the sea, wind direction, and position of the moon. There was something godlike in his real-time surveillance of distant battlefields and his ability to direct the movement of his forces instantly by radio.

Telem communicated with his commanders at sea in the clear for the most part, rather than in coded messages, despite the risk of interception by Arab listening posts. He believed it essential to maintain voice contact so that he and his captains understood one another clearly. It was sometimes as important to hear how something was said as what was said. In his career he had been witness too often to written messages interpreted differently by the recipient from the intentions of the sender, sometimes directly contrary to those intentions. Telem addressed his captains by their first names or nicknames, and his reassuring voice offering practical advice was a welcome presence in the boats' CICs .

In flanking rooms on the pit's command bridge, separated from him only by movable glass partitions, were his intelligence chief, Captain Lunz, and other senior staff officers. When the fleet entered battle, Telem's communication link would be hooked into the loudspeaker so that all could follow its progress. An odd tradition had developed among the staff officers since the first night's battle off Latakia. On that occasion, when Barkai announced "incoming missiles", Telem's deputy began biting into an apple to relieve the tension The officer chewed his way through the excruciating silence and was down to the core when Barkai reported the boats' safe passage. Every night thereafter, the deputy laid in a supply of apples for the entire staff and the sound of crunching apples filled the otherwise silent command post as the enemy Styxes flew toward the Israeli boats.

One night Herut Tsemach asked Telem's permission to bring a civilian visitor to the command post. "Everyone's forgotten about Ori Even-Tov," said Tsemach. "He deserves to be here." Even-Tov had left the Israel Aircraft Industries amid controversy in 1970, shortly after the Gabriel had become operational. Dubbed by some "a mad genius", his work relations with bosses and colleagues were stormy and for many months after leaving the IAI he could find no employment. He subsequently found work in a routine industrial job that made little use of his talents. (He would eventually set up his own electronics firm in the U.S., near Philadelphia.) But his brilliant insights and his single-mindedness had given birth to the Gabriel and the navy had rebuilt itself almost entirely around it. Ushered into the pit by Tsemach, he listened emotionally as distant voices announced the launching of his missiles at enemy targets.

Every morning Telem emerged into the Tel Aviv dawn and drive 60 miles north to Haifa to debrief the returning crews at the naval base. Lessons were being learned each night, from the effectiveness of battle tactics to the way the engines stood up to different stresses.

As the navy's success became apparent, Telem pressed the General Staff to expand the flotilla's mission by authorizing sustained attacks on strategic infrastructure along the enemy's coasts, particularly oil-tank farms and ports. His proposal was initially greeted with hesitation. The oil was owned by international interests and attacking them might bring on political complications. As for the shelling of ports, this could provide the Russians with an excuse for active intervention if a Soviet vessel was hit. However, after an Israeli town and a kibbutz were hit by Frog ground-to-ground missiles fired by Syria against a nearby airbase, Elazar saw this as legitimate grounds for retaliation and gave Telem a go-ahead.

On the night of October 12 a Russian freighter, the ILYA MECHNIKOV, was sunk inadvertently by Gabriel missiles during an attack on the port of Tartus. Telem was informed in an ominous tone the next morning in the pit by a senior member of the General Staff that Dayan wanted to see him.

"You can take your badge of rank off already," said the general tartly as he led Telem down the hall.

Dayan, however, was anything but irate when Telem was ushered into his office. He greeted the admiral warmly and asked him to relate what had happened. There was no rebuke and no exhortation by the defense minister to avoid such incidents in the future. Soviet men-of-war had been escorting Russian freighters carrying military equipment to within a few hours' sailing of Syrian ports. The Israeli navy did not attempt to interfere with these vessels but the presence of Soviet freighters would not inhibit attacks on the Syrian harbors. After the sinking of the ILYA MECHNIKOV, Soviet warships would sometimes escort merchant vessels all the way into Syrian ports. In at least one instance a Soviet minesweeper accompanying a merchantman to Latakia fired at, but did not hit, Israeli jets attacking the port.

As the Israeli and Arab navies battled off their coasts, they were virtually oblivious to the Olympian shadows cast on the western horizon by the most powerful naval forces ever deployed in the Mediterranean. Two superpower fleets were spread along the length of the Mediterranean except for the narrow war zone east of Cyprus. With the beginning of hostilities on Yom Kippur day, the US Sixth Fleet commander, Vice Admiral Daniel Murphy, ordered the aircraft carrier INDEPENDENCE, making a port call in Greece, to recall its crew from the tavernas of Piraeus and prepare to sail in four hours.

A second carrier, the FRANKLIN D. ROOSEVELT, was berthed in Spain. Murphy wanted to move it to the central Mediterranean but Washington forbade it. The orders Murphy received from the Joint Chiefs of Staff were to avoid any move that could be construed by the Russians or the Arabs as a prelude to direct involvement in the conflict.

Close to midnight Washington time on the first night of the war, the high command modified its order. Murphy was to dispatch the Independence and its escorts to a holding position southeast of Crete. From there, the task force could reach the war zone more quickly but still remain far enough removed to avoid accidental encounters such as the attack on the LIBERTY six years before.

The fleet's staff reviewed standing plans for the emergency evacuation of American citizens. There were an estimated sixty thousand Americans in the battle area, forty-five thousand of them in Israel. The planning concentrated on the evacuation of those in the Arab countries but within a few days it would become clear that it was not the Arab countries that were in trouble.

The carrier JOHN F. KENNEDY, which had been in the North Sea, was ordered to waters off Portugal with its three destroyer escorts. But it was not to transit the Strait of Gibraltar into the Mediterranean until further orders so as not to provoke the Russians or the Arabs. For the same reason, amphibious vessels carrying two thousand marines would remain on the northern side of Crete at Suda Bay rather than with the Independence task force closer to the battle zone.

The Soviets, meanwhile, were rapidly reinforcing their mediterranean squadron. Lookouts in the hills above the Dardanelles reported ships from the Soviet Baltic fleet streaming southward at an alarming rate, both missile-armed surface ships and missile-armed submarines. The Turkish government had eased treaty limitations on the passage of military vessels through the straits in order to let the Soviet warships through.

Bereft of a deep-water navy in World War II, the Soviets had since acquired the ability to project a strategic presence in distant waters. They had not been ready during the Cuban missile crisis in 1962 to stand up to the American navy, but they were ready now in the Mediterranean to engage it in what would be the largest naval confrontation of the Cold War.

The squadron's primary mission was to keep tabs on the Sixth Fleet whose warplanes and submarines, armed with cruise missiles, were close enough to the Soviet Union to pose a nuclear threat. The squadron also had a traditional gunboat role to play along the rim of the sea, particularly in matters involving its Arab allies. It did not have permanent bases in the area but created floating anchorages in international waters that included dry dock and repair facilities and it had access to ports in Syria and Egypt. Its main anchorage was south of the Greek island of Kithaira.

The American Sixth Fleet had replaced the British navy as the dominant force in the Mediterranean since World War II. Although the Soviet squadron had more warships, the presence of 180 fighter-attack aircraft on the American fleet's two carriers tilted the strategic balance in its favor. The Soviet squadron was devoid of any air cover. A naval air arm that was based in Egypt had been ordered out of that country the previous year.

Both fleets had abandoned the gun as their principal weapon. The Americans, with the vast experience gained in the Pacific in World War II, relied on their carrier-borne planes. The Russians, with no hope of matching the Americans carriers, had developed sea-to-sea missiles with ranges of up to 250 miles. The two fleets could thus stand well away from each other and deliver lethal strikes.

Murphy kept a constant cover of planes over the Soviet missile warships with the intention of attacking—at the least, their radars and launchers—at the first clear indication that the Soviets were about to fire missiles. In the event that the Soviets nevertheless succeeded in launching, a screen of F-4s was maintained over the carriers in order to shoot down incoming missiles.

Murphy's rules of engagement were, in broad terms, to defend his fleet. It was for him to determine at what point to attack if it became apparent that the Soviets were about to strike since there would be no time to consult with Washington. As the sea filled with Soviet and American reinforcements, Murphy reckoned it a 40 percent chance that the Soviets would attempt a first strike. Relying on naval intelligence to provide him with warning through electronic monitoring, it was his intention if hostilities commenced, he would subsequently say, to hunt down every Soviet naval vessel in the Mediterranean and sink it. Years later, with revelations of the Walker spy ring that had penetrated U.S. naval intelligence, Murphy realized with a chill that his every move might have been known to the Russians.

The Sixth Fleet's EW defenses had never been tested in battle, but Murphy would not to have to fall back on them if his planes disabled the missile-armed ships before they could fire. Work on chaff and jammers, begun in the early 1960s, had been accelerated considerably following the sinking of the EILAT. But their combat effectiveness was as uncertain as the Israeli EW system had been to the Israeli navy until the first missile encounter off Latakia. As for sea-to-sea missiles, the Americans' cupboard was bare. The first such missile, the Harpoon, would not become operational for several years.

Soviet vessels constantly tailed the American carriers. Dubbed "tattletales", their task was to track the carriers' positions so that missiles fired from Soviet surface ships or submarines beyond the horizon would be targeted on the carriers rather than on escort ships.

In the absence of air cover, the Soviet squadron had adopted an extreme tactical doctrine – "the battle of the first salvo". It was described in an article in the *U.S. Naval War College Review* in 2004 by Lyle J. Goldstein and Yuri M. Zhukov who interviewed retired Soviet naval officers. In a diary they describe by Capt. Yevgenii V. Semenov, a former chief of staff of the squadron, he depicts the doctrine as virtually a suicide scenario. The primary objective if war came was to sink the American carriers before they could put their planes in the air. "Attack groups need to use all weapons—missiles, artillery, torpedoes, jet-propelled rockets—the whole lot—since it is unlikely that anything will remain afloat after an air strike. We are kamikazes."

Sixth Fleet commanders lived with the possibility of a "D-Day shootout" in which the Russian vessels launched their missiles without warning. The Russians had even begun arming their destroyer tattletales with aft-facing Styx missile launchers so that they could unleash their own volley as they scuttled away over the horizon. Zumwalt had told colleagues that if the Russians got in the first shots in these circumstances, the Sixth Fleet would be defeated.

The two fleets had previously confronted each other in September 1970—"Black September"—when Jordan's King Hussein moved against Palestinian militants and Syria sent tank forces into Jordan to support the Palestinians. The Americans dispatched a carrier task force, including marines, to the eastern Mediterranean in a show of support for the king. The Soviets, unintimidated, deployed seven missile-carrying warships in range of the aircraft carrier. In the end, the Syrians withdrew after meeting Jordanian resistance and the two superpower fleets pulled apart.

With the onset of the Yom Kippur War, Soviet destroyers escorted Soviet merchantmen coming through the Dardanelles with war materiel most of the way to the Syrian coast. The American fleet offered protection to Israel-bound merchant ships west of Crete, but not between Crete and Israel. With the initiation of the massive American airlift of war supplies to Israel after the first week of the war, Murphy deployed U.S. destroyers the length of the Mediterranean to render navigation aid and rescue assistance if necessary. In this context, a single destroyer took up position off Cyprus, the closest any American vessel came to the war zone.

The Sixth Fleet had a role in the transit of warplanes from the U.S. to the Israeli air force to replace its heavy losses. With European countries refusing use of their airfields for fear of Arab oil curbs, the planes flew to the Azores and hopped from there to Israel via the deck of the Independence, fueled by airborne tankers from the other two carriers on the way.

The Israeli naval command was too busy with its own war to take much notice of the superpower maneuverings beyond the horizon. Israeli vessels on clandestine long-distance missions inevitably found themselves picked up and followed by Soviet vessels but there was no direct harassment. Admiral Telem assumed that the presence of the American fleet would keep the Soviets from intervening against him on behalf of their Arab clients. But if Russian warships had acted belligerently, he would say in an interview a decade after the war, he intended to meet them head-on. The Gabriel had proven its lethality and the EW and chaff system had performed perfectly against fifty-four Soviet missiles in a hard-fought war. The Soviet missile boats supplied to their Arab clients, by contrast, had no EW systems at all. Israel didn't know if the Soviet warships in the Mediterranean squadron had EW capability but it was questionable since the Americans fleet had no missiles that the Soviets had to defend against. In any event, the Israelis would be spared the challenge.

Chapter 27

The Grand Piano.

The trepidation felt by the military photographer as he boarded the missile boat in the Haifa naval base for his first combat mission was somewhat assuaged by the smile and easy manner of the young boatswain who welcomed him. But the sailor's words quickly restored the knot in the visitor's stomach.

"It's going to be lively tonight. You'll have plenty to photograph."

The reservist was astonished at the youth of the crew members who had assembled on deck to be briefed by the captain before departure. Almost all seemed to be under twenty — but they were clearly no longer teenagers. He saw in their eyes a sheen of confidence and something like toughness that he didn't think had been there two weeks before.

On the deck the photographer conversed with an eighteen-year-old sailor cleaning a machine gun. “What’s a battle against a missile boat like?” he asked, certain that the tremor in his voice betrayed him.

“We wait for them to come out,” said the sailor as he rubbed oil into the weapon with a piece of flannel, “they shoot at us a bit, and then we pound them.”

“And what becomes of us if we get hit by a missile?”

The young sailor glanced up at his questioner.

“We become an oil stain.”

The moon that night silhouetted the mountains near Latakia, which seemed to come down almost to the water’s edge. The sea itself was a languid, rippling pool. Aboard the *Herev*, Lieutenant Peres was struck by the beauty of the scene. In a few minutes, he knew, it would all erupt, but he clung to the picture for as long as he could before descending to the CIC. Soon missiles were lifting off the *Herev* deck and the Syrian defenses were bursting into life.

When Styxes started descending in his direction, the photographer had to use his thumb to push the camera shutter; his other fingers seemed to have petrified.

“The bastards aren’t coming out,” an officer on the bridge said as he stared toward the harbor from whose mouth the Syrian boats had fired.

The coast was aflame with burning oil tanks. To the north, points of light flew through the sky where Styxes were seeking out the other wing of the attack force. Through the noise of the guns and missiles and engines and incoming artillery, the voice of the skipper on the loudspeaker could barely be heard. “We’re going in to see if we can make contact.”

The boat dashed towards the inferno on shore as if rushing for the gates of hell. Hell seemed to be coming out to greet them as geysers from shore batteries sprang up around them but the boat wove its way through almost playfully. The Syrian boats refused to be tempted out of the harbor and the captain finally gave the order to rejoin the rest of the force.

More than two weeks after the Banias oil tanks had first been hit, a four-boat force was dispatched to set fire to the tanks still intact there. As they headed north, Udi Erell asked Barkai for permission to take the *Hanit* in first. The boat’s gun had been jamming and Barkai said he would agree if Erell could test-fire eight rounds without clogging. The gun fired eight rounds into the sea, but when Erell ordered a ninth round fired for good measure it jammed. He raised Barkai aboard the SOUFA to report.

“You’ve got eight,” said Barkai. “I was counting.”

“I’ve got to tell you it clogged on the ninth,” said Erell.

“Well, I promised,” replied Barkai. “You’re going in first.”

The sea was a dead calm when the *Hanit* moved close inshore. The other three boats lay back out of range of shore batteries and braced for possible missile boat forays from other ports up and down the coast. The shore batteries were not firing and Erell was almost tempted to shut off his engines in order to provide a more stable firing platform. The boat’s 76mm gun opened fire and oil tank after oil tank erupted in flame, like targets in a shooting gallery. Although the gun clogged periodically, the crew swiftly cleared it. After pumping in eighty shells, the *Hanit* pulled out to let the *Haifa* take over the job of “lighting torches,” as the sailors had come to call this kind of mission.

On their instruments the missile boat commanders saw a Syrian missile boat emerging from Latakia, up the coast. Breaking off contact with Banias, they raced north. The Syrian vessel launched its Styxes at maximum range and dashed back to harbor. Almost simultaneously, missile boats emerging from Tartus at the rear of the Israeli vessels fired salvos of Styxes. It was a neatly laid ambush. By utilizing their superior range, the Syrian missile boats were able to unleash their volleys and scamper back to the safety of harbor before the Israeli boats could draw within Gabriel range. The Styxes from Tartus were coming on so steadily through the Israeli deception screens that officers in the CICs thought that this time it might be Russian crews firing.

An Israeli war correspondent who had joined the *Hanit* for the mission grew animated as the balls of fire began descending towards them. Standing on the deck next to "Starter," he urged him to begin firing his machine gun.

"My captain says not to fire until ordered," said Starter. "Even if that missile goes through my belly and comes out my backside, I'm not firing until he says so."

When the insistent reporter got too close, Starter held him in his giant's grip at arm's length, keeping his other hand on the machine gun. A moment later the hapless reporter was stunned as a cluster of chaff rockets just above his helmet was fired.

On the Egyptian front the reins on the Israeli boats were loosened as the war progressed. They began to prowl farther and farther westward, past the Nile delta toward Alexandria, shelling military targets along the coast and raising the threat of a seaborne landing. On the night of October 21, a force led by Barkai was dispatched to Abukir Bay, on the approaches to Alexandria. Near Rosetta, a large fishing boat close to shore flashed a signal light toward the *Herev* and the *Hanit*. The sighting was reported to Tel Aviv headquarters.

"Sink it," ordered Admiral Telem.

Peres and Erell were taken aback by the order but the Herev's gun opened fire, shattering the wooden vessel. Three Egyptian sailors were pulled from the water. They identified themselves as naval personnel and confirmed that the fishing boat had been on picket duty to warn of Israeli raids. Half an hour later, the *Hanit* sank a fishing boat farther west. Two more Egyptian naval personnel were rescued. The four Israeli boats continued into Abukir Bay.

The Israeli boats began shelling targets ashore in the hope of drawing missile boats out of Alexandria, 15 miles to the west. Barkai asked permission to fire a Gabriel at a large coastal radar: a special technique had been developed in the past few days for using the missile against shore targets, but it had not yet been tried.

"We've got to do it, if only to honor the name of this place," said Barkai to Telem, a reference to Abukir's place in naval history as the site of Nelson's destruction of Napoleon's fleet.

Telem gave Barkai his go-ahead and the *Saar* (Boat Number Seven, which Tabak had sailed from Cherbourg in the first breakout) fired a missile over the shallow waters in which Nelson had broken the French line. It struck the coastal radar dead center.

In the Red Sea command, Zeev Almog decided to have another go at Ardaka. At least one other missile boat was anchored there. Even if a commando attack failed to sink it, the very fact that the anchorage was again penetrated would keep the Egyptians busy looking to their own defenses, he believed, rather than planning another crossing. When Telem visited Sharm al-Sheikh Almog obtained his permission for the operation.

On the Suez Canal, the tide of battle had turned. Israeli armor had crossed the canal westward after finding a gap between two Egyptian armies. Almog believed that pressure on the Egyptians in the Red Sea sector would help the main effort. This time the attack on Ardaka would be made on the surface, using a device similar to the one Yohai Bin-Nun and his men had used so successfully in the War of Independence—a small boat loaded with explosives that would be aimed at the target by an operator who leaped clear before impact. The seaborne bomb was an American speedboat that had been modified for the task. Almog had two of the boats flown down to Sharm.

The attack force set out for Ardaka on October 19, eight days after the previous penetration. The Israelis hoped that the Egyptians would not believe them so foolhardy as to try entering the same harbor twice. (This would actually be their third visit but the Egyptians were unaware of the first foray, which had not been pushed home.) The two attack boats, each loaded with 270 kilograms of explosives, were accompanied by two retrieval boats which were to pick up the operators after they went into the water.

The crossing of the gulf was extremely rough. As the commandos reached the mouth of the Ardaka channel in the darkness, they found no sign of Egyptian alertness. With the boats' exhausts below water level, they made scant noise as they proceeded towards the anchorage. The commandos scanned the shore on either side for signs of ambush, but all was still. At last the jetty came into view. The outline of a missile boat could be made out alongside it. Nearby the missile boat holed in the previous attack lay half sunk in the shallow waters.

The first boat began its run, the operator opening the throttle and aligning his bow with the missile boat. As the vessel gathered speed, he ejected and the retrieval boat following him swooped in.

As the operator was being hauled out of the water, the commandos heard the sound of a motor racing toward them. The unmanned attack boat had turned full circle and was coming back. Missing them by a few feet, the boat kept circling until a self-destruct device detonated the explosives with a tremendous roar.

Fire was coming from the shore as the second attack boat started its attack. It also missed the target and exploded against the jetty. The two retrieval boats sped up the channel as the Egyptians fired into the darkness behind them.

The men were downcast when they returned to Sharm but Almog was elated. The penetration of Ardaka was itself the accomplishment. The commandos' report that the Egyptians were firing wildly in every direction was exactly what he had hoped to hear. It was safe to assume that the Egyptians would be busy fighting ghosts for awhile.

The small commando force had been operational now almost every day for two weeks in extremely difficult conditions involving rough waters, long periods at sea in a rubber boat, and enemy fire at close quarters. In addition to their attacks on

Ardaka and the attempted rescue of the garrison on the Bar-Lev line, they had harassed the Egyptian garrison on Shadwan Island. With the Israeli bridgehead across the Suez Canal now secured and the end of the war in sight, Almog decided to let the exhausted commandos return to the north. They were already at the airfield at Sharm al Sheikh when Telem contacted Almog and ordered him to recall the men immediately.

"I want you to hit Ardaka again tonight."

Almog was stunned. Ardaka was a difficult target in the best of circumstances. To hit it for a third time—just two nights after the previous attack—was pushing luck too far. He remained silent for several seconds. "I think the chances of success are small," he said finally. "I'd like your permission to command the operation myself."

Almog intended to signal to Telem the grave dangers he saw for the mission— so grave he would not ask his men to go while remaining behind himself. Telem agreed to Almog's request. The high command was preparing finally to send the T-34 tanks across the gulf in order to gain territory for bargaining purposes before the looming cease-fire came into effect. It was therefore imperative to eliminate the remaining Egyptian missile boat at Ardaka and any other that might have joined it to ensure safe crossing of the LSTs.

At Telem's suggestion, the attack was to employ bazookas. The Egyptians could be expected to have reinforced their defenses against underwater attack and boat bombs but this time the commandos would stand off from their target.

Yohai Bin-Nun asked to participate in the mission. Almog tried to convince him of the psychological blow it would be if an admiral, even a forty-nine-year-old retired admiral, were to be killed or fall into enemy hands, but Bin-Nun insisted.

"If Binny agrees I'll agree, too," said Almog, convinced that Admiral Telem would turn down Bin-Nun's request. To his astonishment, Telem gave his assent.

Bin-Nun was assigned command of the backup boat that would follow the two attack craft. Almog donned his rubber combat suit for the first time since leaving the commandos almost two years before and joined the lead boat.

Ardaka would be hit this time in the last hour before dawn. After a long night's uneventful watch, there was a chance that the Egyptians might conclude that the Israelis would not attack so close to sunrise and so far from their base. The boats set out from Sharm several hours after darkness following a brief training exercise in which one man from each of the two attack boats fired anti-tank rounds at a target. The results from a rocky boat had not been very encouraging.

Halfway to target, the motor of Almog's boat began to act up and he and his crew swapped boats with Bin-Nun. A halo of light could be seen from the direction of Ardaka from a distance. The Egyptians had installed floodlights on the approaches to the naval base but it was not clear whether the lights were covering the northern entrance to the anchorage, where the previous penetrations had been made, or the southern approach. As they drew near, it could be seen that the light was at the southern end. The Egyptians seemed convinced that the Israelis would not attack from the same direction three times.

The attack boats moved down the narrow channel toward the anchorage. It seemed inconceivable that the Egyptians had left the approach unguarded. Perhaps the timing of the attack had indeed deceived them. Or perhaps they were

lying in ambush. At eight hundred yards the commandos could make out the outline of a Komar missile boat.

"Maybe it's the one we already hit," said a commando to Almog. "Maybe they set it out to draw us in."

At four hundred yards it could be seen that the missile boat was riding high in the water and was undamaged. Oddly, it was not tied up at the jetty but anchored offshore. At 150 yards fire was opened on the Israeli boats from the shore and from the Komar itself.

"Move up to firing range," shouted Almog.

In each boat the designated gunner rose and braced himself with the weapon on his shoulder. They had been told not to hit the Styx missiles for fear that they would be engulfed in the explosion. Instead, they were to aim at the body of the boat. Each had only five rounds. As the roll of their boats brought the target into their sights, they fired. The first rounds missed. So did the next three. Almog ordered the boats to close the range to forty yards. If the final shells missed, Almog had decided to close on the missile boat and destroy it with satchel charges.

The last two rounds hit the Komar and set it ablaze. In the light of the flames, Egyptian crewmen could be seen jumping into the water. Almog's boat began to turn away but shuddered to a stop when it ran onto a reef.

The commander of the boat fired a machine gun to keep the swimming Egyptian sailors away. As Almog looked about him, he saw why the Komar had been anchored where it was. The reef surrounded it almost completely. The anchorage had been chosen to foil any repeat of a boat-bomb attack. Almog ordered his men into the water. When the lightened boat floated free, they clambered back aboard. But the propeller had been damaged and as the boat began to move off it zigzagged uncontrollably. The second boat took Almog's in tow and they headed back up the channel. As they reached its mouth and turned eastward into the gulf, dawn began to brighten the sky ahead of them.

Egypt had issued a warning to all maritime interests at the beginning of the war that the eastern Mediterranean was a war zone. Merchant shipping to Israel halted but resumed after a few days. Some foreign vessels refused to make the final leg of the run and offloaded in Italy or Greece, where Israeli freighters picked up the cargo. Most, however, continued to Haifa. Although the Arab missile boats had been effectively neutralized, six Egyptian submarines were still at large. Except for the reported sinking of a 3,000-ton Greek freighter by an Egyptian submarine near Alexandria, however, no other attacks were attributed to them.

Armaments brought by ship were increasingly vital to Israel's staying power as the war went on. Freighters coordinated the timing and route of the final leg to Haifa harbor with the Israeli navy. More than a hundred merchant ships entered Haifa during the three weeks that the war raged.

In the third week, Telem dispatched one of the Reshef-class boats to the Strait of Messina, a thousand miles to the west. It was accompanied by a Saar which refueled as needed from the larger vessel. An Egyptian destroyer operating out of Bengazi in Libya was reported to be stopping merchant vessels and searching for Israel-bound cargoes. The Egyptians had shifted their destroyers to distant ports on the eve of the war as a precaution. The central Mediterranean was a relatively

safe area for them, since they were out of operational range of Israeli aircraft and of the Cherbourg boats. However, the two Reshef-class vessels had been designed for precisely this range and for four and five-day sweeps.

Apart from protecting Israel-bound shipping, the navy was hoping to catch up with the destroyer in order to even the score for the EILAT. When the Egyptians learned of the Israeli naval presence, however, the destroyer no longer ventured out from Bengazi.

Revenge for the EILAT would be wreaked on the southern front. The Komar sunk in the last attack on Ardaka, Israel would learn, was the missile boat that had sunk the Israeli vessel. The day after the attack the Egyptians abandoned Ardaka. A naval base so powerfully defended with SAM missiles that Israel's air force had been reluctant to attack had been closed down by fewer than a dozen naval commandos.

Shlomo Erell joined the missile boat flotilla during one of its final forays against the Syrian coast. Udi Erell did not agree to have his father sail with him. Still adjusting to his new command, he did not want the extra pressure of his father, the admiral, looking over his shoulder. The elder Erell was welcomed aboard the Keshet instead.

The battle that night was another of the seemingly chaotic skirmishes in which the Israelis harassed the Syrian ports and fruitlessly attempted to draw out the Syrian missile boats. But to Shlomo Erell it was a fabulous sight. He was captivated by the way Barkai and his captains coordinated their operations despite the wild weavings and intensity of a night battle at forty knots.

Coming up from the CIC as the boat approached Banias, Capt. Eli Rahav found Erell standing on the bridge bareheaded. "How am I going to explain it if you're injured?" said the squadron commander, handing Erell a helmet. The boat was to shell the oil tanks at Banias. Erell and the officers on the bridge debated what kind of fuel the tanks likely held and whether they would burn if hit. The debate ended when the first shells set the tanks aflame.

From the direction of Tartus, four Styxes appeared in the sky. The missiles, heading straight for them, seemed like balls of fire flying in formation. Erell was petrified but if the others on the bridge were too they masked it well. This was the vision Tsemach had seen a decade before when Erell had called him in to discuss the Styx and asked "Do we have a problem?"

"They're beginning to turn," said the bridge officer.

To Erell the lights still seemed to be heading straight between his eyes but the bridge officer, with weeks of combat behind him, could already sense the missiles succumbing to the tug of the electronic decoys. Soon Erell could make it out as well. The complex offensive and defensive systems crammed into the small boats were functioning in the ultimate test better than anyone could have imagined. Recalling his first conversation about the boats in the German Defense Ministry ten years before, the admiral permitted himself a smile and thought, "They've even put in the grand piano."

Since the second week of the war, Daburs had been arriving overland at Eilat from the Meditrranean, where they were not needed, and speeding off toward

Sharm al-Sheikh as soon as they were fueled. Almog pushed them on into the Gulf of Suez. Now, in the final days of the war, he had thirteen Daburs under his command—three times as many as at the war's outbreak. They would have an important role to play in maintaining the encirclement of the Third Army trapped in Sinai. The Israeli crossing of the canal had severed the Third Army's supply lines. The Daburs broke up repeated attempts by the Egyptians to ferry supplies across the gulf at night in small boats to the beleaguered army.

On October 23 Almog was informed that an Israeli armored brigade that had crossed the canal was moving south to capture the port of Adabiya, on the west side of the gulf. He decided to try to take the port first. Flying by helicopter from Sharm to Ras Sudar, he boarded a waiting Dabur and ordered all Daburs in the area to proceed at top speed to Adabiya.

A column of smoke rising from the harbor told Almog as he approached that he had lost the race. Israeli tanks could be seen along the waterfront and others were coming down the road from the north. An Egyptian patrol boat, hit by a tank shell, was burning in the anchorage and two Arab freighters, one from Saudi Arabia, were tied up at a jetty.

Leaping ashore, Almog shook hands with the Israeli brigade commander, Colonel Dan Shomron. "We got here twenty minutes ago," said the dust-covered colonel.

Desultory fire could be heard around them as they talked. Shomron said the Egyptian naval commander for the Red Sea—Almog's opposite number—had been captured in his command bunker. "I think it would be more appropriate if you took his formal surrender," said Shomron.

The Egyptian officer saluted when Almog was presented.

"I'm sorry we have to meet under such circumstances," said Almog in English.

"So am I," said the Egyptian.

In the bunker Almog noted a large wall map on which the Egyptian plan for the capture of southern Sinai was depicted with arrows and timetables.

Over lunch aboard Almog's Dabur, the two commanders discussed the war they had been fighting for the past three weeks. The Egyptian, acknowledging the Israeli naval successes, said, "But you had missiles." Almog did not reply but it occurred to him that the Egyptians may have believed that the antitank shells had been guided missiles of some sort. The planned Israeli trans-gulf armored incursion had been canceled but a use was found for the LSTs when Shomron asked Almog if the navy could transfer fifteen hundred prisoners to the Sinai shore.

Gadi Ben-Zeev was on the bridge of a Saar escorting an ammunition-laden freighter on the last leg of its run through the eastern Mediterranean when he saw an almost forgotten glow tinting the sky as they neared Haifa. The lights of the city, blacked out since Yom Kippur, were glittering again, from the port at the foot of Mount Carmel to Stella Maris on the crest. The war was over, at least officially.

Although a cease-fire had been accepted by Israel on October 22 under pressure from the United States and the Soviet Union, the most dangerous phase

of the superpower confrontation was only now beginning. The fighting in Sinai was continuing despite the cease fire—both sides blaming the other for initiating it. Cairo claimed that the encirclement of the Third Army had been completed by Israel after the cease-fire went into effect. Israel said the fighting was due to elements of the Third Army trying to break out. In a message to President Nixon on October 24 the Soviet leadership made it clear that it would not let its client—and itself—be humiliated. Soviet officials warned that the Israelis were "embarked on the path to their own destruction." If the United States did not join with the Soviet Union in lifting the siege of the Third Army, they said, Moscow would have to consider unilateral action—that is, direct military intervention on the ground.

Meanwhile, nerves in both the Soviet and American fleets grew increasingly frayed as the tension mounted. The Soviet tattletales usually consisted of a single destroyer but each aircraft carrier was now being followed by two destroyers armed with missiles and a "spy trawler" capable of providing mid-course corrections onto the carrier for missiles fired from beyond the horizon. Listening devices aboard the carriers picked up submarines shadowing underwater as well. The transports carrying the marine force had shadows of their own—five Soviet warships, some armed with missiles.

Ranking officers in the Soviet squadron had never before been noted on the tattletales but the Americans were now made aware of two admirals on the ships following them. "The object of this presence may simply be to let us know that they are aware of our activities and to make us aware of theirs," wrote Admiral Murphy in a message to Washington.

The Russians were riding herd on the American vessels so aggressively that Murphy sent a message to his Soviet counterpart by semaphore asking him to adhere to an accord between the two countries signed the previous year obliging their vessels not to point missiles or guns at each other. The State Department sent a note in the same vein to the Soviet Foreign Ministry and the squadron commander was ordered by his superiors to comply. Compliance, however, was short-lived.

Capt. Semenov wrote in his diary: "Over the last few days the situation has become so complicated that it seemed we were on the verge of war." Pressure on the exhausted Soviet crews was constant and some senior officers, including Semenov and the deputy squadron commander, were standing 12-hour watches. The life of the fleet's staff, wrote Semenov, had become one of "wild, frantic work". He wistfully noted that "the mind of a staff officer works better under calm circumstances." The captain described the squadron commander, Admiral Yevgeni Volubuyev, and his deputy as "emotional persons". Wrote Semenov: "They go berserk in unison." Given the hair-trigger situation, it was a dangerous mindset.

The Soviets gave clear signs that they were preparing for direct involvement in the fighting on the ground. A fleet of transport planes that had been landing in Egypt with military supplies suddenly halted their flights on October 24. Intelligence agencies believed that the planes were being reconfigured in the Soviet Union to carry troops. Forty thousand Soviet airborne troops were reported in staging areas awaiting airlift and Soviet combat pilots were now back in Egypt, flying modern Foxbat aircraft. A ship said to be carrying nuclear devices was

monitored as it passed through the Dardanelles and docked in Alexandria. And the Mediterranean Squadron's buildup continued.

The commander-in-chief of the Soviet navy, Admiral Sergei Gorshkov, ordered the squadron to form a naval infantry brigade made up of "volunteers" to be deployed in Port Said at the mouth of the Suez Canal in a demonstrative show of support for Egypt. "Seems we're going to save Port Said from Israel," noted Semenov in his journal.

At a White House meeting with Secretary of State Henry Kissinger running into the early hours of October 25, the National Security Council decided that the Soviet challenge had to be forcefully met. It ordered a worldwide alert—Defcon (Defense Condition) 3. An airborne division was put on standby for imminent departure to the Middle East and more than fifty B-52 strategic bombers were recalled from Guam to the United States.

Admiral Murphy was taking a shower at 7:30 a.m. when an aide rapped on his cabin door to inform him of the heightened alert. Murphy had been pressing for two more carriers to cope with the augmented Soviet vessels swarming over and under the Mediterranean. The Pentagon now informed him that he was getting one, the JOHN F. KENNEDY. As the KENNEDY passed through the Strait of Gibraltar into the western Mediterranean, the ROOSEVELT was ordered to sail from there to join the INDEPENDENCE off Crete. The marines at Suda Bay likewise joined the INDEPENDENCE task force south of the island, placing them in position for quick commitment should the Russians land forces in Egypt. The fleet's electronic monitors picked up Soviet search radar constantly targeting the American carriers. Each side was letting the other see it raising the stakes. Murphy kept the ROOSEVELT and the INDEPENDENCE seventy-five to one hundred miles apart—close enough to render mutual assistance but far enough to determine which was being targeted by Soviet missiles.

The Soviet squadron had grown in three weeks from 57 vessels to 97, including 23 submarines. The Sixth Fleet had grown from 50 to 60 vessels, including nine submarines. Murphy calculated the Soviets could launch 88 missiles and 250 torpedoes in a first strike.

With the superpowers thus locked in confrontation in the confined waters of the Mediterranean, the scenario of an old-fashioned naval shootout at close quarters no longer seemed a fantasy. If either side believed the other was about to attack it would have no option but to launch an immediate preemptive strike if it wished to survive.

Admiral Murphy would write that the two fleets were "sitting in a pond in close proximity and the stage for the hitherto unlikely war-at-sea scenario was set."

Semenov noted in his journal that the fleet's missiles would be aimed at only five targets in a first strike—the three American aircraft carriers and two helicopter carriers. "All other (targets) are secondary. Everybody's waiting only for a signal. The pressure has reached the breaking point." Missiles would be saved for the ships carrying the marines.

The fate of the beleaguered Third Army had become linked, without almost anyone in Israel or Egypt being aware of it, to the fate of the superpower fleets which were confronting each other out in the Mediterranean for geo-political

reasons of their own. Moscow would do all it could to spare its client and itself the humiliation of having the trapped army captured or destroyed. For Israel, the encirclement of the Third Army was psychological nourishment, a desperately needed reaffirmation of strength after the severest and most costly testing in its history. It balked at American requests not to destroy the army or force its surrender. If it came to it, Defense Minister Moshe Dayan was willing to let the trapped army withdraw without its weapons, except for officers who would be traded for Israeli prisoners of war. On second thought, he was willing to let the army go even with its weapons as long as it gave up the foothold it had won in Sinai in an acknowledgement of defeat. As the days passed and the trapped army's water supply dwindled in the desert, a Defense Department official in Washington snapped at the Israeli military attaché, Gen. Motta Gur: "I hope you know you're playing with a superpower confrontation."

In fact, the Third Army's entrapment would prove a gift to American diplomacy. It made Sadat dependent on the Americans if he wished to lift the siege. The Egyptian Second Army was still holding firm in the bridgehead it had won along the northern half of the Suez Canal in the opening days of the war. But Israeli division commander Gen. Avraham (Bren) Adan believed that the smaller Third Army to the south could be smashed in one night's battle.

Kissinger would adroitly exploit the situation to preserve the Third Army and Egyptian honor and thus open the door to direct dialogue between the warring parties. Kissinger was also opening the way to displacement of Soviet influence in Egypt by American influence. Summoning Israeli ambassador Simha Dinitz to his office close to midnight, Kissinger said that the destruction of the Third Army "is an option that doesn't exist".

Kissinger warned, in President Nixon's name, that unless water and food were permitted to reach the beleaguered army the U.S. would support the UN demand for an Israeli pullback. He demanded a reply by 8 A.M. A few hours before his ultimatum expired, a message was received from Egypt agreeing to Prime Minister Meir's earlier suggestion that Egyptian and Israeli officers meet face-to-face to discuss the fate of the Third Army and a prisoner exchange. The Egyptians demanded, in turn, non-infringement of the cease-fire and the immediate transfer of non-military supplies like water, food and medicines to the Third Army. Mrs. Meir accepted both conditions.

As the cease-fire took hold, the Sixth Fleet and the Mediterranean squadron slowly disengaged and sailed over the horizon—almost totally unnoticed by their proxies on land in whose name they had come so close to the edge.

There was no victor in the shadow sea encounter between the two superpowers—neither had blinked—but for the first time since World War II the American navy had found its deterrent power effectively checked by a Soviet fleet armed with a new equalizer—the sea-to-sea missile.

Israel had come through the Yom Kippur War bloodied and sobered. It had glimpsed its own mortality and been shaken out of the sense of invincibility engendered by the Six Day War. The navy was the one military arm not burdened by glory in that earlier conflict, a fact that would account in good part for its

superb performance in 1973. Driven by the need to prove itself it had invested original thought and years of intense labor to enter a new era of its own creation.

As a traumatized post-Yom Kippur War Israel tried to understand what had stalled its vaunted military machine, the navy's performance was little noted; its astonishing success was as marginal to the overall picture as its total failure had been in 1967. But the navies of the world would take note. The United States navy sent to Israel a large team, including top EW experts, to analyze how the small navy had managed to overwhelmingly defeat a Soviet weapon system that the U.S. navy itself had been deeply concerned about since the sinking of the EILAT. The U.S. had invested astronomical sums in shipboard antimissile systems in an attempt to cope with the threat of Soviet missiles, whereas the Israelis had performed superbly with a system so seemingly simple that the Americans were amazed it had worked at all.

With the close cooperation of the Israelis, the American experts subjected the results of the Israeli-Arab sea battles to intense scrutiny over the course of weeks, including computer analyses of the missile clashes. One of the Americans was Admiral Julian Lake, considered by many the foremost expert on EW in the American navy. After undertaking a worldwide study of the impact of modern weapons on the battlefield, he would say that the way the Israeli navy had analyzed the nature of the threat facing it and the steps it had taken to meet the problem "stands out as the one clear example [in the development of modern weapon systems] where everything was done right." The Israeli experience would have a powerful impact on the development of missile boats, missiles, and EW systems throughout the world.

In the Yom Kippur War, the Israeli missile boats—outnumbered and outranged by their adversaries—drove the Syrian and Egyptian navies from the sea, prevented attacks on Israel's vulnerable coastline, kept the vital sea lanes to Haifa open, sank six Arab missile boats and two other warships with two additional "possibles", caused severe damage to Syria's oil reserves, shelled targets the length of Egypt's coast, and pinned down enemy troops far from the main battlefield. All of this was accomplished without a single casualty or loss of a vessel. In the war, the navy lost two frogmen who penetrated Port Said harbor and two more men were lost in patrol boat actions in the Gulf of Suez. But the missile boats themselves successfully eluded all 54 missiles fired at them. Rarely has there been such a sweeping naval victory unmarred by loss.

The missile boat program spurred Israel into the era of high tech on which much of its future economy would rest. The missile boat was the first major weapon system Israel developed and its success would lead to numerous others, from the Merkava tank to the Iron Dome system that would intercept hundreds of rockets. The technological standards developed during the missile boat development would spill over into the civilian sector and brilliant engineers who had honed their talents on the project, such as Tsemach and Lapid, would assume top research positions in civilian firms.

Apart from their military and technological impact, the Cherbourg boats were a reaffirmation of a beleaguered nation's most important asset—national will. In daring to conceive and undertake something so unorthodox and risky, in the dedication invested in the Shalechet development program, and in the tough-

mindedness with which the boats were snatched from Cherbourg and deployed in the Yom Kippur War, the small band of men associated with the missile boats proved that despite the apparent passing of the heroic age a generation after independence, Israel's life force had not ebbed.

In the weeks after the war, cases of whiskey, champagne, and gourmet foods filled the corners of Yomi Barkai's office in the Haifa naval base. Although most of the nation, burdened by the trauma of the war, was unaware of the dramatic missile battles that had been fought at sea and the magnitude of the navy's victories, the maritime community did know. Naval suppliers, shipping companies, and importers sent an endless stream of gifts to the naval base in appreciation. As the cases began to edge toward the center of the office, Barkai said to Udi Erell one day, "We've got to get rid of this stuff. Let's have a party."

The party was set for the Hanukkah holiday, two months after the war. The flotilla commander organized it the way he would a military operation, assigning tasks to his officers, setting timetables, and establishing a chain of command. Erell's job was to get an appropriate song written about the missile boats for performance at the celebration.

The party was held in a large customs shed. Barkai issued an order that all the liquor must be consumed this night, and the men did their best to comply. As the festivities swirled around them, Barkai and Erell, each sitting on the shoulders of two men, engaged in a chicken fight in which each tried to knock the other off his perch.

The party would last until dawn. Midway, Barkai mounted a makeshift stage and took the microphone. As the noise died down, he thought about the first time he had addressed the flotilla, just half a year before. Looking about him now at the officers and men in the shed sitting with their wives and girlfriends, he began with the same salutation he had used then: "Fighters of the Missile Flotilla."

This time no one laughed.

Abbreviations and Technical Terms

Bertam, class of patrol boat
CIC, Combat Information Center
Dabur ("Hornet"), class of Israeli patrol boat
ECM, Electronic Countermeasures
ESM, Electronic Support Measures
EW, Electronic Warfare
Frog, Soviet ground-to-ground missile in Syrian arsenal
Gabriel, Israeli sea-to-sea missile
IAI, Israel Aircraft Industries
Kelt, Soviet air-to-ground missile used by Egypt
Komar ("Mosquito"), class of Soviet missile boat used by Egyptian navy
LST, tank landing craft
Osa ("Wasp"), class of Soviet-made missile boat, larger than the Komar
Rafael, Israeli Authority for Weapons Development

Reshef ("Flash"), class of Israeli missile boat, larger than Saar
Saar ("Storm"), class of Israeli missile boat
Skory, class of Soviet-made destroyer in Egyptian navy
Styx, Soviet sea-to-sea missile used by Egyptian and Syrian navies

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