

# 5

## Storming the Bar Lev Line

Each of us knew by heart what he was supposed to do.  
We had been training for the mission for quite a long  
time.

Wounded Egyptian soldier on Cairo Television  
9 October 1973

On the Suez Canal front, behind the Bar Lev Line, there were three main north-south roads. One, running roughly along-side the canal, was marked part of the way by a line of telegraph poles which formed a distinctive and useful landmark. Another, a metalled (paved) road, known as Artillery Road to the Israelis and designed for rapid deployment of artillery and tanks, lay between six and seven miles to the east of the canal. It was covered from the west by a 600-foot high ridge of small features that included Tasa Hill, Subha Hill, and Katib el Kheil, the last known to the Israelis as Triangle 100. Mounds and banks of sand had been added to this ridge to conceal tanks, stores and movement. It also provided the Israelis with excellent observation points not easily distinguishable against the higher background of the Khatmia Ridge farther to the east. The ground in general sloped gently upward from the canal eastward. Tasa, on Artillery Road, almost in line with Ishmailia, was a small military complex with an underground command post, accommodation, stores, vehicle parks and a small airstrip.

Farther to the east, between eleven and thirteen miles from the canal, was the third metalled road, known as Supply Road. Overlooking it from the east lay the Khatmia Ridge, rising to a height of 2,500 feet above sea level, with its foothills at distances varying from twenty to forty miles from the canal. It is higher and broader in the south, where it merges into the mountainous mass that is southern Sinai, than it is in the center and north. The Khatmia Ridge peters out in the line with Kantara and gives way to soft sand which, in turn, going farther north, gives way to salt marsh near the Mediterranean coast. The Canal, Artillery and Supply roads were linked by a network of smaller lateral ones. The elongated area between the Suez Canal and the Khatmia Ridge, reaching from just north of Kantara to just south of Port Tewfik, was suitable for armoured movement although it had patches of loose sand.

Lying some ten miles or so back from the canal spaced out along the whole front, were six strongly constructed Israeli command posts, camouflaged and well protected against bombs and shellfire by concrete walls and roofs and further bolstered by mesh-wire crated stones. These CPs had sophisticated communication equipment with which to control their respective areas. Behind the Khatmai Ridge lay Bir Gifgafa, known as Redafin by the Israelis, a fairly large military complex which was the HQ of the Suez Canal front command.

Only four east-west roads crossed the Sinai Desert, although there were lateral ones and military road networks branching off them. The northern Coastal Road went from Kantara East (to differentiate it from Kantara West on the west bank of the canal) through Romani eastward to El Arish. From Romani a causeway-type road ran westward toward the Suez Canal, through the salt marsh to Port Fuad. The Israelis had built a small network of roads in the salt marsh triangle. The other three roads went through the three vital passes in the Khatmia Ridge: the Central Road from Ismailia through the Khatmia Pass to Bir Gifgafa,

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Jebel Libni and Abu Ageila; the Southern Road from the shore of Great Bitter Lake through the Giddi Pass to Bir Hasana and on to Kusseima; and the age-old Pilgrims Way, from Port Tewfik through the Mitla Pass to Nakhel, Thamada and Ras el-Nageb. These three passes were the only means of access for vehicles through the Khatmia Pass from the west into the open Sinai Desert beyond, because to the north of the ridge, the sand sea and salt marsh were formidable vehicle barriers.

On the sixth of October, the forts in the Bar Lev Line were manned by a reserve brigade from the Jerusalem area identified as the 116<sup>th</sup> Infantry Brigade. Although Premier Meir later stated that there had been 600 troops holding the line, General Chaim Herzog, who became an official military commentator during the war, said in *The War of Atonement* that there were “436 men in 16 forts” supported by seven batteries of artillery. While the Egyptians do not flatly contradict this number of forts, they say the Israelis talk only of their main positions and omit mention of alternate ones or those they had been unable to reach and occupy in time because they had been caught by surprise. The Bar Lev Line held ammunition, food and supplies sufficient to last for one month at least; water had been piped through the desert from El Arish to each fort; electricity had been installed, and civilian telephones were available for the soldiers to ring their homes at cheap rates. Another independent infantry detachment covered the area on the northern triangle of salt marsh.

The Israelis had three armoured brigades available for instant action: two between the canal and the Khatmia Ridge which had in total some 280 tanks and fifty SP guns, and the other just to the east of the ridge. The forward armoured brigade, with its nine companies scattered along the front, was in position just a couple of miles or so behind the Bar Lev Line, ready to rush forward within thirty minutes to knock back any invaders. Behind it was another armoured brigade, in the vicinity of Supply Road, prepared to strike at any major thrust within a reaction time of two hours. The third armoured brigade was positioned just to the east of the ridge near the passes and was ready to move through them quickly. There were also three other brigades to the east of the Khatmia Ridge. These several formations were identified as the 7<sup>th</sup>, 14<sup>th</sup>, 401<sup>st</sup> and 460<sup>th</sup> Armoured Brigades, the 204<sup>th</sup> Mechanised and the 99<sup>th</sup> Infantry (paratroop) Brigades. The Israeli system of designation of their formations was deliberately confusing, and some designations were duplicated; for example, there was also a 7<sup>th</sup> Armoured Brigade on the Golan Plateau.

Normally, there were about eight brigades of different types in the Sinai, either in garrison or in training. Their reaction time to reach the canal in an emergency was up to eight hours. Another three reserve brigades were earmarked to reinforce the area of mobilisation. There were also four NAHAL (initials of Hebrew words meaning “Pioneering Fighting Youth”) battalions composed of soldier-workers establishing settlements in the Sinai and Gaza Strip. The Egyptians estimated that on full mobilization, the Israelis would be able to muster twenty brigades in the Sinai, but they miscalculated as the number rose to twenty-seven by the time the October War ended. On 6 October they calculated there were about eight thousand Israeli troops in the Sinai with over 300 tanks and seventy SP guns.

On the Suez Canal front the Israeli troops manning the Bar Lev Line, and those in immediate support behind it, were unaware that war was about to descend heavily upon them; the atmosphere of urgency felt at higher level had not filtered down to them. On the west bank the usual off-duty activities went on—Egyptian soldiers fishing, swimming and lounging near the water’s edge. Once senior Egyptian officer told me that at 1200 hours he went to the sand rampart in the southern sector to look across at the terrain he was about to

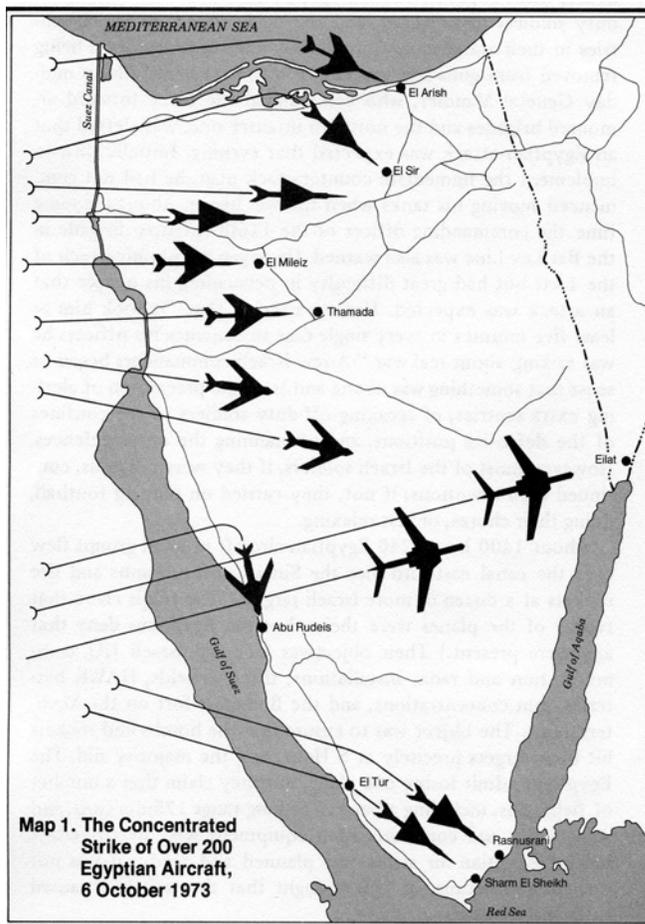
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invade, only to find many reconnoitering commanders and officers from armoured, artillery, engineer and infantry formations there before him for the same purpose. They milled around on the top of the rampart, smoking, laughing and drinking coffee. Since the Egyptians did not carry arms, they were ignored by the Israeli sentry in his sixty-foot high watchtower. The sentry was shot by an Egyptian sniper in two hours' time.

One unit commander brought up his whole unit in trucks saying "Let my men have a look before the battle." There seemed to have been other similar but smaller incidents along the length of the canal, but no suspicion was roused until about 1345 hours, when suddenly, on the Egyptian side, all went quiet. Off-duty soldiers disappeared, and the more observant Israeli sentries in their watchtowers noted the muzzle covers were being removed from guns and mortars on the west bank. About mid-day General Mandler, who commanded the three forward armoured brigades and the northern infantry one, was alerted that an Egyptian attack was expected that evening. Initially slow to implement the counterattack plan, he had not commenced moving his tanks when the war began. About the same time the commander officer of the 116<sup>th</sup> Infantry Brigade in the Bar Lev Line was also warned. He began telephoning each of the forts but had great difficulty in persuading his people that an attack was expected. Herzog asserted that "it took him at least five minutes in every single case to convince his officers he was talking about real war." A few Israeli commanders began to sense that something was wrong and took the precaution of alerting extra sentries, of recalling off-duty soldiers to the confines of the defensive positions, and of manning the

outer defences. However, most of the Israeli soldiers, if they were religious, continued their devotions; if not they carried on playing football, doing their chores, or just relaxing.

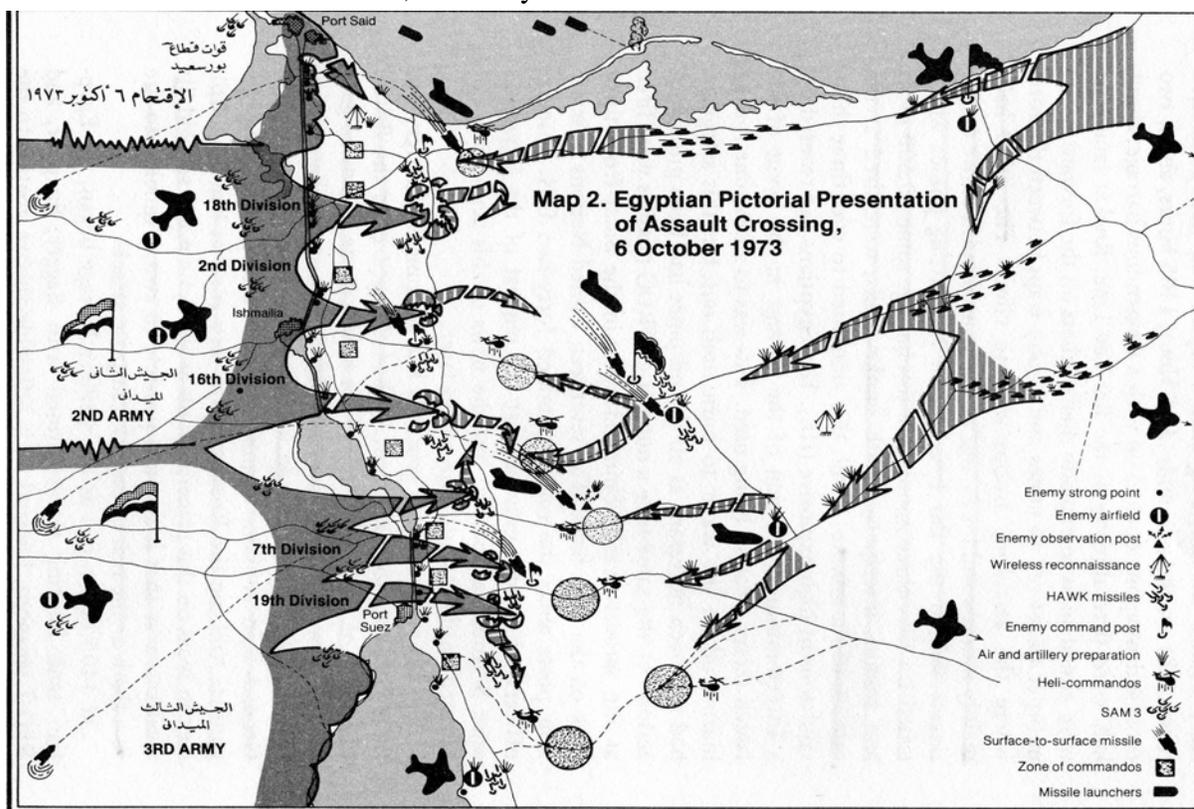
About 1400 hours 240 Egyptian aircraft in small groups flew over the canal eastward into the Sinai to drop bombs and fire rockets at a dozen or more Israeli targets. (The Israelis claim that twelve of the planes were theirs, but the Egyptians deny that any were present). Their objectives included Israeli HQ, communication and radar installations, three airfields, HAWK batteries, gun concentrations, and the Budapest fort on the Mediterranean. The object was to ensure that the bombs and rockets hit their targets precisely at S Hour, and the majority did. The Egyptians admit losing one plane, but they claim that a number of field guns, including a battery of long-range 175mm guns, and some radar and communication equipment were destroyed. A second Egyptian air strike



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was planned and ready; it was not carried out because it was thought that the first had caused sufficient damage.

On the previous night, during the hours of darkness, the Egyptians had brought their guns and mortars forward, immediately behind the shielding sand rampart and had positioned their tanks on the pyramids. At S Hour, 1405 hours, about two thousand weapons opened up with a tremendous barrage; about half were fired directly at the Bar Lev Line. Rocket launchers were aimed so as to explode their rockets on the forward slopes in order to set off all mines and booby traps between the forts where the assaulting troops were to climb. The other half, mainly mortars and long-range artillery, used indirect fire on targets behind the Bar Lev Line in four lifting phases which lasted for fifty-three minutes. In this barrage, some 10,500 shells and bombs, interspersed with smoke shells, were fired at the rate of 175 per minute. In all, this amounted to over three thousand tons of high explosive (HE). The Egyptians had catered for a fifteen-minute extension of the barrage in the event of the Israeli secret weapon being used. This was allow time for the blazing oil on the water to burn itself out, but this safeguard had not been necessary as all the oil pipes had been put out of action. At the same time, a number of FROG missiles were fired at the various Israeli command posts in the Sinai from three sites on the west bank. The seventeen United Nations observation posts along the canal contained forty-two U.N. observer officers who were evacuated at the request of the Egyptians once S Hour had passed, but the news of this action was not released until the ninth, three days later.



The Egyptian artillery generally had six guns to a battery and three batteries to a regiment. It had changed from the British technique of “all-round fire” to the Soviet mode of massed guns all firing on the same arc, usually of not more than ninety degrees. The

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whole barrage was centrally controlled by Major General Said el-Mahi, commander of artillery. The Egyptian gunners told me the Russians were very good at handling artillery in mass on this principle, but, as the system was so rigid, its weakness was that it was not possible to switch quickly to fire to a flank or the rear in case of a surprise attack.

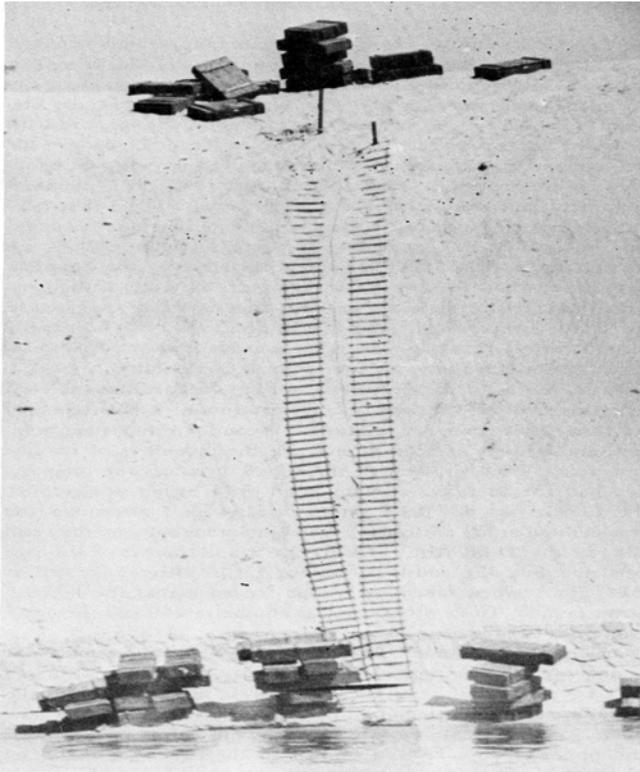
At 1405 hours, just as the artillery barrage began, the Egyptian tank hunting teams, armed with Sagger, Snapper, and RPG-7 weapons, lowered their inflatable rubber boats into the water and commenced crossing the canal. They were men in a hurry. Their task was to scale the main sand rappart on the Israeli side and then race to the secondary one to take up positions to meet the anticipated Israeli armoured counterattacks. Heavily laden with weapons and ammunition, these soldiers wore boots with special soles to give some protection against mines. They also carried gas masks as it was anticipated the Israelis might use war gases, but the Egyptians insist they did not possess any war gas at all. As the soldiers scrambled over the rampart, it became a time and space race.

One of the first Israeli officer prisoners to be taken was Lieutenant Shimon Tal of the Engineer Corps. He had been inspecting the Israeli secret weapon. When the initial Egyptian barrage began he was near the Bar Lev Line fort, known to the Israelis as Hizayom, near El Ferdan. He took shelter and was captured.

It was the Israeli intention, once the alarm went, to get their tanks onto the positions on the secondary sand rampart, from which they could either use their guns for overhead fire or their machine guns to the flanks to catch any attackers between the two ramparts. The anticipated Israeli reaction time to thirty minutes was about right, but the Egyptian tank hunting teams seem to have won the time and space race, as they claim that no Israeli tank pushed past them in this phase of the battle. Some of the soldiers said they had made it to the secondary rampart with only seconds to spare, and, as they were completely out of breath, they had difficulty in keeping their weapons steadily aimed at the approaching tanks. As anticipated, the Israelis made eight company-sized armoured attacks within a half hour. They charged headlong, at great speed, with hull down and sometimes firing on the move, into the barrage of Egyptian missiles and rockets, but all were halted with loss. The ninth company of the forward armoured brigade was in the north, supporting the static infantry brigade where it remained stationary watching the Port Fuad garrison.

The main weapon of the tank hunting teams was the Sagger, the "suitcase" missile, so-called because its carrying case forms the base plate for the weapon and is shaped and carried like a suitcase. Called the Maluka by the Egyptians, it has a maximum range of about 3,000 yards and a minimum of about 500. Its antitank missile, a guided type that rotates in flight, travels at a speed of 150 yards a second and is manually guided to its target by a "joy stick" device. Three months' training and continual practice are normally required to produce an efficient, accurate operator, as the guidance joy stick requires a very delicate touch. If the operator falls out of practice, he needs some retraining. The Egyptian operators had been training all through the summer and autumn of 1973 on the Sagger, on special ranges, firing up to twenty-five missiles a day.

The tank hunting teams also used the Snapper, an older anti-tank missile with a four-round launcher system. The Snapper, with its HEAT warhead, is guided by fins and does not rotate in flight. Its maximum range is about 2,000 yards, its minimum about 500 yards. Time is also required for the Snapper operator to become efficient and accurate. The shoulder-held RPG-7 fired a spin-stabilized rocket with a HEAT warhead. Its maximum range is about 450 yards, its minimum 100 yards or less.



Egyptian ladders used to scale Israeli sand ramparts on the East Bank.

At 1420 hours, just as the last of the Egyptian planes were overhead returning from their initial mission, the first wave of about 1,000 rubber assault boats began to cross the canal. Propelled manually by paddles, they carried in all about 8,000 soldiers. The majority of these boats carried infantry whose job was to leap ashore and secure a toe hold on the east bank, but some contained “beach parties” that were to put out markers on the bank, remain in position to control the arrival and departure of successive assault boats, and direct assaulting troops. By this time the canal, like the Bar Lev Line, was heavily wreathed in coloured smoke and visibility was spasmodically obscured. Cables were soon strung across the canal as guide and demarcation lines; different colours indicated different formation areas and sectors.

The second wave, in addition to carrying more infantry, brought over at least sixty detachments of engineers together with their pressure pumps and hoses. They immediately began to blast gaps in the huge sand rampart preparatory to erecting bridges which would enable vehicles to pass over to the east bank. Each of these detachments consisted of fourteen men, with two pumps, each with two hoses, carried in four assault boats, two of which became floating platforms for the pumps. Two soldiers acted as sentries on the top of the rampart. Some of the gaps in the northern sector were made in under three hours.

There were twelve waves of a thousand assault craft each; very few were lost in the crossing, and each wave successively landed on the east bank at fifteen-minute intervals. The third wave carried mainly soldiers of the five infantry divisions selected for the operation. In view of the derogatory criticism in 1967 that Egyptian officers ran away and left their men in battle, it was strictly laid down exactly where the officers should be. Platoon commanders were in the first wave, of course, company commanders in the second, and battalion commanders in the third. While brigade commanders, their equivalents and staffs, were in the fifth, the divisional commanders themselves crossed in the seventh wave, most setting foot on the east bank by about 1550 hours. The crossing seemed to run according to schedule.

The Egyptians, crossing in line abreast, used their five infantry divisions in this assault. They were divided into two corps, or “armies,” the boundary between them being the Bitter Lakes. In the north the Second Army, commanded by Major General Mohammad Saad el-Din Maamun, contained three infantry divisions. From north to south, these were the

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18<sup>th</sup>, commanded by Brigadier Fuad Aziz Ghali; the 16<sup>th</sup> commanded by Brigadier Abd Rah el-Nabi Hafez; and the 2<sup>nd</sup>, commanded by Brigadier Hassan Abu Saada. To the south was the smaller Third Army, commanded by Major General Abdel Moneim Mwassil, having two infantry divisions only: the 19<sup>th</sup>, commanded by Brigadier Tassef Afifi, and the 7<sup>th</sup>, commanded by Brigadier Ahmed Badawri. About 14,000 strong, the infantry divisions contained three infantry brigades and one mechanized brigade. The integral armoured element amounted to about ninety-five tanks in four units, one to each infantry brigade, the other being divisional reserve. The First Army lay in reserve, stripped of many of its tanks, weapons, and much of its equipment to ensure that the assaulting armies would be adequately equipped.

The assaulting infantry landed on the east bank between the Bar Lev Line forts, which, blinded by smoke and subjected to both direct fire from tanks on the pyramids and indirect mortar fire, were momentarily ignored as soldiers rushed to the secondary sand rampart to form five initial bridgeheads. The infantry brought more antitank missiles and guns forward with them; the latter were carried in sections and assembled, once the first rampart had been surmounted. Small four-wheeled handcarts, or trolleys, were used to transport the heavier items of equipment and ammunition and were hauled up the first rampart by ropes. The men used scaling ladders of both wood and rope and other aids to enable them to scramble quickly up through the soft sand of this steep obstacle. As the Egyptian platoons reached the top of the rampart, they raised their national flag. It was claimed that the first such flag appeared in the Third Army sector, opposite El Shatt, at 1430 hours; the Second Army's flag went up at Kantara East at 1443 hours. The first Israeli artillery reaction came at 1445 hours.



Egyptian soldiers landing from rubber boats on the Suez Canal's East Bank to assault the Bar Lev Line.

In the north, of the four forts at Kantara East that the 18<sup>th</sup> Infantry Division attacked on that afternoon, it was reported that one fell within ten minutes, a second within fifteen minutes, and a third at 1550 hours. All the defenders of the last were found dead. In view of

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the actual distances the infantry-men had to cover, these claims tend to be rather exaggerated. The fourth fort still held out, and later that afternoon the Israelis bombarded all four of them, including the one they still held. In the Third Army sector, the southernmost of the two forts guarding the southern end of Little Bitter Lake fell at 1525 hours when taken by troops ferried across the lake by motor launch. Three others, one a kilometer 146 and the other two opposite El Shatt, fell or were entered at 1538 hours.

Generally, the Bar Lev Line forts were merely contained, or even ignored for the time being, to be dealt with later. Although most Egyptian assaults on these forts were successful, one notable failure was the attack on the fort on the southern end of the canal. An elongated, narrow position on a thin peninsula of land opposite Port Tewfik, known to the Israelis as the Quay (Melakh), was held by forty-two men and had five tanks within its compound; it was the only fort to have tanks. The initial Egyptian frontal assault was beaten off, but a second attack on the other side of the peninsula cut the position in half. The half at the extreme southern tip of the peninsula was evacuated. One of the first Israeli armoured counterattacks to attempt to relieve this fort was beaten off by the Egyptians when most of the attacking tanks were destroyed. The neck of land leading to the position from landward was barely thirty yards wide. Later, I counted eleven destroyed or badly damaged Patton tanks scattered alongside the narrow roadway, most of their hulls completely detached from the body of the tank, the result of their ammunition exploding. Even though attacked again from the front, and then on all three sides, the main part of the Israeli position, that nearest the canal, continued to hold out. Another Egyptian attack that failed was one made on the southernmost of the two forts opposite El Ferdan; the northernmost of the two was taken at 1620 hours.

The Egyptian-held triangle of territory around Port Fuad on the northern tip of the east bank extended about six miles south along the canal and about eight miles east along the coast. The Egyptians had constructed a raised causeway eastward from Port Fuad as a deceptive measure. About two miles from the edge of the Egyptian-held territory was an Israeli strong point, known to them as Budapest. They liked to include it as one of their Bar Lev Line forts, although it was well away from the canal and actually on the Mediterranean shore. It was constructed of rocks and girders in a somewhat primitive manner and was held by eighteen soldiers who manned its four 175mm guns. The guns used a special ammunition that increased their range to 45,000 yards. This gun position could easily cover the whole of the Port Said area on the west bank.

The Israeli guns at Budapest were knocked out of action in the initial barrage by marine-manned guns at Port Said and the air strike. The barrage lasted for two hours; shells were fired at the rate of thirty a minute. It was afterward admitted by the Israeli director of artillery in a lecture in France that they were not able to fire at all during the war, although the position had ample ammunition. Three Israelis were killed, and intercommunication equipment was put out of action. At 1600 hours an Egyptian force of sixteen tanks, sixteen armoured personnel carriers, some jeeps with 106mm recoilless guns, and some trucks carrying infantry advanced from Port Fuad toward Budapest fort. After an exchange of fire, Israeli Phantom aircraft appeared and compelled the Egyptian force to scatter and withdraw; some of its vehicles become bogged down in the salt marsh. The Israelis claim that they set on fire seven Egyptian tanks and eight armoured personnel carriers and that seventeen trucks were abandoned. This claim was denied by the Egyptians, who insisted the attack was merely a feint designed to draw the "ninth company" of the forward Israeli armoured brigade

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from the Romani area. The company did not, in fact, move. In the late afternoon, Budapest was reinforced by about twenty men and two tanks; the tanks remained outside the fort and survived Egyptian artillery and mortar fire by constantly changing their positions in the sand dunes around it.

The Israelis had another fortress position on the east shore of the Gulf of Suez, on a headland about fifteen miles south of Port Tewfik. The fort was called Ras Missalah and was also counted as a Bar Lev Line fort, making, according to my calculations, a total of twenty-seven. Ras Missalah was not attacked by the Egyptians on the sixth although some shellfire was directed toward it.



Egyptian troops after having captured a fort of the Bar Lev Line.



Egyptian rangers landing for a raid against Israeli positions in the October 1973 war.

Bridging equipment and the assault boats had been brought to the canal on the night of the fifth and hidden under the shelter of the Egyptian rampart on concealed in pits. At S Hour the sand remaining in the specially thinned out sections of the rampart was quickly bulldozed into the canal to enable bridging to commence; by 1515 hours some 15,000 men of the Engineer Corps had crossed the waterway. The Egyptians first erected ten dummy bridges about ten miles apart; they anticipated that, as soon as the Israelis realized what was happening, their air force would try to bomb any bridges across the canal. They were right, and all were it during the first afternoon. The dummy bridges were light and serviceable, similar in many respects to the real ones, especially in silhouette shadow; also, decoy vehicles were parked on them. When the dummy bridges were tested on one of the canals branching off from the River Nile, Egyptian

pilots said that, from the air, they were unable to distinguish the false from the real ones. Later, these bridges were used either as footbridges or for empty supply vehicles on their return journeys. This created a circular traffic pattern, of which it was said that traffic control was far better than that in Cairo.

The Egyptians had sufficient material to construct eighteen or nineteen bridges across the canal, but the material was of different types. It included both the old and more modern British Bailey-type sections, as well as old World War II Soviet TPP bridging (Tyazheli Pontonnyi Park) which had cumbersome alloy pontoons that had to be manhandled into the water. The TPP bridge could be erected at the rate of four feet a minute, which meant it took

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two and a half hours to span the canal. Its pontoons and other equipment required 150 vehicles to carry them. The Egyptians also had sections of the newer Soviet PMP bridge (Pontonno Mostovoy Park) which required only forty vehicles to transport it; it could be erected at the rate of 125 yards in twenty-five minutes. Each section opened into four pontoons after it had been mechanically lowered into the water. Thus it took only thirty to forty minutes to span the canal. An Israeli officer who watched one being erected later said, "It grew across the water like an extending arm." The Egyptians possessed only three such PMP bridges, and, to make up their requirements, they had obtained quantities of Uniflote bridging, a commercial product known as LPP (Leg Pontonnyi Park). To carry enough to span the canal required 190 vehicles, and this, too, had to be manhandled down to the water's edge.

All sections of the various types of bridging were modified so they were interchangeable with each other. The current Egyptian joke was that this was the first time they had been able to force the communists and the capitalists to work together. All bridges soon were of a mixed composition, as pontoon sections damaged by Israeli aerial activity and shelling were replaced by other types. The pontoons were filled with a foamlike substance to prevent their sinking if damaged, and they all had simple wooden planking trackway over them. The total length of the Egyptian bridging convoys was about 185 miles. The flexibility of the bridges allowed them to be floated to new sites or lashed to the bank. This mobility gave rise to later Israeli claims of sinking many bridges.

Excluding the dummy ones that were controlled by the Engineer Corps, each infantry divisional commander was allocated two bridges, and each commander had them erected across the canal as soon as possible. The one exception was the commander in the north who, for over twenty-four hours, used the pontoons of one of his bridges to float his divisional armour across; each pontoon generally was capable of carrying two tanks. In the plan a period of seven to nine hours was allowed for the construction of the bridges. While all five of those of the Second Army were across by 1800 hours, and thus well ahead of schedule, those of the Third Army were delayed.

By that hour the engineers had blasted about seventy-six gaps in the sand rampart on the east bank. This number was increased to eighty-two by midnight, the majority in the northern sector where about fifty ferries were working. The Egyptians possessed numbers of the new Soviet GPS ferry, as well as some older types. The GPS moved on land on tracks, in two parts; these were joined together in the water. The major part of the infantry divisions were on the east bank by 1930 hours, when commanders began moving their divisional armour across the bridges. By then the bridgeheads were up to two miles deep; the objective was for each division to expand to a width of five miles and penetrate to a depth of at least three miles before the artillery and armoured formations began moving to the east bank.

By 1700 hours it had become apparent that the Third Army had run into difficulty in bridging. The sand rampart on the east bank proved thicker than anticipated; it was up to 200 feet in width in places, and clay was mixed with the sand. Under jets of water from the pressure hoses, the mixture turned into sticky mud that did not quickly and easily wash away like loose sand. Troops and material were crossing by assault boats and ferries, but, as there was still no bridge across in the south, General Ismail sent Major General Ali Mohammed, together with his deputy, Brigadier Ahmed Hamadi, to the Third Army with orders to get the bridges across immediately and at all costs. The general had to select fresh crossing sites, which were some fifteen miles north of those previously chosen, and bring in bulldozers. It

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was not until about 0900 hours the following day, the seventh, that he had his first bridge spanning the canal—about twelve hours behind schedule.

For the Israelis on the east bank, the afternoon of the sixth was one of great confusion that at times verged on panic. The personnel in the Bar Lev Line, for example, who were relied upon to pass back detailed information about the invasion force and to direct the fire of the Israeli guns, lying back in positions along Artillery Road, were unable to see what was happening because of the dense smoke that had been deliberately put down by the Egyptians. On several occasions Israeli guns and even aircraft fired upon their own positions, and for long periods the Israeli guns shelled the empty desert. One Israeli brigade commander said, “The whole of the Sinai was on fire.”

There was also confusion over code words, map coordinates and recognition signals; no one seemed to know what the others were doing, and there were instances of Israeli tanks and guns shooting at each other. The Israelis gave code names to practically every identifiable feature, landmark, road, track and junction on the ground, as a basis for target identification. The code words were changed frequently, and the Israelis in the forts had voluminous code books. Quick reference tended to be difficult unless one were familiar with them. From information gained from talking to survivors, it appears that GHQ had been slack, and there was the probability that GHQ, the armour, the artillery, and the infantry in the Bar Lev Line forts were using different sets of code words. If this is true, the confusion is understandable. In *Insight on the Middle East War*, one authority wrote that “Avi’s fort called for artillery support when attacked, and HE landed on his fort, so Meyerke called to stop the artillery, but HQ took some persuading and the barrage continued for a while. A northern fort was shelled by its own artillery, and on at least three occasions the Israelis shelled their own positions.”

Despite this, Israeli armoured assaults by small company-sized groups of tanks continued to be launched in a similar reckless manner by charging blindly forward at speed; the tactic only resulted in the loss of more tanks to missiles and rockets fired by Egyptian infantrymen crouched in the open sand. At 1600 hours, for example, an Israeli armoured attack was made on the southernmost of the two forts at the south end of Little Bitter Lake. The fort had just been taken by the Egyptians at 1515 hours, and they repelled the attack and destroyed seven Israeli tanks. One Israeli officer later told me that “there was not one, but several Israeli armies” and that on the first two or three days, “the various units were charging around the desert all ‘doing their own thing’ with any control or coordination.” By 1600 hours one armoured brigade was moving up on two axes through the Giddi and Mitla passes. Another had reached the Baluza area, and Brigadier Kalman Magen, a regular officer, was put in charge of the northern sector down to Kantara. Yet, General Gonen had still not determined where the main threat was.

Both Egyptian and Israeli aircraft came into the battle. The strong Egyptian Air Defense Barrier on the west bank proved to be very effective in countering attacks by Israeli planes. In the course of the first afternoon it brought down at least ten Israeli aircraft; Israeli pilots were then ordered to keep fifteen kilometers away from it. At 0645 hours on the seventh, Israeli aircraft made a series of strikes against Egyptian SAMs, after which they generally kept their distance for a few days. (The aerial aspect of the war is discussed in detail in chapter thirteen.)

On the afternoon of the sixth General Gonen left his GHQ, Southern Command, at Beersheba and moved to the command post at Baluza, where he remained until darkness. He

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then tried to move southward along Supply Road to the prepared advanced battle HQ for this front, at Khaseiba (sometimes spelled Kashiba, or Um Hashiba) near the western mouth of the Giddi Pass. Finding his way blocked by Egyptian rangers, he instead turned about and moved to the Israeli command post at Romani, where he stayed for a while.

The Egyptians say that at 1839 hours they intercepted a message from the Israeli General Staff in Tel Aviv, informing the commander at Romani that it had lost contact with the GOC (who was actually on the move at this particular moment) and ordering him to take command of the entire Suez Canal front until contact was restored. Some of Gonen's GHQ communication equipment and vehicles had been damaged by the Egyptian aircraft in their initial raid. General Gonen finally arrived at Khaseiba, which is located twenty-three miles from the shore of Great Bitter Lake, at about 0100 hours on the seventh. During the afternoon the Israeli Sinai Air HQ also moved from Um Morgan, which was near Central Road, about fifty-three miles from the canal, to just north of Melize airfield, then to Baluza, and finally to El Arish, where it remained.

The Israelis had been conditioned to believe that the Bar Lev Line was a good defensive barrier, that it would take the Egyptians at least twenty-four hours to bring up the necessary bridging equipment to cross the canal, and up to forty-eight hours to erect bridges and to put a military force on the east bank. This schedule would allow ample warning time for the Israeli air force to be brought into the action to deal with the situation. These had been bad miscalculations, for the Egyptians had crossed the canal in force in minutes rather than hours. Further, the Israeli air force as well as the Israeli armoured counterattacks had been repelled. The Israelis had been caught by surprise.

Mobilization was hasty and chaotic; roads, so empty before 1400 hours, were suddenly jammed with vehicles, both military and civilian, trying to move to and from mobilization centres or to one of the fronts. For example, at the armoured centre at Beersheba, tanks and vehicles on the mobilization parks were not ready, and many weapons were still in their preservative grease, while fuel and ammunition were not readily available. Stocks of ammunition and spares had been reduced to a dangerously low level, according to E. Luttwak in *The Israeli Army*, "on the assumption that a war would require only a few days fighting, and not very intense fighting at that."

There was a shortage of tank transporters to lift the tanks and SP guns the 120 miles to the Suez Canal front, moving along at a steady fifteen mph. Meanwhile, there was nothing else for it but to muster tank crews to collect their tanks and send them off westward across the Sinai Desert, churning along on their tracks at less than twelve mph. It was a long and tiring journey for the men and a very wearing one for the vehicles, many of which fell by the wayside. The newly mobilized tanks and guns did not begin arriving at the front until about noon the next day, the seventh, when they were thrown immediately into action. The Israelis later admitted that twenty percent of their mobilization tanks and SP guns were "nonrunners," and one suspects the percentage was really much higher, for the figure of "only forty percent runners" was the one most commonly mentioned in Israeli circles. Most Western armies of reasonable efficiency would reckon to have at any given moment something like eighty percent runners, fifteen percent on the road within in twenty-four hours, five percent always off the road. To add to the uncertainty and confusion, wounded men were being brought back from the front to the hospital at Bir Gifgafa, and they told harrowing tales of Israeli setbacks.

## Storming the Bar Lev Line

The Israelis claim their mobilization, planned to take place over a seventy-two hour period, had to be telescoped into six hours. General Herzog says that “the mobilization will go down in history with the taxicab mobilization before the Battle of the Marne. It was incredible in its hasty, improvised character.” The Israelis had another big advantage in 1967 because the army had mobilized days before the war commenced. This enabled units to shake down together and gave them time to carry out some refresher training. It also ensured that vehicles and weapons were in serviceable condition and that ample fuel and ammunition were available. In 1973 these conditions did not obtain.

As darkness fell the Egyptian rangers, who had been trained in sabotage and antitank ambush warfare, came into the picture. Egyptian infantry on the east bank would be weak in firepower for about twenty-four hours or so, until sufficient armour and guns came across to give support. The rangers’ task was to delay Israeli reserves joining the battle, especially the armour from the main Israeli tank concentrations in the Sinai at Melize, Bir Gifgafa and Thamada. The rangers were to penetrate the Israeli lines on foot and by helicopter—the Soviet Mi-4 that could carry twenty-four men.

Formed in 1961 and modeled on the American Green Berets, the rangers had platoons consisting of about twenty-four men, three platoons to a company, and three companies to a battalion; a “group” could consist of one or more battalions. Within their own zones the divisional commanders had complete freedom of action, not only of deciding where and how to bridge the canal and how the Israeli secret weapon should be neutralized, but also how to employ the rangers attached to them.

In small groups, beginning at 1800 hours, the rangers moved eastward on foot to slip through Israeli positions and set up vehicle ambushes along lateral approach roads. Their orders were to penetrate up to seven miles. Two platoons went from the El Ferdan area, made their way toward the Khatmia Pass, a platoon penetrated toward Tasa, another toward the Giddi Pass, and yet another toward the Mitla Pass. Other ranger platoons with a similar mission, but with a deeper penetration role of up to twenty miles and directly under the command of GHQ, were put down behind Israeli lines by helicopter after darkness. On these, one platoon landed near Subha Hill (in the central sector); two companies, totaling about 300 men, went into the Sudar Valley in the southeast to block it. Yet other detachments of rangers were given strategic tasks calling for an even deeper penetration into the Sinai Desert, southern Sinai, and along the coast of the Gulf of Suez. One company of rangers in assault boats moved by sea to a position on the causeway road to the east of the Israeli Budapest fort, on the Mediterranean coast, to set up an ambush position.

At 2300 hours, still on the sixth, the Israelis admitted that three rockets had been fired into the camp at Bir Gifgafa, causing damage; that Egyptian rangers had penetrated the Mitla Pass; and that Egyptians had made several attempts to land rangers by helicopter. The Israelis claimed to have shot down twenty such helicopters. It was later added that ninety Egyptian rangers had been encountered and eighty had been killed. Other Israeli claims included shooting down eight Egyptian helicopters, each carrying thirty rangers (although the helicopters used for this purpose could only carry twenty-four men), and wiping out a fifty-man ranger unit near Abu Rodies. At 0100 hours on the seventh the oil wells at Abu Zeina, Sudar, and Feeran had been set on fire by rangers. The Egyptians later admitted their greatest losses had occurred in the Khatmia Pass, but they would not give further details. General Herzog writes that the Egyptians used thirty-five helicopters, of which the Israelis claim to have shot down fourteen.

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Throughout the first night the remaining elements of the five Egyptian infantry divisions were ferried across the canal, while armoured vehicles slowly trundled over the bridges. On the east bank the infantry began to creep slowly forward in an “inching war,” keeping their antitank weapons well to the fore. Their armour, as it arrived, was kept at the rear. The Israelis had made liberal use of antitank and antipersonnel mines, which, according to the Egyptian engineers, were of a density of “nine to the metre.” These had to be painstakingly prodded for, marked when located, or dealt with on the spot. Armoured attacks continued fierce and speedy, but piecemeal. The Israelis made fourteen such attacks during the night; each was of company strength at the Egyptian bridgeheads, and all were repulsed.

To summarize the fighting on the first day: by midnight on the sixth the Egyptians had crossed the canal, successfully breached the Bar Lev Line, had taken fourteen of its forts, put five bridges (and ten dummy ones) across the waterway, and had moved the bulk of five infantry divisions, with a loss of only 208 killed. It was a moment of triumph for the Egyptian armed forces and the Egyptian nation; everything had gone in their favor and against the Israelis. Their success had been largely due to hard training and calculated organization, rather than to sheer luck. As one wounded Egyptian soldier said on television (on the ninth), “Each of us knew by heart what he was supposed to do. We had been training on the mission for quite a long time.”