



General David Petraeus
Andrew Roberts

Conflict

The Evolution of Warfare
from 1945 to Ukraine



Four

From the Sinai to Port Stanley

1967-1982

Battle is a delicate balance between extremes of human behavior – selfish cowardice and selfless sacrifice, brutality and humanity, callousness and pity – and the virtuous must be made to outweigh the dishonorable, both in the individual and the unit, if either is to survive with any pride.

Sergeant Graham Colbeck, 3rd Battalion the Parachute
Regiment, Falkland Islands, 1982¹

The Six Day War, 1967: classic pre-emption

Between May 1949 and the outbreak of the Suez War in 1956, Israel's Arab neighbors and Palestinian refugees carried out a large number of acts of terrorism and sabotage across the border against Israeli settlements, against which Israel retaliated with raids, especially after Moshe Dayan became Israel's Chief of Staff in 1953. Once the British left the Suez Canal Zone in 1955, it became increasingly obvious that Egyptian President Gamel Abdel Nasser was preparing for another war with Israel, though the crisis over his nationalization of the Suez Canal interfered with his plans.²

Days before the British and French attacked to secure the Canal against nationalization, Israel captured the Sinai Desert from Egypt in a six-day campaign at the cost of only 200 Israeli soldiers killed. International opposition led by the United States against the actions of Britain, France and Israel forced the last to disgorge the Sinai in March 1957. Ten years passed before Nasser felt strong enough to return to the attack, however, with his armed forces by then trained and equipped by the Soviet Union.

By May 1967 there was no doubt that Nasser was squaring up for a third Arab war against Israel in a decade – one that would be fought on several fronts. There had been attacks by Syria along Israel's northern border, with infiltration into the state via Jordan and Lebanon, and Syria had shelled Jewish farms in the demilitarized zones along the Sea of Galilee in April 1967. Israeli aircraft had attacked Syrian artillery positions on 7 April, leading to an air battle between the Israeli Air Force's French-manufactured Mystères and Syria's MiGs, in which six MiGs were shot down. Lieutenant Colonel Yitzhak Rabin, Israel's Chief of Staff, warned Syria against further provocation, to little effect.

On 17 May Nasser ordered U Thant, the UN Secretary-General, to withdraw the United Nations Emergency Force from the Sinai frontier, which Thant did without consulting the General Assembly or the Security Council. Three days later, Nasser moved 100,000 troops in seven divisions – five infantry, one armored and one lightly armored – with a thousand tanks and hundreds of artillery pieces, to Israel's south-western border, under General Abdel Murtagi. Taken together, the Arab armies fielded half a million regular troops, 900 combat aircraft and 5,000 tanks, against Israel's 275,000 citizen army, 250 planes and 1,100 tanks.³ On 22 May, Nasser closed the Straits of Tiran to Israeli shipping, thus blockading Israel's Red Sea port of Eilat, something that Israel had already warned would be a *casus belli*. Four days later, General Nasser publicly informed the Arab Trade Union Congress that it was his intention to destroy Israel.⁴

Meanwhile, the Arab oil producers of the Organization of the Petroleum Exporting Countries (OPEC) threatened to nationalize the refineries (in Arab territory), destroy the pipelines and deny passage to

the ships of any country that supported Israel. France, having hitherto been a strong supporter of Israel, immediately backed away. "Our goal is clear," stated President Aref of Iraq, "to wipe Israel off the face of the map. We shall, inshallah, meet in Tel Aviv and Haifa."⁵ Military contingents started to arrive in the theatre from countries such as Kuwait and Algeria. King Hussein of Jordan flew to Cairo to sign a defense agreement with Nasser, who had only three weeks earlier denounced Hussein as "an agent and slave of the imperialists."⁶ The Arab media announced that the destruction of Israel was imminent.

In response to these threats, Levi Eshkol, the Israeli premier, formed a government of national unity which included Menachem Begin, the leader of the opposition, and General Moshe Dayan as minister of defense. In retrospect, the only surprising thing about Israel's pre-emptive surprise attack on Egypt was that it came as a surprise to anyone, especially Egypt. The Israelis were helped by high-quality intelligence, mainly from signals, about Arab intentions, but also from agents such as President Nasser's masseur Ali Al-Alfi, and from Wolfgang Lotz, an uncircumcised German Jew who persuaded Egyptian leaders that he was a former SS officer.

At 7:10 a.m. on Monday, 5 June, the codeword Red Sheet (*Sadin Adom*) unleashed Major General Mordechai Hod's pre-emptive air attack on the Egyptian Air Force. He had chosen the time well: enemy dawn patrols had stood down, the mist in the Nile Delta had cleared and Egyptian pilots were driving from breakfast at home to their bases. "Fly, soar at the enemy," Hod ordered his pilots, "destroy him and scatter him throughout the desert so that Israel may live, secure in its land, for generations."⁷

The Israelis flew low – often at no more than 50 feet – in order to evade radar screens, and under complete radio silence. Electronic jamming equipment was used to prevent Soviet vessels detecting the planes as they flew over the Mediterranean, and the pilots were told that in the event of mechanical trouble they must crash into the sea without radioing for assistance.

Hod's pilots flew sixty-five Mirages, seventy Mystères, fifty Ouragans, twenty Vatuurs and forty-five Fougas, and attacked nineteen Egyptian

airbases in no fewer than 500 sorties that day alone. In three hours, the Israelis were able to destroy or disable 309 out of Egypt's 340 serviceable combat aircraft (another 110 were out of service), including all thirty long-range Tu-16 bombers, twenty-seven medium-range Ilyushin Il-28 bombers, twelve Sukhoi Su-7 fighter bombers, ninety MiG-21 fighters, twenty MiG-19 fighters and twenty-five MiG-17 fighters.⁸ The Egyptians had failed to construct concrete hangars, and had parked their planes in easy-to-attack formations without even sandbags for protection. Only four Egyptian training flights were airborne at the time, none armed. It was, in the words of the historian Alistair Horne, "A lightning campaign of Old Testament quality."⁹

The Six Day War provides an object lesson in the dangers of overoptimistic propaganda. With total air superiority established over the Sinai Desert by 10:15 a.m. on the first day of fighting, Israel attacked on the ground in the Sinai. Not realizing the extent of the Egyptian defeat, King Hussein of Jordan entered the war promptly to the schedule he had previously agreed with Nasser.

Based on reports on Cairo radio of an Egyptian air victory, the Jordanian, Syrian and Iraqi air forces made the catastrophic decision to attack an Israeli airfield near Kfar Sirkin, some oil refineries in Haifa Bay and the town of Natanya respectively. The Israeli response was devastating, and by the evening of the first day the Jordanian Air Force had virtually ceased to exist, the Syrian counterpart had lost two-thirds of its strength, including seventy-two MiGs, and the Iraqis had suffered badly too. By the end of the second day of the war, 416 Arab aircraft had been destroyed (94 percent of them on the ground) for the loss of twenty-six Israeli planes.¹⁰

Egyptian forces stationed close to the Israeli border in Sinai massively outnumbered Israel's Southern Command. Lulled into a sense of security based on their numbers, they did not expect a three-pronged direct frontal attack after Israel's Air Force had already destroyed much of their defensive infrastructure there. Falling for an Israeli deception plan, they expected the main thrust to take place in the south, in central Sinai, whereas in fact it came in the north along the Mediterranean Sea via El-Arish.

The Israelis crossed sand dunes that the Arabs considered impassable by armor, bypassed Egyptian strongpoints that could be neutralized and mopped up later and outmaneuvered attempts to outflank them and cut them off. As always in rapid advances, there were complaints that too much time was wasted in consolidating the previous day's gains, but each of the six days brought such large advances that most of these critiques can be safely discarded as overactive indulgence in that most common military attribute: hindsight.

"A great part of the information obtained in war is contradictory," Carl von Clausewitz wrote in *On War*, "a still greater part is false, and by far the greatest part is uncertain." Another downside to the victorious propaganda heard on Egyptian and other Arab state radio stations on the first day of the war, which trumpeted fabricated stories about Tel Aviv being heavily bombed and great Arab victories on the battlefield, was that once it became obvious by the third day of the war, Wednesday, 7 June, that they were untrue, ordinary Egyptians became even more disappointed and angry than if they had been told the harsh truth in the first place.

So when it was known by Wednesday that the Egyptian forces were losing badly in Sinai, demoralization set in among the armies. Field Marshal Abd el Hakim Amer's conflicting orders panicked some of his commanders, a few of whom escaped back across the Suez Canal, for which they were later court-martialled. Amer himself committed suicide – or was possibly murdered – three months later.

By Wednesday, 7 June, Major General Israel Tal in the north had almost reached the Suez Canal at Kantara; General Avraham Yoffe was contesting the Mitla Pass in the center, and General Ariel Sharon had reached Nakhle in the south. Battles fought by Tal's forces at Romani and Bir Gafgafa, by Yoffe's at Bir Lahfan and Jebel Libni, and by Sharon's at Nakhle all went Israel's way, although the remaining Egyptians put up desperate resistance, especially at Um Katef, which would suffer the largest barrage of shells that Israel had ever unleashed.¹¹

By the morning of Thursday, 8 June, the Israeli Army had reached the Suez Canal itself, an extraordinary achievement in only four days of war. Yoffe and Tal laid a trap at the narrow Mitla Pass, which for much of the

Egyptian armor was the only way back westwards from central Sinai. With the Egyptians funnelled into the Pass, the Israeli Air Force strafed and bombed enemy vehicles at will, leaving hundreds destroyed and burning. The Pass itself was also blocked by a small unit of Israeli tanks under Colonel Yiska Shadmi, which was able to collect fuel and ammunition from Egyptian tanks abandoned on the battlefield.

By the end of the day, the Israelis had reached the Canal and the Gulf of Suez at no fewer than six major points between Kantara in the north and Al-Tur in the south, and artillery fire was exchanged over the Canal. There remains some disagreement among historians over the number of Egyptian troops killed in the Six Day War – the Israelis claim 15,000, the Egyptians only admit to 10,000 – but 5,000 were also captured and two-thirds of Egypt's 800 tanks in the Sinai were destroyed with the rest captured. Israeli losses numbered 300 soldiers killed and a thousand wounded in that theatre.¹²

In the Jordanian theatre, the war was being fought in very different circumstances than those in the Sinai. Jerusalem and the West Bank contained densely populated cities and towns, containing Jews, Muslims and Christians. The urban setting and the hills and ridges nearby were to lead to contrasting kinds of military engagement from those on the desert dunes.

At 11 a.m. on Monday, 5 June 1967, the Jordanian Army shelled Israel, crossing the 1949 Armistice Line and demilitarized zone south of Jerusalem and capturing Government House to the south of the Old City. By the end of the day, the Israeli Air Force had attacked the Jordanian Air Force at Mafraq and Amman, destroying its twenty-two Hawker Hunters. Much like their Egyptian counterparts and allies, Jordanian forces had to struggle on in the face of complete Israeli air superiority. Although the Israeli Air Force could not attack the Jordanian Arab Legion in the vicinity of Jerusalem itself, it did prevent Arab elements at Jericho from supplying and reinforcing their forces there.

The situation by 6 June was desperate for the Arab forces. King Hussein had previously placed his forces under Egyptian control, and at midday General Abdul Munim Riad, the Egyptian Commander leading the Jordanian forces, sent an update to Cairo that read:

The situation on the West Bank is rapidly deteriorating. A concentrated attack has been launched on all axes, together with heavy fire, day and night. Jordanian, Syrian and Iraqi air forces in position H3 have been virtually destroyed. Upon consultation with King Hussein, I have been asked to convey to you the following choices:

1. A political decision to cease fighting to be imposed by a third party (the USA, the Soviet Union or the Security Council).
2. To vacate the West Bank tonight.
3. To go on fighting for one more day, resulting in the isolation and destruction of the entire Jordanian Army.¹³

The King and Riad clearly did not favor Option 3.

The battle for Jerusalem took place between 5 and 7 June. Heavy fighting occurred in relatively built-up areas such as the Mandelbaum Gate through the no man's land surrounding it on 5 June, as well as the Police School, Ammunition Hill and the Sheikh Jarrah district. It spread to the Rockefeller Museum, Damascus Gate and Herod's Gate the next day. With pressure mounting from the United Nations for a ceasefire, the Israeli Defense Forces' Colonel Mordechai Gur had little time left to take ground, and at 8:30 a.m. on 7 June his three battalions attacked across the Augusta Victoria Hill and the Mount of Olives, supported by artillery and warplanes. Gur led the entry into the Old City at St. Stephen's Gate, encountering little resistance, and by 10 a.m. had secured the Western Wall.

Fearing international outrage and sanctions, Dayan himself had previously warned against Israeli troops entering the Old City, but upon hearing that the UN was about to implement a ceasefire, he rescinded his instruction.¹⁴ "The Temple Mount is in our hands," was Gur's response soon afterwards. For the first time in over 2,000 years, the Jewish people controlled Jerusalem. At 8 p.m. on 7 June, Israel and Jordan accepted the UN ceasefire proposal, by which time Israel's conquest of the West Bank had also been completed. The Jordanians lost over 6,000 killed and missing in the war, the Israelis 550 killed and 2,500 wounded.¹⁵

On the third major front of the war, between Israel and Syria, the main ground fighting took place on the Golan Heights, the strategically vital 45-mile-long plateau that dominates north-east Israel. The Syrians had fortified the Heights along the ceasefire line since 1949, from where over the years they would occasionally direct tank and artillery fire onto Israeli settlements below. When war broke out in June 1967, the Syrians increased the shelling of the settlements, but did not attack in the way they had promised Egypt and Jordan they would, beyond undertaking a few minor raids in the direction of Kibbutz Dan and Sha'ar Yashuv village. As truthful news emerged from the other two fronts, this restraint seemed wholly justified.

It was not until the morning of the fifth day of the war, Friday, 9 June, once victory was certain in the other two theatres, that Dayan, without consulting either Eshkol or Rabin, ordered Major General David Elazar of Israeli Northern Command to attack Syrian forces on the Heights, in a massive armored, paratroop and infantry assault aimed at taking as much territory as possible before another United Nations ceasefire came into effect later that day. As with the supposedly impassable deserts of the Sinai, Israeli tanks climbed steep ground that the Syrians had left lightly defended because they assumed they could not be traversed.

The IDF were motivated by the need to take the Heights as soon as possible, in order to protect their countrymen in the settlements below once the ceasefire came into effect. Their officers and NCOs led from the front; together they represented 23 percent of IDF casualties in the war.¹⁶ Syrian resistance was powerful, and Israeli troops were soon forced to use converted bulldozers to counter their defenses. Although Syria's 250 Russian-built tanks and similar number of artillery pieces were relatively new, they had been poorly maintained. (In conflict, especially in testing climatic conditions such as the Middle East, the maintenance of weaponry is sometimes as important as its actual caliber.)

On Saturday, 10 June, Israeli reinforcements arrived on the Heights after their victory on the West Bank. Helicopters were used to capture positions that allowed further armored penetration, one of the first

times that they had been used in that way. Panic set in among the Syrian forces in the course of the morning, and many fled the battlefield, abandoning tanks that would otherwise be easy targets for the Israeli Air Force. (When Israeli tanks were knocked out, any survivors were expected to join the infantry on foot.) By the time of the 6:30 p.m. UN ceasefire, the Israelis were overlooking the Damascus Plain. "For the first time in its history," wrote Chaim Herzog, a former director of Israeli military intelligence, "Israel had the benefit of defence in depth."¹⁷ The war left Israel in control of Jerusalem, the West Bank of the Jordan River and the Golan Heights, which Israel refused to relinquish until its state had been recognized. In total, the Six Day War cost Israel 778 military and 26 civilian deaths, less than a tenth of the Egyptian losses alone.¹⁸

Moshe Dayan performed all of the tasks of a strategic leader brilliantly. He saw the big picture clearly and, although he was criticized during the war for not switching efforts to the West Bank and the Golan Heights until the Sinai was secured, his strategy was proven right. Israel's only significant misstep would be its own coming hubris. "The Israeli Command tended to credit itself with many achievements that were in some cases more a result of Arab negligence, lack of coordination and poorer command at the higher level, than of Israeli effectiveness," noted Chaim Herzog.¹⁹ His son, General Michael Herzog, who fought in the Yom Kippur War of 1973, has gone further, accusing Israel of showing "conceit, complacency and stagnation" after the conclusion of the earlier war.²⁰ Humiliated in 1967, the Arab countries' opportunity for revenge came only six years later, when Anwar Sadat and his generals proved that they had learned several of the most important lessons of Nasser's many errors. But not all of them.

The Yom Kippur War, 1973: devastating counter-attack

"A generation that has taken a thrashing," Otto von Bismarck once said, "is always followed by one that deals out the thrashing." It seemed in the opening hours of the Yom Kippur War that the Egyptians and Syrians had not waited for a generation, but only for six years. At 2 p.m. on

Saturday, 6 October 1973 – Yom Kippur, the Jewish Day of Atonement – the Egyptians and Syrians achieved impressive tactical surprise in opening hostilities against Israel. Fine Egyptian staffwork ensured that 32,000 infantry could cross the Suez Canal into the Sinai Desert in five separate places over a 50-mile front, supported by almost 4,000 guns (including those in tanks) which fired more than 10,000 shells in the first minutes of the attack. The combined total of 3,000 mainly Soviet-made tanks of the Egyptians and Syrians equalled that of NATO itself, and outnumbered Israel's 2,000 tanks, although with their 105mm guns Israel's Centurion tanks were superior.²¹ The combined population of Egypt and Syria numbered over 40 million, to Israel's 3 million.

Few conflicts have started better for the aggressor than the Yom Kippur War, the opening scenes of which have been described as "an Israeli Pearl Harbor."²² Anwar Sadat, Egypt's ambitious President, was determined to reclaim its lost territory.²³ He had been prepared to lose 25,000 during the crossing of the Suez Canal alone, but in fact Egypt lost only 200 men in the operation. Once across on the eastern side of the Canal, the Egyptians used ladders to climb the Israeli defenses and then pushed forward half a mile beyond. Since 1967, Israel's lines on the Suez Canal, which had originally been for observation and early warning, had turned – through mission creep – into a static de facto line of defense.²⁴ It would have been far better to have had the capacity for mobility, and here we witness another example of how cuts in defense spending – which Israel instituted after its success in the Six Day War – seldom produce genuine savings in the long run.²⁵

Yom Kippur was a reminder that deterrence works only when it threatens overwhelming punishment. But Israel's security policy was subjected to budgetary and geographical restraints. With its much smaller population, Israel could not afford to station a large standing army on its borders, was vulnerable to simultaneous attacks on several fronts and was unable to withstand long wars without American support. Its security was therefore based on a mixture of deterrence, early warning, air supremacy, rapidly deployable reserves, a commitment to taking the fight to the enemy territorially and seeking an early, decisive, Clausewitzian victory.

Of course Israel's enemies understood this, and fashioned a plan to enhance Israel's weaknesses and negate its strengths. Having licked their wounds and rebuilt their militaries, the Arabs achieved a surprise attack, split Israel's forces through multiple incursions and as in 1967 used oil to enhance Arab solidarity and dissuade any country liable to side with Israel – all with the intention of extracting the maximum price in casualties from the tiny nation, and causing the worst energy crisis since the Second World War.²⁶

Egypt attacked when Israel felt most overconfident. Israeli security services had detected a week-long training exercise adjacent to the Suez Canal in the week before the attack, but had dismissed it. Syria's call-up of reserves was similarly ignored. The attack did not come as a total surprise, however: although the CIA had missed the build-up, Israeli intelligence recognized a few hours beforehand that a major assault was coming and so Israel's Air Force was made ready for a pre-emptive strike from noon on 6 October. Yet the Israelis did not unleash it, as they had so successfully in 1967. They had overestimated their defensive capabilities on the Golan Heights and at the Suez Canal, while underestimating the Arab forces' recent increase in technological capabilities.

The Egyptian and Syrian ruse of hiding genuine military build-ups within well-advertised military maneuvers fooled even their own troops; until the attack began, Egyptian and Syrian soldiers were not informed that they were going to war. Other subterfuges designed to lull Israeli intelligence had also been employed, including the demobilization of 10,000 Egyptian troops forty-eight hours before the attack, and rumors spread about problems with the war materiel supplied by the Soviets. To add to the deception, the Egyptian Foreign Minister flew to Washington in September 1973, ostensibly to reactivate peace talks. It was a world apart from Nasser's annihilationist rhetoric against Israel of 1967; Sadat's attack was professional, intelligent and initially successful. Henry Kissinger, newly appointed as secretary of state, had warned Israel that any pre-emptive aggressive strikes would cause a withdrawal of American support. He was especially concerned by certain aspects of the new conflict: not only was Israel largely armed by the Americans and

the Arabs by the Russians, but a naval standoff between the United States and Soviet fleets in the Mediterranean was occurring simultaneously. Would this be revealed as Soviet proxy warfare, potentially leading to another Cold War crisis between the superpowers? Kissinger could not have known it at the time, but the Soviets were in fact not behind the attack; Brezhnev himself was informed of it only the day before.²⁷ Additionally, the growing Watergate scandal was destabilizing the Nixon administration, complicating the American response to the war.

When, in the early hours of 6 October, it became clearer that an assault was imminent, Israeli Chief of Staff David Elazar's recommendation for a pre-emptive attack on Syria was rejected, as was his call for fully mobilizing the reserves. These were fearfully difficult choices for the Israeli political and military decision-makers. In the event they merely warned the Egyptians and Syrians that they were aware of the planned attack and instituted only a partial mobilization. The Israelis feared that if the intelligence estimates were wrong – and they can only rarely be absolutely certain – any pre-emption might ignite precisely the conflict that it was designed to pre-empt.²⁸

Major General Eli Zeira, Israel's Head of Military Intelligence in 1973, later disclosed that although he had furnished Israel's leaders with an accurate picture of the enemy's capabilities and deployments, he had failed to provide an accurate indication of their intentions – always the most difficult element of intelligence information but often the most crucial.

The Egyptian and Syrian staffs assumed that autumn would provide the best weather for the attack, that Yom Kippur, the holiest day of the year for Jews, would find the maximum number of IDF soldiers on leave and Israeli businesses closed and that the November elections would distract Israel's politicians. In fact, the empty roads helped Israel mobilize its reserves quickly when the threat became clear.²⁹ Though it was able to mobilize an astonishing 10 percent of its population for the war, there were almost no reserves in either the north or south during its early stages.

Determined to prevent a re-run of the Six Day War where Israeli air superiority had been decisive, the Egyptians and Syrians had invested

very heavily in air defenses, especially Soviet surface-to-air missiles (SAMs) that had performed so well against the US Air Force in Vietnam. Their SAM-6 and SAM-7 missiles and ZS4-23-4 anti-aircraft guns, as well as Sagger and Swatter anti-tank missiles and RPG-7s, proved extremely effective in the opening days, as did new night-fighting and bridge-building equipment. It was the Sagger, a highly lethal Soviet anti-tank guided missile with a 2-mile range, that inflicted particularly serious damage on Israel's armored vehicles, and the dense air defenses that accompanied advancing ground troops mitigated the effectiveness of the Israeli Air Force, at least at the outset.³⁰

Tactically decisive equipment afforded the Arabs numerous successes. Israel's rapid jet response to the initial attack was impeded as the low-level warplanes came under withering fire from heat-seeking anti-aircraft weaponry carried by the Egyptian infantry. Meanwhile, on the western bank of the Canal, high-level planes contended with Egyptian radar-controlled, long-range anti-aircraft missiles. The Egyptians also deployed self-propelled, four-barrelled 23mm radar-directed automatic aircraft guns. In one Egyptian unit's area, no less than 80 percent of Israeli jets suffered damage of some kind.³¹ The one saving grace for the Israelis was the small warhead of the Egyptian infantry's missiles, which tended to explode in the hot gases of the jet engines' exhaust, damaging but not entirely disabling the planes.

On the evening of 6 October and throughout the next day, Israeli counter-attacks were heavily punished by Egyptian armored systems that carried powerful 100mm anti-tank guns and lightly armored vehicles that carried smaller anti-tank weaponry. One Israeli unit lost 90 percent of its tanks in ten minutes. This devastation was repeated on 8 October when a counter-attacking Israeli division lost half of its tanks, before the army in the south was forced on to the defensive having lost over 250 tanks. By the end of that day, the Israelis had also lost nearly fifty aircraft, mostly to SAMs. The fate of the country seemed to hang in the balance.

The Sinai Desert provided Israel with the necessary strategic depth to give it some breathing space after three successive days of defeats, and it subsequently provided considerable room to maneuver during

the counter-attack. In the north, however, Syrian tanks were only a ten-minute drive from the River Jordan and the Sea of Galilee. They could be stopped only by the rapid deployment of reserves. The subsequent fighting in the Sinai and on the Golan Heights saw the last real tank battle in history, in which armored formations fought each other supported by artillery and air forces.^{*32}

The Israelis had assumed that, because the Arabs knew that Israel had superior warplanes and tanks, they would not attack. Those attacking, however, trusted in their new technology to at least limit Israeli superiority in airpower and armor. For the first three days of the war, it looked as though they might be right.

As had happened in the Allied landings at Anzio in Italy in January 1944, however, the attacking force failed to widen the initial bridge-head fast enough fully to exploit the opportunity of the initial surprise. The Egyptians brought up nine divisions against the Israelis' three, and transported large numbers of tanks across the Canal, but remained close to the eastern side of the Canal in order to consolidate gains. It was not until 14 October that the Egyptians attacked across the whole front, which by then had well-protected and well-hidden Israeli positions with 800 tanks but relatively few infantry. Ideally, attacking forces ought to outnumber defenders by three to one and concentrate on vulnerable points, but the Egyptians managed neither and were repulsed with heavy losses, especially when Israeli tanks rallied to counter-attack on the flanks.

By the end of that day, the Egyptians had lost 260 of their thousand tanks, against Israel's sixty, with many of the latter being repaired quickly.³³ The Soviet Union further worried President Sadat by providing satellite imagery that revealed an entire Israeli division moving along the West Bank of the Canal. By 19 October, after further heavy fighting, the Egyptian Chief of Staff – who had been sent to the West Bank to report back first-hand evidence of Israeli military presence in the area – recommended a withdrawal of all forces east of the Canal,

* Despite that battle having taken place in 1973, nearly twenty years later NATO still had over 23,000 tanks while the Warsaw Pact had over 52,000.

which the Commander-in-Chief refused, threatening to court-martial him for suggesting such a thing.³⁴ Ahmad Ismail Ali, a division commander, suggested that Egypt push hard in the United Nations for a ceasefire so that Israel's success could be stunted.³⁵

The failure to achieve a ceasefire proved fateful, because by 21 October the Israeli Army, supported by the Air Force, was bypassing Egyptian strongpoints and had totally outmaneuvered the Egyptians, who had made the error of dispatching their anti-tank units to help elements on the West Bank that had been pinned down, rather than keeping them to contain the Israeli counter-attack across the Canal just north of the Great Bitter Lake. Those they did have were dealt with by a highly lethal combination of Israeli artillery and machine-gun fire.

In six days the Israelis drove 50 miles, crossing the Canal and pinning the Egyptian Third Army down against it all the way south to Suez, with much of the army stranded on the south-eastern side, just as the Egyptian Second Army was pinned down on the north-eastern. The Israeli punch-through and its spreading southwards still stands today as one of the greatest maneuver campaigns and strategic victories since the Second World War. Occasionally the victory had required blatant disobedience of orders. In one instance, Ariel Sharon attacked after he had been expressly ordered to defend, but it was forgiven; as Dayan later said, "I prefer his pressures and initiatives tenfold to the hesitations and excuses of other divisional commanders ... Better a noble steed you have to restrain than a lazy ox you have to beat."

In the northern theatre, the Syrians also came close to achieving a decisive breakthrough against Israel in the opening hours of the war; indeed some of their tank commanders were able to look down on the Sea of Galilee, and Israeli commanders gave the order to prepare to blow the bridges across the River Jordan. Because of their lack of reserves, the Israelis were reduced to counter-attacking in a costly and piecemeal way. In one instance, the Israeli 7th Tank Brigade was under constant fire for four days in the Valley of Tears from 6 October, until each of its seven tanks from an initial complement of one hundred was down to three or four shells. Lieutenant Colonel Yossi, returning post-haste from

his honeymoon in the Himalayas, took thirteen tanks from the Barak Brigade, which had itself been badly mauled, and arrived on the battlefield just as the 7th Brigade completely ran out of tank ammunition and were arming themselves with hand grenades to carry on the fight.

With both sides about to collapse, the Syrians retreated first. The 7th Brigade and Yossi's reinforcements gave chase, only stopping at an anti-tank ditch when, in the words of one eyewitness, "The brigade had reached the limits of human exhaustion."³⁶ One officer slid to the floor of his armored personnel carrier fast asleep while in the middle of answering a question. Some 260 Syrian tanks and hundreds of armored personnel carriers lay destroyed or abandoned in the Valley. Across the 7th Brigade's radio network came the commendation of the divisional commander Raphael Eitan: "You have saved the people of Israel."³⁷

When the UN imposed its ceasefire, in President Chaim Herzog's phrase, Israeli forces "were within artillery range of Damascus and well on the road to Cairo."³⁸ Although violence and conflict between Israelis and Arabs would continue after the War of Atonement, it was their last comprehensive multi-front war.³⁹ In the half-century since Sadat visited Jerusalem after the war, no soldiers have died on the Israel-Egypt border.⁴⁰ In one of the ironies with which history is replete, it was at a military parade to mark the eighth anniversary of his major military achievement of the crossing of the Suez Canal that President Sadat was assassinated.

Lawrence Freedman believes that Israel's victories in the Arab-Israeli wars owed as much "to superior training, doctrine and morale as to Western equipment being generally better than that of the Warsaw Pact. "Israel's most potent weapon was its air force," he writes, "and this made the decisive difference in all its campaigns."⁴¹ Israel had lost 2,500 men in the Yom Kippur War, more than three times the numbers of the Six Days War, against Egyptian and Syrian losses of around 8,000 each. Both sides saw half their tanks destroyed and Israel lost 115 warplanes out of 500, less than half the 250 lost by Egypt and Syria.⁴²

Among its other legacies, the war would have a significant impact on US military doctrine. "Our interest in the Arab-Israeli War, all the anal-

yses and all the discussions, are not just an intellectual exercise," wrote General William DePuy of US Army Training & Doctrine Command. "True, it is fascinating for soldiers, but there is a purpose to this study and the purpose is that we want our schools, our combat developers and those involved in training, to remember these lessons and to relate them to our concepts."⁴³ The Americans would go on to make a highly detailed analysis of the war, for, as Frederick Kagan was to put it, that conflict "rocked the American defense establishment to its foundations."⁴⁴

One military historian estimates that "By multiple metrics - money allocated, personnel assigned, time committed, material produced - the Yom Kippur War was the most extensive investigation of a foreign war ever undertaken by US Armed Forces."⁴⁵ The story of a small country overwhelming several much larger ones was one that naturally concerned the United States, and by March 1974 the Pentagon had initiated no fewer than thirty-seven separate studies into different aspects of the Yom Kippur War, some of which - including a seven-volume data report on weapons systems - remain classified to this day. American servicemen walked the battlefields in 1974, with Israeli commanders who had fought on them as their guides.

The reason why the 1973 war merited much more scrutiny than the 1967 one was that military observers learned that the flexibility, speed and sheer intensity of conflict made the old concept of attritionally holding a line completely moribund.⁴⁶ In the future, only in wars where neither side had the capacity for flexibility and speed, such as the Iran-Iraq War and the fighting in the Donbas in Ukraine in 2022, would line-holding and attrition return to the battlefield. Another lesson was the growing lethality of combat, with weapons of ever greater destructive power and the increasing complexity and precision of warfare, in particular in the areas of electronic warfare, anti-tank guided missiles and integrated air defenses. Future wars, it now seemed, would be short, intensely chaotic affairs in which forces needed to be ready for action at the outset, and intensive training could overcome the disadvantages of being surprised and outnumbered, as the Israelis had been.⁴⁷

The US Army and Air Force found in their detailed analysis of Yom Kippur that despite the admittedly huge advances in anti-tank guided missiles and surface-to-air missiles, the tank still had an important role to play on future battlefields. Yom Kippur also exposed the weakness of attack helicopters when flying against high-density integrated air defenses, although this was insufficiently appreciated at the time.

Much of what the US learned from the conflict was put to good use in the Gulf War eighteen years later.⁴⁸ It was because of the Yom Kippur War that the United States military introduced non-flammable hydraulic fluid; built up its chemical weapons defenses; increased stockpiles of munitions; appreciated the danger posed by ground-based air defense; introduced vastly more realistic training and simulator use; intensified emphasis on Combat Electronic Warfare Intelligence battalions and multiple launch rocket systems; and upgraded and increased the numbers of M-60 tanks, Sidewinder missiles and electronic counter-measure pods (ultimately replacing each of them).

The performance of the newer Soviet systems during the Yom Kippur War strengthened the hand of those in the US military who were calling for Patriot surface-to-air missiles, cutting-edge F-15s, new tanks and infantry fighting vehicles, more ground- and air-launched precision munitions and the Airborne Warning and Control System.⁴⁹ Yet, ultimately, the victory had come down to the soldiers rather than their kit. "The War demonstrates the extent to which *man* is the key to the outcome of war," wrote Michael Herzog. "The training and skill of the soldier, his motivation, the quality of the chain of command, initiative, courage and perseverance all underlie the War's result far more than any weapons. Even in the era of technology, man still stands at the center of the picture."⁵⁰

The Soviet invasion of Afghanistan: military defeat as a catalyst for ideological collapse

Over Christmas 1979, the Soviet Union invaded Afghanistan with 75,000 men in support of a beleaguered pro-Russian regime in Kabul. These forces were quickly faced with a guerrilla campaign fought by

Islamic rebels, the Mujahideen, who were supplied by neighboring Iran and Pakistan, and later also by the United States. The Afghan Army "soon all but evaporated" and within weeks the Soviet forces - which, like the Guomindang in the Chinese Civil War and the French in Algeria, held all the major towns - were caught in a long-drawn-out, hard-fought war against the rebels, who controlled much of the countryside.⁵¹

Far from projecting strength, the Soviet invasion in fact demonstrated how weak the USSR had become. Trying and failing to contain rebellion through political means, Moscow instead resorted to a one-note military operation. Concerned that Mujahideen rebels would slip northwards into Soviet Central Asia, the Soviet leadership believed that their vastly stronger force would easily quell any disturbances. It was an invasion that was mirrored by America's invasion of Vietnam, not least in its eventual outcome.

President Jimmy Carter's administration reacted forcefully against the Russian incursion, withdrawing from the Salt II disarmament treaty, supporting a boycott of the 1980 Moscow Olympics, imposing economic sanctions, establishing a Rapid Deployment Force focused on the Persian Gulf (which would ultimately lead to the establishment of US Central Command), increasing military aid to Pakistan and, most importantly, ordering the CIA to supply the Mujahideen with lethal weaponry. It was not until 1986, during Ronald Reagan's second term as president, that the United States began delivering the devastatingly effective shoulder-fired ground-to-air Stinger missiles. These drove Soviet attack helicopters from the skies, or at least forced them up so high that their effectiveness was severely compromised. With that development, the Mujahideen were able to muster the strength to attack and occasionally overcome and massacre isolated Russian garrisons.⁵²

The Russian General Staff had been skeptical about invading Afghanistan, a multi-ethnic, multi-sectarian, tribal and mountainous country; the decision to do so had been that of Leonid Brezhnev and the Politburo. The war revealed the immense complexities of Afghanistan. "There were at least nine hundred guerrilla groups," records an historian,

"some under traditional leaders, others led by younger commanders from the educated middle class."⁵³ These groups were divided religiously, ethnically, geographically, ideologically, and by whether they were supplied by Pakistan, Iran or the United States. "Beneath the superpowers' proxy war was a kaleidoscopic local struggle," notes the historian David Reynolds.

The war, which was immensely vicious and saw a tragic dearth of pity on both sides, lasted almost a decade before the Soviet withdrawal in February 1989, by which time some 15,000 Russian lives had been lost, and an unrecorded (but far larger) number of Afghans. It was the first time since the Second World War that the Red Army had withdrawn while under attack from a nation it had occupied. When the Mujahideen ultimately captured Kabul in September 1996, they seized the pro-Russian former leader Mohammad Najibullah (who had resigned in 1992) and his brother Shahpur from a UN compound, castrated them, tortured them to death, dragged their corpses around the city from the back of a truck and then hung them from a lamppost outside the Presidential Palace.

The Soviet occupation of Afghanistan devastated both nations. Nearly one in ten Afghans died during it.⁵⁴ Unable to distinguish fighter from civilian, the Red Army killed indiscriminately, using a variety of methods: massacres and depopulation programs abounded in the region, and young women were kidnapped and sexually assaulted by Soviet forces, rendering those women unable to return home afterwards due to their perceived "dishonor." "Villages were razed in retaliation for Soviet casualties," records an historian, "and there were 'fun' shootings into passing buses or private homes."⁵⁵ Scholars agree that the Soviet Union perpetrated many gross crimes against humanity in Afghanistan, while some argue that it amounted to genocide.

By 1982, around 3 million of Afghanistan's 15 million-strong population had fled to Pakistan and Iran as refugees. Rumors abounded of chemical weapons used against the Afghans, and villages were occasionally turned to dust in a single afternoon. In some instances, Soviet soldiers, well aware of their unpopularity within Afghanistan, quietly took weapons away from their own Afghan allies at night.⁵⁶ Abused by

superiors and hunted by Afghan villagers and tribesmen, bored and lonely, miserable and vengeful, many Russian soldiers took to smoking opium.

The eradication of so much of Afghanistan's population ironically left the Mujahideen militias with greater power within the region. The educated middle classes of Afghanistan quickly fled abroad as their country was ravaged around them, leaving, in the words of one Afghan historian, "the laity, the commanders, and the Islamic fundamentalist groups - or, to put it differently, bearded men, veiled women, and armed warriors" as "the principal characters of Afghan society."⁵⁷

Afghanistan was a deeply underdeveloped tribal nation that had been deemed strategically insignificant to America for decades prior to the Soviet invasion. None, least of all the Soviets, could have predicted that it would become the arena for the bloodiest proxy war of the 1980s, and then again after the 9/11 attacks of 2001. By the time the Soviet forces withdrew, with columns of armored vehicles humiliatingly driving northwards out of the country, Afghanistan's future had changed.

Of course there were to be seismic repercussions that went comparatively unnoticed at the time, as well as deeply ironic moments: US Secretary of Defense Donald Rumsfeld was filmed in the late 1980s handing a Kalashnikov to a jihadi fighter with the words "Allahu Akbar." Zbigniew Brzezinski, Carter's National Security Advisor, justified the arming of the Mujahideen by asking, rhetorically, "What was more important in the world view of history ... A few stirred-up Muslims or the liberation of Central Europe and the end of the Cold War?"⁵⁸ Little did anyone recognize at the time that, once the Cold War ended, there would only be a short hiatus before the worldview of history was forced to concentrate on more than just "a few stirred-up Muslims."

In the meantime, the Soviet invasion led to the traditional Sufi mysticism widely practiced in Afghanistan being superseded by hardline Islamism, as Afghans turned to a different form of faith amid the harsh exigencies of wartime. The total failure of the war had also undermined the prestige of the Red Army and led to internal divisions within the state: using the Soviet military to achieve strategic goals and maintain geopolitical interests no longer seemed sensible, or perhaps

even possible. For Mikhail Gorbachev, the reforming new General Secretary of the Soviet Communist Party, it was further evidence that only a certain degree of liberalization could save the Soviet Union.

The Russian invasion of Afghanistan had profound implications for how the War against Terror would be fought there two decades later. The significance of shoulder-launched anti-aircraft missiles was underlined, because once the United States had provided this key asset to the Mujahideen the Soviets were deprived of a crucial advantage, their rotary and fixed-wing close air support. The Soviet campaign and its failures also highlighted for American planners (though perhaps not strongly enough) the severe challenges of counter-insurgency operations in Afghanistan, given terrain such as the Hindu Kush Mountains, the lack of infrastructure, the very limited economy, insurgent sanctuaries in Pakistan, illiteracy and lack of human capital and the substantial support provided to the insurgents by the United States and Saudi Arabia (a dynamic that would be mirrored, twenty years later, by the support provided to the Taliban by Iran and elements of the Pakistani secret service).

The campaign also demonstrated America's ability to counter the USSR by supporting surrogates – as was done elsewhere around the world, of course, but nowhere as successfully as in Afghanistan. The Soviet-supported Afghan regime did survive for two years after the departure of the last Soviet forces, but it was the cutoff of funding that doomed that regime, closely mirroring the fate of the Southern Vietnamese government between 1973 and 1975. Above all, it became clear that small numbers of US personnel – mainly CIA – but large amounts of arms, materiel and financial support could deal a major defeat to the Soviet Union, one that propelled it towards its death throes.

The empowerment of the Mujahideen would have grave implications in subsequent years, as the Taliban (which included many of the Pashtun Mujahideen) prevailed in the subsequent Afghan Civil War over the forces of the other ethnic and sectarian elements fighting to take Kabul and control of the post-Soviet Afghanistan. And, in the late 1990s, the Taliban allowed Osama bin Laden to establish a sanctuary in

eastern Afghanistan in which the 9/11 attacks were planned and the initial training of the attackers was conducted – leading to the US intervention in Afghanistan in late 2001 and the subsequent twenty-year conflict that was the longest campaign of the post-9/11 long war.

The Falklands War, 1982: a very long-distance conflict

It is perfectly possible that had any other person than Margaret Thatcher resided in Downing Street on 2 April 1982, when an Argentine Marine battalion invaded the Falkland Islands in the South Atlantic, a United Nations- or United States-brokered deal might have been agreed upon, in which Britain lost its dominion over the Islands in return for a fine-sounding agreement in which sovereignty was pooled in a condominium compromise. Mrs. Thatcher's contempt for such bromides, however, combined with her outrage at Argentina's actions, meant that she was never likely to view the prospect of a neo-fascist junta in Buenos Aires ruling over British Crown subjects as anything other than a *casus bellum*.

Many people could not see much point in going to war over 1,800 Falkland Islanders (and 600,000 sheep). The Argentine writer Jorge Luis Borges compared the war to "two bald men fighting over a comb." But the lack of raw materials in the Islands made no difference to the principle involved. When one critic of the war told the future Conservative leader Michael Howard that "there was nothing down there," Howard retorted, "Yes, there was: the Union Jack."⁵⁹ As Margaret Thatcher later put it, the Argentine attack was a "crisis of Britain's honor."⁶⁰

In the emergency debate on the Saturday after the invasion, Thatcher told the House of Commons, "It is the Government's objective to see that the Islands are freed from occupation and are returned to British administration at the earliest possible moment." At a time when her Defence Secretary John Nott feared that it might be impossible to retake the islands, Henry Kissinger observed, "Thatcher had unequivocally conveyed her resolve by cutting off the possibility of her own retreat."⁶¹

The invasion caught the British armed forces and government entirely unprepared. It was one of the strangest wars in history - described by Dr. Mark Almond as "the world's first post-modern war" - as it was fought 8,000 miles away from home and with no land base from which to launch the operation.⁶² It was a story of extraordinary last-minute improvisation and a test of the adaptability and flexibility of Britain's armed forces when called upon to fight a conflict of a totally different kind from the one they were expecting, against the Soviet Union.

Britain had no specific defense against the weapons of other NATO member countries, such as the Exocet, a French sea-skimming, aircraft-launched anti-ship missile that had been acquired by the Argentines. The Royal Navy expected to operate as part of NATO, complete with airborne early warning systems, air dominance and several layers of air defense weaponry, none of which would be available in the Falklands expedition.⁶³ (That said, the Task Force that liberated the Falklands contained more frigates, destroyers and hunter-killer submarines than exist in the whole of today's Royal Navy.)⁶⁴

A recurring theme of this book is that money spent on deterrence is seldom wasted, especially when considered against the costs incurred when the deterrence fails. The British government's 1981 White Paper which had announced the intention to withdraw HMS *Endurance*, a South Atlantic icebreaking patrol vessel, as well as the Royal Navy's two amphibious assault vessels HMS *Intrepid* and *Fearless*, led the Argentine junta's General Leopoldo Galtieri and Admiral Jorge Ayala to believe that the British would not go to war for the Islands (which Argentina had claimed since 1833 and called Las Malvinas).⁶⁵ Here was a prime example of disarmament sending the wrong message to potential aggressors. The White Paper also suggested selling Britain's aircraft carrier HMS *Invincible* to Australia and questioned the future of the Royal Marines, sixty-eight of whom were stationed on the Falklands at the time of the invasion and were overwhelmed on the first day.

"From the military man's point of view, she was an ideal prime minister," recalled Admiral Sir Terence Lewin, Chief of the Defence Staff, of Margaret Thatcher afterwards. "One wanted a decision and she gave

it."⁶⁶ The decision – supported by a small, hastily formed War Cabinet – was immediately to send a naval task force that ultimately, once it was joined by other vessels exercising off Gibraltar, comprised forty-four warships, twenty-two naval logistic ships and forty-five merchantmen, with 28,000 men.⁶⁷ These forces included four naval and one RAF squadron of helicopters, one brigade of Marines, two parachute and three infantry battalions. The ships included luxury liners, ferries, trawlers turned into minesweepers and a children's education cruise ship that was converted into a floating hospital.⁶⁸

"Service officers conditioned by years of petty economy, niggling bureaucracy and chronic supply problems were astounded by the efficiency of the machine that now moved towards war," recorded Max Hastings, who reported on the war for the *Daily Telegraph*. "The whole of southern command was ransacked, an immense transport plan put into effect to move the stores to the docks."⁶⁹ Equipment such as arctic clothing, new radios and laser rangefinders were sent to units. "It was like Christmas, that Monday," recalled the 39-year-old Lieutenant Colonel Hew Pike, a general's son and the Commander of the 3rd Battalion Parachute Regiment (3 Para).

Brigadier Julian Thompson, the Commander of 3 Commando Brigade, increased the order of Rapier anti-aircraft missiles from a troop to a battery of twelve, and ensured that Scorpion and Scimitar armored reconnaissance vehicles were loaded for their cross-country capability. The general rule was to take "something of everything" to be ready for every circumstance, especially the air threat.⁷⁰ Nor was it just military equipment being loaded; watched by television cameras, Sergeant Graham Colbeck climbed the gangplank on to the SS *Canberra* to the sound of the battalion band and "noticed that many hundreds of cans of beer were being loaded on to the conveyor belt below."⁷¹ In a triumph of organization and dispatch, the Task Force left port on 5 April, only three days after the Argentinian invasion.

Thanks to Caspar Weinberger, Ronald Reagan's Defense Secretary, and US Navy Secretary John Lehman, Britain was able to use the American Wideawake airbase on the British-owned Ascension Island, and the United States started to provide aviation fuel, spare parts and

air-to-air Sidewinder, radar-seeking Shrike and anti-aircraft Stinger missiles.⁷² Field Marshal Carver later stated that Wideawake "played an essential part as an air staging post."⁷³ Even excluding the fuel and Sidewinders, the US provided \$60 million in aid to Britain during the war. Critical American signals intelligence on the Argentine forces was also made available to the British.⁷⁴

Although President Reagan knew of this material support, General Alexander Haig, his Secretary of State, who was trying to negotiate a peaceful settlement based on a condominium, initially did not, which took the concept of need-to-know to an entirely different level. After the war, Lehman revealed that in the event of the loss of one of the British carriers, Reagan had agreed to lend to the Royal Navy the assault ship *USS Iwo Jima* which could accommodate Sea Harrier fighters. As Reagan told Weinberger, "Give Maggie everything she needs to get on with it."⁷⁵

On Monday, 4 April, the day before the Task Force's departure, Brigadier Julian Thompson briefed forty commanding officers. Major Ewen Southby-Tailyour of the Royal Marines gave a presentation that emphasized the difficult, boggy terrain on the Falklands, as well as the freezing winds and chill factor, total absence of local food and drinking water, and nil cover except during the hours of darkness. "British planning for war in Europe had taught a generation of soldiers to assume that troops crossing the sea would be received by a friendly government and population, able to offer vital support facilities," point out Max Hastings and Simon Jenkins. "Yet there would be no local resources to call upon in the Falklands."⁷⁶

Thatcher was insistent that 3 Commando should leave as soon as the ships were loaded, while she still had political support for the expedition. Julian Thompson and Hew Pike both recognized from the start that there would be fighting. In his address to his battalion in the gymnasium at their Kandahar Barracks at Tidworth immediately after the Argentines seized the Islands, Pike said that although diplomatic efforts were being made to resolve the crisis - which all sensible men must hope would succeed - they were nonetheless "very fortunate" that they would indeed probably see action.⁷⁷ One of his listeners, Graham

Colbeck, later wrote that "If there were any sensible men in the gymnasium that day, then I was not one of them – I would have been bitterly disappointed if there had been a diplomatic solution."⁷⁸ Of the mood at the time, Pike later said, "There is enormous residual self-confidence in a parachute battalion. People don't wonder whether they can do things."⁷⁹

On his way down to the Falklands, General Jeremy Moore, Commander of British land forces, brought along a photo of General Mario Benjamin Menéndez, his Argentine counterpart, in much the same way that Montgomery had kept a photograph of Erwin Rommel in his caravan during the Desert War. It was just as well that Moore had made no assumptions about Menéndez from his physiognomy, however, as during the surrender negotiations it became clear that the photo was of the wrong General Menéndez. (It was an easy mistake to make; there were no fewer than five of them in the Argentine Army at the time.)⁸⁰

On 28 April British forces retook South Georgia, an island 870 miles east of the Falkands that the Argentines had captured, and two days later a Total Exclusion Zone of 200 miles around the Falkland Islands was imposed by Britain, meaning that Argentina could not resupply its 13,000-strong army on the Islands. On 2 May, the Argentine cruiser *General Belgrano* was sunk some 40 miles outside the Zone by the British nuclear submarine *HMS Conqueror*, using fifty-year-old Mark 8 torpedoes, with the loss of 323 Argentine sailors from her thousand-strong crew. It is possible that the sinking might have ultimately saved Argentine lives in the long run, as it kept their navy in port for the rest of the war, whereas a naval battle against the Task Force would almost certainly have led to an even greater number of casualties.

The Islands were over 250 miles off the Argentine shoreline, which meant that Skyhawks from the carrier *Veinticinco de Mayo* were forced significantly to reduce the amount of time they could operate over the Islands.⁸¹ If the Argentines had extended the runway at Port Stanley to take their Skyhawks, the British operation might have been endangered, but they did not, so the Argentine pilots were forced to fly from the mainland and were almost at maximum range as they arrived. In early

May, British Hawker Harriers attacked Argentine positions on the Islands, including the Port Stanley runway.

On 4 May, the Type 42 destroyer HMS *Sheffield* was hit by an AM-39 Exocet missile, fired from a French-built Super Étendard fighter, and on 10 May she sank under tow.⁸² Worryingly, the ship's satellite communications had interfered with her electronic detection system and she sank without firing a shot in her own defense. The explosion and fires killed twenty of her crew. Although Exocets were to become famous during the war for what they wreaked against British ships, in fact more were sunk by low-flying aircraft dropping bombs. Of the five ships sunk and thirteen damaged, Exocets accounted for two sunk and one damaged.⁸³ The Royal Navy was lucky that no fewer than thirteen bombs that hit five damaged ships failed to explode.

On 19 May, Hew Pike addressed 3 Para in the Meridian Lounge of the ocean liner SS *Canberra*, urging them, among other things, not to delay operations by stopping to help the wounded before all objectives were secured.⁸⁴ (In Northern Ireland a feature of contact had been immediate aid to the wounded.) Two days later he quoted Brigadier Hill of 6 Airborne Division, who had told his troops on the eve of D-Day, "Do not be daunted if chaos reigns, because it undoubtedly will."⁸⁵

At 2:50 a.m. on Friday, 21 May, British forces made an amphibious landing at San Carlos Water. The Royal Navy's decision to choose the bay on the opposite side of East Falkland from Port Stanley was a controversial one. In the plan's favor was the fact that the bay was far from any Argentine artillery, and was nearly impenetrable by enemy submarines and Exocets. However, it was 56 miles from Port Stanley, might possibly have been mined (it wasn't) and was overlooked by high ground that could possibly be occupied by an enemy garrison only 13 miles away. (The high ground later proved invaluable, cutting down the time that Argentine aircraft were able to choose targets in the bay.) In the event, and despite the losses of three ships to Argentine warplanes, the choice of San Carlos by Admiral John Fieldhouse, the Commander of the Task Force, Brigadier Julian Thompson and their staffs has been described as "superbly judged" and one that "contributed critically to victory."⁸⁶

On 25 May an important merchant ship, the *SS Atlantic Conveyor*, was sunk by an Exocet, which deprived the Army of the majority of the Chinook helicopters needed to transport troops, forcing 3 Commando to march to Port Stanley from their disembarkation point, carrying everything with them. After doing that, they had to fight for three days against well-entrenched and more numerous defenders.⁸⁷ Yet, as we have seen so often in this book, high morale was the key. "The Argentinians' problem was not their tactical position, let alone their logistics," recalled Max Hastings. "It was morale on the ground. Among the troops on the mountains it was worse than the British ever dared to imagine."⁸⁸

Hastings interviewed Argentine POWs after the war, and the reasons for demoralization were clear. "No one really told us where we were going," said Guillermo of the 7th Regiment. "We weren't prepared psychologically ... In A, B and C companies, who were the ones most in the front line, there were boys with whom I talked who didn't even know what the Malvinas were."⁸⁹ The Argentinians were also extraordinarily brutal to their own men, administering beatings and forcing soldiers who went AWOL to sit for hours with their naked feet in freezing mountain water.⁹⁰ As we saw with the Guomindang Army in the Chinese Civil War, this kind of ill-treatment of recruits is devastating for morale. As they marched across East Falkland, the British squaddies had to face cold, diarrhoea and a severe First World War-era rotting malady called "trench foot," but it did not affect their morale, partly because they had a trust in ultimate victory that many Argentine soldiers did not.

"The campaign," writes Max Hastings, "demonstrated that the Argentine command had no grasp of the principles of strategy: their air force had failed to mount effective attacks, as the British had feared. Their army had failed to defend key features, to interdict the British advance, to harass or counter-attack positions that the marines or paras had occupied ... They pinned all their hopes on holding their ground and seeking diplomatic, rather than military, deliverance."⁹¹ At the twelve-hour battle of Goose Green on the night of 28 May, the Argentines did show that they could defend entrenched positions bravely, but 690

British troops overwhelmed the garrison of over 1,160 men, which surrendered.

On 31 May, Ronald Reagan telephoned Margaret Thatcher urging her to be "magnanimous" in victory and allow the Argentines a face-saving compromise.⁹² But by then much blood had been spilt on land and at sea. "I'm not handing the islands over now," she replied. "I didn't lose some of my finest ships and some of my finest lives to leave quietly under a ceasefire without the Argentinians withdrawing."⁹³ Thatcher refused Reagan's request, and as her former speechwriter John O'Sullivan points out, "To make a diplomatic retreat the climax of what had become a great national cause would have confirmed and perpetuated the dismal myth of postwar British decline ... The entire Thatcher 'project' of national revival would have been derailed."⁹⁴ As a British sergeant who was fighting in the Falklands put it, "If they're worth fighting for, then they must be worth keeping."

More British reinforcements landed between 4 and 8 June, but on the last afternoon the landing ship *Sir Galahad* was bombed and set on fire at Fitzroy causing the deaths of forty-eight crew and soldiers. On the morning of 11 June, the commanding officers of 42 Commando, 45 Commando and 3 Para gave orders for a night attack on the Argentine defensive positions on Mount Longdon at 8:01 p.m., using models of the terrain fashioned from lumps of peat, pieces of canvas, rifle slings and twigs. "It is hard ... to imagine how much information commanders at all levels in an infantry battle at night have to carry in their heads," wrote Julian Thompson later.

The commanding officer orchestrating the show is not sitting in a warm well-lit operations room surrounded by staff, powerful radios and radar displays showing the position of friend and foe; or even in a relatively warm armored command vehicle with an onboard satellite navigation system giving him a constant read-out of his position. He is walking, running, crouching, lying, probably in pouring rain, under fire, trying to update his mental picture of the battle by conversations on a low-powered man-pack radio and going to see for himself if he can.⁹⁵

Thompson took the deliberate decision for his brigade to fight at night. "The confusion of battle in the darkness," he later wrote, "would be offset by the greater skill of the marines and paratroopers, the better leadership and the intimate and flexible support made possible by our magnificent gunners."⁹⁶ It was risky, but it paid off.

As Pike had predicted before disembarking at San Carlos Water, chaos did indeed reign, and, as in every conflict, the fog of war produced tragic friendly-fire incidents. One left eight soldiers wounded, after which a British sergeant remarked that "Dangerous mistakes will occur as long as soldiers remain fallible."⁹⁷ He blamed fatigue, poor visibility and an overeagerness to engage the enemy as some of the factors that made them more likely. He noted how easily messages passed orally down long snakes of troops could get corrupted. On one occasion the phrase "Air Raid Warning Red" somehow turned into "Galtieri's dead."⁹⁸

Because 3 Para had to fight along the spine of a ridge at Mount Longdon with only enough space to deploy one company at a time, its attack has been likened by Lawrence Freedman, the official historian of the war, to "advancing down a bowling alley in the dark being fired on from both sides."⁹⁹ As in so many of the engagements recounted in this book, raw courage had a vital part to play in the victory. In the ten-hour battle of Mount Longdon between the Argentine 7th Regiment and the 3rd Battalion of the Parachute Regiment, to take but one example from among many in that campaign, positions were captured by close-quarter "gutter fighting" with grenade, rifle and bayonet. "It was a battle in which junior officers, NCOs and private soldiers fought with courage, tenacity and aggression," recalled Thompson.¹⁰⁰

Sergeant Ian McKay won a posthumous Victoria Cross trying to silence an Argentine Marine machine gun on his own with grenades after comrades from his platoon had been killed and wounded; Captain Willy McCracken called down artillery fire to within 50 yards of his own position (such was the accuracy that no Britons died from it). "Sometimes the fire was so close to us," recalled a sergeant, "that it was impossible to tell our own gun and mortar fire from that of the enemy, until the 4.5 inch gun of HMS *Avenger* joined in with its regular shell bursts."¹⁰¹

"I shall never forget the sight that morning," recalled their commander Hew Pike of 12 June 1982, "of A Company advancing through a thick mist with bayonets fixed."¹⁰² Of the twenty-three men of 3 Para killed and forty-seven wounded in that battle for a key strategic position outside Port Stanley, Private Neil Grose died on his eighteenth birthday. As one officer wrote after the battle, in words that could have been repeated in any conflict in this book, "Such good people lost, so terribly young."¹⁰³

By the end of the contemporaneous battles of Mount Longdon, Mount Harriet and Two Sisters fought by 3 Para, 42 Commando and 45 Commando respectively on 11 June, of the 850 Argentine defenders, 50 were killed and 420 captured for the total British losses of twenty-five dead and sixty-five wounded.¹⁰⁴ The capture of the heights running north-south between 6 and 7 miles from Port Stanley left the capital unprotected from direct attack, which began on 13 June, and the Argentine surrender took place on the evening of 14 June. The Islands had been reconquered only twenty-four days after General Moore's army had landed. General Galtieri and the rest of the junta resigned on 17 June.

After the fall of Port Stanley, Hew Pike wrote to his family in England: "The Duke of Wellington was indeed right about 'the melancholy nature of victory.'"¹⁰⁵ Some 255 British servicemen had been killed in the war and 777 wounded. Three Falkland Islanders had been killed, one after medicine was withheld. Six ships had been sunk and ten damaged.¹⁰⁶ The Argentines had lost 649 killed, almost exactly half on the *General Belgrano*. They lost ninety-one planes to gunfire and Harriers.¹⁰⁷

Although it was a great victory for Britain, the Falklands drew attention to several important shortcomings. The Royal Navy's trust in the supremacy of new missile technology had meant that it had failed to concentrate on its elderly stock of anti-aircraft guns, some of which were of Second World War vintage and proved inadequate against brave, fast and accurate Argentine aircraft attacks. Sometimes they were merely machine guns fitted to improvised mounts, such as office

swivel chairs welded on to the deck.¹⁰⁸ The assumption that missiles and detection technology would protect ships had – along with cost-cutting – also led to them being all too often fitted with kit that was flammable or splintered easily. Over 70 percent of those sailors admitted to the hospital ship *SS Uganda* had sustained burns, not least because their new polyester uniforms melted into the skin in a way that the previous cotton ones did not. The planned budget cuts to the Royal Navy were at least reversed in the short term.

Another lesson was found in the continuing importance of the Special Relationship between Britain and the United States. “In the Pentagon there had been a massive *de facto* tilt toward Britain from the very first day,” recalled John Lehman.¹⁰⁹ This was not replicated right across the Reagan administration, as the Argentine junta had been a supporter of America’s anti-communist stance towards Soviet, Cuban and Nicaraguan subversion in Central America. Yet the place that mattered most was Caspar Weinberger’s Defense Department, where, as Lehman noted, “The depth of and breadth of cultural, social and historic ties between the United States and the United Kingdom were overwhelming.”

The first naval war since the 1940s was studied carefully in the US Navy.¹¹⁰ Even before the war was over an expert team had been put together to learn its lessons, which concluded that “Next to the quality of the personnel, the most important factor in the Falklands was intelligence.”¹¹¹ By virtue of being able to use US intelligence, Britain was well informed about Argentine locations and probable intentions, in a way that Argentina could not emulate. Another lesson was that ships needed stronger armor. “If any of the sixteen successful attacks [on British ships] had instead hit the [US] battleship *New Jersey*,” argues Lehman, “it could not have done sufficient damage to prevent continuing operations of the ship. The Exocet that sank *Sheffield* would not have been able to penetrate the armor anywhere on the battleship.”¹¹²

Margaret Thatcher, Terence Lewin, John Fieldhouse, Jeremy Moore, Task Force Commander John “Sandy” Woodward, Julian Thompson and other senior commanders all performed the strategic leadership tasks superbly during the Falklands War. Sending a task force 8,000 miles to

expel the Argentines from the Islands was a bold and correct decision, as was the sinking of the *Belgrano*, the siting of the landing at San Carlos Water and the plan of attack towards Port Stanley; the mission was communicated extremely effectively to the troops, whose morale stayed high despite extremely testing local conditions; the implementation was then driven through by every means at commanders' disposal, with the commanders providing admirable examples, direction and energy, and the attacks were adjusted under the changing circumstances of the fighting, both on land and at sea. The result was, as Henry Kissinger has written, that "Taken in tandem with the decisive economic reforms Thatcher had instituted at home, the Falklands victory effectively transformed Britain's standing on the world stage."¹¹³

As well as reiterating the old truth that money saved in piecemeal defense cuts – in this case the axing of HMS *Endurance* – often costs more in the long run, the Falklands War reminded the West that conflicts can emerge suddenly from out of what seems like a clear blue sky. No one imagined that Britain might have to fight a war 8,000 miles from home before it happened; yet, as this book has shown, surprise attacks are surprisingly common. The lesson that a country with such a far-flung set of responsibilities – the result of its imperial history – needed to provide for every eventuality was learned the hardest way. The efficacy of submarines against cruisers was underlined. Every other conflict in this book so far had essentially been a land struggle, although several have naval components. The Falklands saw conflict evolve because it was essentially a naval campaign with a land action added on. Western powers had to prove they could do both.

Eight

The Iraq War

2003–2011*

I am neither an optimist nor a pessimist. I am a realist.
And the reality is that Iraq is all hard, all the time.
But hard is not hopeless.

Gen. David Petraeus during
the Surge in Iraq

The terrorist attacks on the United States on 11 September 2001 led not just to the invasion of Afghanistan and a global war against Islamist extremists, but to renewed focus on the unresolved issues with Saddam Hussein's Iraq as well. The invasion that would be launched there in March 2003 and the subsequent conflict would present the United States and its coalition partners with their greatest challenge to date in the post-Cold War era.

The invasion of Iraq, initially seen by the Bush administration as a showcase for high-tech forces and rapid, decisive operations, would

* This chapter was written primarily by Gen. David Petraeus, with input from Andrew Roberts. Since Gen. Petraeus was a principal figure in the history of the war in Iraq, events in which he was involved will be narrated in the first person.

quickly evolve into a grinding counter-insurgency campaign for which the US Army and Marine Corps initially were neither intellectually nor organizationally prepared. As with conflicts throughout history, the ability of the respective warring sides to adapt to the dynamics of the battlefield would do much to determine which side prevailed.

As I write, twenty years after the initial invasion, we are still grappling with the effects of the war, which necessitated an overhaul of military doctrine and renewed study of and training in counter-insurgency, saw the advent of new battlefield capabilities (especially drones, counter-terrorism force capabilities and intelligence fusion), imparted major cautionary lessons about regime-change operations (reinforced by the outcomes of the various Arab Spring uprisings) and brought about significant changes in regional and global dynamics. Over time, in particular, the strategic effect of toppling the Ba'athist Sunni regime in Iraq would live on in the form of an emboldened and more powerful Shi'a Iran, with its hybrid forces unleashed throughout the Middle East in an attempt to dominate the so-called Shi'a Crescent - stretching from Iran through Iraq and Syria into southern Lebanon - and to create ever greater problems for Israel and many of the Sunni Arab countries of the region as well.

Background

The Bush administration decided for a number of reasons to topple Saddam Hussein and the Ba'athist regime that had ruled Iraq brutally for nearly twenty-four years. But primarily it focused its public case for the war on a flawed intelligence assessment that the regime possessed a hidden arsenal of weapons of mass destruction and the means to deliver them, as well as the capability to produce more.¹ President George W. Bush also highlighted the importance of ending the rule of a dictator who had invaded Iran in 1980 and Kuwait in 1990, and who continued to threaten Kuwait as well as Iraq's Kurds and Shi'a Arabs, all this despite Saddam's forces in Kuwait having been destroyed by a US-led coalition during Operation Desert Storm in 1991.² For Bush,

being able to introduce democracy into the Arab-Islamic world as part of a broader response to Islamic terrorism in the aftermath of 9/11 was significant too.

In planning the military campaign to destroy Saddam's regime, however, the administration made a number of assumptions that would prove unfounded and would undermine the prospects for success. Foremost among these was the belief that the Iraqi people would welcome US forces as liberators and would continue to regard Americans as such for a while thereafter. This was not an unreasonable assumption given the enmity with which the Saddam regime was regarded by the vast majority of Iraqis, and it did prove true for a significant percentage of the Iraqi people in the early months of the operation. However, a sizeable number – particularly in Sunni Arab areas – came to resent US interference in Iraqi affairs, the turmoil that followed and the opening it created for Iraq's Shi'a majority to take control of the country. Moreover, even among Iraqis supportive of the US invasion, many remained skeptical of American intentions, and few wanted to see foreign forces occupy their country.

Early on, US policymakers also relied on initiatives to establish liberal democracy and a market economy to cure Iraq's ills. But, as in Afghanistan, they ignored the culture and history of the Iraqi people and their traditions of governance, justice and economics – not to mention underestimating how momentous such changes would be.³ The problems created by these unfounded assumptions would be compounded enormously by decisions made by the US-established Coalition Provisional Authority two months into the war.

The setting

It is instructive here to reflect briefly on the history of Iraq, which became a country upon the break-up of the Ottoman Empire after the First World War. Formed from the Ottoman provinces of Mosul, Baghdad and Basra, Iraq traced its ancient history to Mesopotamia, the Land of the Two Rivers – the Tigris and the Euphrates – that run the length and breadth of Iraq, from the north and the west, respectively, to

the south, and give rise to the extensive agriculture of the region along and between those great rivers.

The northern third of the country is centered on Mosul, Irbil and oil-rich Kirkuk, with the mountainous northern part inhabited by Kurds, one of the largest ethnic groups in the world without a state of their own. The rest of the region is predominantly Sunni Arab, but contains significant numbers of Shi'a Arabs, Turkmen, Christians (of various denominations), Yazidis and other ethnic and sectarian groupings. The Iraqi Kurds had largely governed themselves following the Gulf War in 1991, when the United States supported a Kurdish uprising and kept Iraqi troops out of the northern region (not least by the establishment in 1991 of a no-fly zone policed by US-led air forces, just as a similar no-fly zone prevented Iraqi aircraft from attacking the Shi'a in the southern half of the country).⁴

Sunni Arabs dominated in the western and north-central parts of the country, mostly desert outside the populated Tigris and Euphrates River valleys, while Shi'a Arabs largely populated southern and eastern Iraq, including the oil-rich area around Basra at the northern tip of the Persian/Arabian Gulf. In the center of the country sits the capital city of Baghdad, which in 2003 contained nearly 6 million people – mostly Shi'a and Sunni Arabs but also small numbers of Assyrian Christians, Faily Kurds and others.

Since his ascension to power in 1979, Saddam Hussein had ruled Iraq's polyglot population with an iron fist, including throughout the bloody eight-year war with Iran that began with an Iraqi attack on Iran, as well as during the Iraqi invasion and subsequent occupation of Kuwait in August 1990 that ended in defeat at the hands of the US-led coalition some eight months later. The American-led invasion in late March 2003 that toppled Saddam's regime in less than three weeks would radically change the dynamics in Iraq and unleash sectarian, ethnic and tribal tensions long kept in check by Saddam's brutal rule. Neither the dynamics of Iraqi society nor the country's traditions were sufficiently understood by leaders in the Bush administration at the outset, and this left them inadequately prepared for the aftermath of regime change.

The plan

The operational plan for the invasion of Iraq, dubbed Operation Iraqi Freedom, relied heavily on the concept of a swift build-up of forces and rapid execution of an offensive campaign to overthrow the Iraqi government. This would be in considerable contrast to the six-month build-up of forces in Saudi Arabia in 1990 and the subsequent five-week air campaign before ground forces were launched in February 1991 to liberate Kuwait. Gone was the force structure of three corps and 380,000 troops envisioned in previous war plans. Instead, General Tommy Franks, influenced by the swift success of the invasion of Afghanistan in late 2001 and under pressure from Secretary of Defense Donald Rumsfeld to pare down the forces employed, would rely on a light-footprint approach to the war in Iraq.

Rumsfeld had issued a number of his trademark "snowflakes" (directives that showered down on his staff like snow and had to be answered expeditiously) and forced six iterations of the war plan. At the end of the process, Franks had pared down the ground-troop list to about 130,000 troops in all: most of a US Army corps and a Marine Expeditionary Force (MEF) that together comprised two Army mechanized infantry divisions (one of which would ultimately be delayed arriving in theatre and miss the fight to Baghdad), a Marine division and an accompanying air wing, an air assault infantry division, one-third of an airborne infantry division, an independent airborne infantry brigade and an attack helicopter regiment, plus various additional aviation, artillery, air defense, engineer, communications, intelligence and logistical elements. To these forces were added roughly 30,000 coalition troops, primarily a British armored division and its associated support units, and small contingents from Australia and Poland.⁵

Adding to the inherent friction associated with any such complex undertaking, Rumsfeld delayed approval of some of the forces (among them the 101st Airborne Division [Air Assault], which I commanded. In fact, I had to declare an emergency deployment readiness exercise in order to get the division's 5,500 vehicles, thousands of containers and

254 helicopters to the port in time to meet the vessels that were inbound and would take the assets to Kuwait). Rumsfeld also did not approve certain logistical forces for the 101st that were integral to the performance of critical functions until so late in the deployment process that their vehicles and equipment were not in Kuwait by the time of the invasion.⁶

The shortcomings of the plan and its associated force structure would become apparent early in the operation as order collapsed in Iraq in the wake of the toppling of the regime, though there had been warnings of inadequate "boots on the ground." In his testimony to the Senate Armed Services Committee on 25 February 2003, as forces were arriving in Kuwait to prepare for the invasion, for example, US Army Chief of Staff General Eric Shinseki offered his view – based on his experiences as commander of the US peacekeeping forces in Bosnia – that several hundred thousand troops would be required to stabilize Iraq in the wake of regime change. Two days later, however, Deputy Secretary of Defense Paul Wolfowitz dismissed such warnings, telling the House Budget Committee, "Some of the higher-end predictions that we have been hearing recently, such as the notion that it will take several hundred thousand U.S. troops to provide stability in post-Saddam Iraq, are wildly off the mark. It is hard to conceive that it would take more forces to provide stability in a post-Saddam Iraq than it would take to conduct the war itself."⁷ Wolfowitz's statement might have been true if assumptions had turned out to be valid that the Iraqis would support a war of liberation and that its institutions (especially local police and municipal governments) would remain intact after the toppling of Saddam and his senior officials. That would not prove to be the case.

In contrast to the thirty-eight-day air campaign that preceded ground operations during the Gulf War in 1991, air and ground operations in Iraq would begin nearly simultaneously, preceded only by special operations forces that infiltrated into Iraq just ahead of the invasion.⁸ Shock and awe would substitute for mass. The plan called for the US V Corps and I MEF to attack north from Kuwait on the west side of the Euphrates and east side of the Tigris, respectively, to destroy the

regime's center of gravity in Baghdad, supported by an attack by the 4th Infantry Division (Mechanized) southwards from Turkey and by the British 1st Armored Division, which would attack north from Kuwait to seize Basra, the major city in southern Iraq.

At the last minute, however, the Turkish parliament denied permission for deployment of a US division through its territory, so the ships carrying the 4th Infantry Division's armored systems, helicopters, vehicles and containers were redirected by sea to Kuwait. The two-pronged attack from north and south was thus reduced to a single operational thrust from the south, led on the west by the US Army 3rd Infantry Division (Mechanized), commanded by Major General Buford "Buff" Blount, followed by the 101st Airborne Division (Air Assault), which I commanded, and on the east, by the 1st Marine Division, commanded by Major General James Mattis. The combat elements of the 82nd Airborne Division, commanded by Major General Chuck Swannack, were to be retained at an airfield in Kuwait as the theatre reserve, with the possibility of an airborne operation to seize the major airport on the west side of Baghdad. The entire operation, from deployment through invasion to regime change, was projected to take less than six months.

While considerable effort had been devoted to planning the combat operations, much less had been put into planning post-regime-change operations to stabilize the country, leaving a huge void that would haunt coalition leaders as the months wore on. Administration officials and military planners both assumed that Iraqi people and local officials would largely cooperate with efforts to remake their government and economy and that significant assistance would be offered by the international community and non-governmental organizations, the latter an assumption that overlooked the degree of ill-will generated by the Bush administration's rush to war.

The little planning for these tasks that had taken place was conducted primarily by the Office of Reconstruction and Humanitarian Assistance (ORHA), led by retired US Army Lieutenant General Jay Garner and established only two months prior to the onset of the invasion. However, Garner, who had led an effort in the Kurdish area of

northern Iraq after the Gulf War, had little time to assemble his team and prepare plans to mitigate humanitarian disaster, stabilize the Iraqi government and oversee reconstruction of essential infrastructure. In the end, his organization lasted only a month after the onset of hostilities, as Secretary Rumsfeld grew frustrated with it and decided to replace it with another element, the Coalition Provisional Authority, leading to further confusion after the fall of the regime in Baghdad.⁹ Hindsight of course is 20/20, but there were voices raising concerns at the time, mine among them. When, during the final gathering of commanders before the invasion I asked if the ORHA leaders could provide additional information about what would happen after we got to Baghdad and toppled the regime, I was told, "You just get us to Baghdad, Dave, we'll take it from there."

Prior to the invasion, Saddam Hussein had apparently been more concerned with preventing an uprising among an unruly population than with preparing the Iraqi armed forces for an invasion that he did not believe would take place – or, if it did, would stop short of Baghdad as the international community stepped in to force a ceasefire.¹⁰ The Iraqi armed forces had, moreover, been severely degraded by years of under-resourcing, inadequate training and insufficient staffing. Two actions Saddam had taken would, however, bedevil US forces long after the invasion – stockpiling arms and ammunition in and around urban areas throughout the country, and strengthening paramilitary groups such as the Saddam Fedayeen, a force of more than 30,000 lightly armed volunteers who were loyal to Saddam and reported directly to one of his sons. The Fedayeen would present a unique set of challenges to US commanders as their lines of communication lengthened from the Kuwaiti border all the way to Baghdad (some 350 miles), and the dispersed weapons caches served to arm a nascent insurgency once the Ba'athist regime collapsed.

The invasion

Air attacks on Iraq commenced on 19 March 2003, and the ground invasion was launched less than twenty-four hours later on the 20th. Although not every aspect went according to plan - a massive dust storm brought the advance to a halt for several days well over halfway to Baghdad, and logistical challenges caused additional delays - the operation succeeded well beyond the most optimistic expectations of coalition commanders. The 3rd Infantry Division (Mechanized), advancing towards Baghdad west of the Euphrates River, and the 1st Marine Division, advancing north-east from Kuwait, ultimately crossing to the east of the Tigris, made rapid progress against Iraqi forces that were surprised by the absence of a lengthy air campaign and were largely outmatched. Ground convoys of the 101st Airborne Division (Air Assault) followed the 3rd Infantry Division, and the 101st also conducted a large air assault operation to position infantry forces and the bulk of our division's fleet of more than 250 helicopters just south of the 3rd Infantry Division elements. Meanwhile, the British 1st Armored Division advanced through southern Iraq towards the Al-Faw Peninsula, the port of Umm Qasr, Basra and the Rumaila oil fields, meeting only sporadic opposition.

The first significant resistance came in Nasiriyah, in south-central Iraq, where regular Iraqi forces and Fedayeen militia defended the city against Marine attacks to secure the vital bridges spanning the Euphrates River.¹¹ The 2nd Marine Expeditionary Brigade (Task Force Tarawa) seized the bridges after a sharp fight, while the 3rd Infantry Division, west of the Marines, headed north for the Karbala Gap, which was defended by the Medina Armored Division, a formation of the Iraqi elite Republican Guard. To open that battle, the V Corps commander, Lieutenant General William S. Wallace, ordered a deep attack against the Medina Division by thirty-two Apache attack helicopters of the 11th Attack Helicopter Regiment. On the night of 23-24 March, the Apaches maneuvered to engage their targets east of Karbala but were hit by a barrage of fire from anti-aircraft weapons, machine guns and small arms as they passed over inhabited areas. The strike

achieved little other than the destruction of a few air defense systems and gun trucks, an unacceptable trade-off considering the damage suffered by the attacking helicopters. One helicopter crashed on take-off, another was shot down and all but one of the remainder sustained damage from multiple hits, effectively taking the unit out of action for the remainder of the offensive.¹²

As the American units advanced north, they continued to run into unexpected opposition from members of the Fedayeen paramilitary forces. Dressed in either black outfits or civilian clothes, these militia elements established numerous ambushes with RPGs, mortars and small arms. Undetected by high-tech intelligence, surveillance and reconnaissance systems, the low-tech Fedayeen frustrated American combat and logistics forces, leaving Lieutenant General Wallace to declare to a reporter while visiting me at the 101st Airborne Division headquarters, "The enemy we're fighting is a bit different than the one we war-gamed against, because of these paramilitary forces. We knew they were here, but we did not know how they would fight."¹³ Likely because his comment truthfully acknowledged that not everything was going according to plan, Secretary Rumsfeld was displeased with Lieutenant General Wallace's admission, which reflected an accurate assessment of the situation. This may have been a factor that precluded Wallace's extension of command in Iraq when his tour as commander of V Corps was complete in June. This resulted in the rotation back to the United States of an exceedingly competent and experienced corps commander and his replacement by a two-star general who was promoted to three stars in Iraq to take the position. America's most important operation would thus be commanded by the junior three-star general in its ranks.

Days before the commencement of operations, special operations forces had been inserted into western and northern Iraq to hunt for Iraqi long-range SCUD missiles. Other special operations forces had been positioned well in advance in the north to coordinate military operations with the 65,000-strong Kurdish Peshmerga forces that would operate from the largely autonomous Kurdish region of northern Iraq, and to target the terrorist group Ansar al-Islam near the border

with Iran in the eastern part of the Kurdish region. Meanwhile, the American presence on the ground in northern Iraq convinced Turkey at least to open its airspace to US aircraft. That allowed nearly a thousand paratroopers of the 173rd Airborne Brigade, based in Italy, to parachute on to Bashur Airfield, north-east of Irbil, on 26 March. Within three days, the rest of the brigade and its vehicles were on the ground, followed by the tanks and infantry fighting vehicles of the 1st Battalion, 63rd Armored regiment that were airlanded after the paratroopers had secured the airfield. The paratroopers and their armored augmentation then advanced on Kirkuk, destroying elements of four Iraqi infantry divisions along the way, and took control of the city on 10 April.

A huge sandstorm that blew into southern Iraq on 24 March forced an operational pause for several days by the forces attacking to the north in execution of Cobra II, the name given to the overall ground campaign. US forces used the pause to secure their lines of communication and replenish fuel, ammunition and other supplies for the next phase of the operation, while also resting their troops after the nearly 300-mile advance in the early days of the invasion. Lieutenant General Wallace also determined that major urban areas initially bypassed would need to be secured in order to extend vulnerable lines of communication back to Kuwait, and he tasked the 82nd Airborne Division with securing Samawa, and a reinforced Marine Task Force Tarawa to clear Nasariyah. The 101st Airborne Division, under my command, was tasked with clearing Najaf, a major urban center of over 500,000 people (and the site of the holiest shrine in Shi'a Islam), as the Iraqi elements in it threatened the V Corps' lines of communication. Together, these operations did a great deal to secure extended lines of communication back to Kuwait that would otherwise have been very vulnerable.

As the sandstorm dissipated on 27 March, the main body of the 1st Marine Division headed north-east for Diwaniyah and a crossing of the Tigris River near Kut, while the 3rd Infantry Division advanced west of Najaf towards the Karbala Gap and a critical crossing over the Euphrates River (Objective Peach), which it captured after a stiff fight and a failure by Iraqi forces to completely destroy the bridges spanning the river.¹⁴

Meanwhile, my team and I were employing the 101st Airborne Division's attack helicopters to engage enemy elements ahead of the 3rd Infantry Division in deep night attacks. We also positioned the 101st's three infantry brigades in the desert west and then north of Najaf prior to ordering them to seize that city. When the several-day battle for Najaf was complete on 3 April, I radioed my boss, Lieutenant General Wallace, that I had good news and bad news. "The good news," I reported, "is that we own Najaf." "What's the bad news?" he asked. "The bad news," I responded, "is that we own Najaf. What do you want us to do with it?"

Wallace suggested that I contact the ORHA leaders (who were still finalizing preparations of their elements in Kuwait) for help. My subsequent call resulted in no assistance. At that point, it became clear that ORHA would be of no immediate use in administering areas of the country that were being liberated. As had often been the case historically, the US Army and Marine Corps would have to pick up the slack, in this case by leaving forces in the major urban areas they seized to ensure security and order.¹⁵ I subsequently had to leave a brigade to secure Najaf and areas we seized to its north. We also had to commit forces to stabilize Karbala after the fight to secure that city, home to well over 400,000 people and also the location of two extremely important Shi'a shrines, and again after seizing Hillah, another substantial city to the east of Karbala (and the site of ancient Babylon).

The endgame began on 3 April as US forces destroyed the last resistance south of Baghdad and advanced on the Iraqi capital. As V Corps considered whether to send the infantry-heavy 101st Airborne and its more than 250 helicopters to seize Baghdad International Airport, the Commander of the 3rd Infantry Division, Major General Blount, radioed Lieutenant General Wallace, affirming, "Sir, we trained for this . . . We prepared for this . . . We're ready for this. We need to go now." After a pregnant pause, Wallace replied, "Have a good fight. Victory 6, OUT."¹⁶ Colonel Will Grimsley's 1st Brigade, 3rd Infantry Division hit Baghdad International Airport (Objective Lions) with an artillery barrage and then maneuvered its armored and mechanized forces through sporadic enemy resistance to reach the facility on the west edge of Baghdad by 11 p.m. After two days of often intense fighting, Grimsley's troops cleared

the airport of its Special Republican Guard defenders.¹⁷ In southern Iraq, British forces seized Basra by 7 April with little resistance.

Leery of becoming caught up in urban combat, Wallace had intended for the 3rd Infantry Division to conduct a series of armored raids, or "thunder runs," into the center of Baghdad to weaken Saddam's hold on the city, with the goal of collapsing the regime within thirty days. In the end, it didn't take nearly that long.

On 5 April, the 1st Battalion, 64th Armor, under the command of Lieutenant Colonel Rick Schwartz, launched a thunder run into the heart of Baghdad from its position south of the city, encountering heavy fire and tough fighting but meeting little organized resistance. Despite some losses, the Task Force attacked north and then turned west onto the airport road, joining the other forces gathered at the airport by nightfall. Meanwhile, the 3rd Brigade, under the command of Colonel Daniel B. Allyn, attacked along the western outskirts of Baghdad, ultimately isolating the city from the north by the evening of 6 April. For the next sixty hours Iraqi forces attacked the 3rd Brigade positions, leading to "some of the most intense fighting of the invasion."¹⁸

Given the relative ease of the first thunder run into the heart of Baghdad, Blount ordered the 2nd Brigade commander, Colonel David G. Perkins, to attack again, but this time using the full might of the brigade. Perkins maneuvered his brigade into Baghdad on 7 April and, after fighting through tough resistance, reached the government center (what would become the "Green Zone"). This time, instead of withdrawing, he and Major General Blount made a crucial decision and stayed. Wallace was concerned that the corps was not ready to seize Baghdad completely, but he did not order a withdrawal, understandably loath to give up ground that Perkins' brigade had fought hard to take.

Meanwhile, the 1st Marine Division, east of Baghdad, crossed the Tigris River and attacked west into the eastern part of the city to link up with Colonel Perkins' brigade in the center. On 10 April, Allyn's brigade north of Baghdad attacked south into the city, joining Perkins' brigade as well. With the better part of two divisions' worth of combat power occupying the heart of the Iraqi capital, the regime collapsed. The remaining Iraqi soldiers discarded their uniforms and went home (most

taking their weapons with them), and Saddam and his senior Ba'ath Party leaders fled.

Consolidation

Although the regime had crumbled and coalition forces now occupied two of Iraq's three largest cities, the northern part of the country, including the most populous Sunni areas and the city of Mosul, remained to be secured. The 1st Marine Division continued its movement north into Diyala and Salahadin Provinces to secure the cities of Baqubah, Samarra, Tikrit and Bayji, ahead of the arrival of the 4th Infantry Division (Mechanized), which had landed in Kuwait and was making its way north to relieve the Marines. Meanwhile, US special operations forces, supported by considerable airpower, largely destroyed the elements of the Iraqi V Corps still defending in the north and entered Mosul on 11 April. More than 1,000 largely dismounted members of the 26th Marine Expeditionary Unit were then flown in from the Mediterranean to assume control of the city; however, they proved insufficient in number, especially after a large demonstration against a Ba'ath Party loyalist who had declared himself mayor threatened the Marines guarding the governance center in the heart of the city. The resulting death of seventeen civilians touched off further upheaval in Mosul and forced the Marines' withdrawal to the outskirts of the city.

Well to the east of Mosul, Peshmerga forces had entered Kirkuk ahead of US special operations forces, though that situation was precarious until the arrival of the 173rd Airborne Brigade. Simultaneously, other special operations forces began to establish checkpoints and roadblocks on Iraq's western border, although much of Al-Anbar Province west of Baghdad remained ungoverned territory until the arrival of a brigade of the 82nd Airborne Division, followed by the US Army's 3rd Armored Cavalry Regiment in late April, though neither unit contained enough combat power to control the huge area assigned to it.

It became increasingly clear, at least to those on the ground, in mid-April that much more force was needed in northern Iraq to quell

growing demonstrations, looting and lawlessness – and also to rein in the Kurdish Peshmerga that had encroached on Nineveh Province – as well as to provide the capacity to establish security, restore essential services and institute governance in that vast area of Iraq. Accordingly, Lieutenant General Wallace decided to deploy the 101st Airborne Division – which had the helicopters required to rapidly air-assault substantial forces to the province, starting with Mosul, the capital. That decision would leave in Baghdad only the 3rd Infantry Division (which was scheduled to be replaced by the 1st Armored Division in June) and would impact operations in the Iraqi capital in the months ahead. Nevertheless, the “Screaming Eagles” of the 101st made the jump north beginning on 22 April and we quickly established ourselves in Mosul and throughout Nineveh Province, as well as positioning small elements in each of the three major cities of the Kurdish region.

As I led the 101st Airborne Division into Iraq and watched many of the assumptions that had been made before the war invalidated, I rhetorically queried the reporter embedded with me, military historian Rick Atkinson, “Tell me how this ends?”¹⁹ Now my division and I were responsible in part for providing an answer to that all-important question – one I was destined to hear again and again over my subsequent seven years in Iraq and the greater Middle East.

With the fighting now largely ended, US and UK commanders wrestled with challenges unforeseen by the pre-invasion wargames – which had broadly assumed local Iraqi cooperation with and assistance to the occupying forces and that additional reconstruction and governance activities required would be turned over to agencies outside of the Department of Defense and to international organizations. It was increasingly apparent that insufficient effort had been put into planning for so-called “Phase IV” operations that would stabilize Iraq following regime change. What planning there had been was overwhelmingly focused on humanitarian operations rather than on the establishment of wide area security, repairing critical infrastructure, re-establishing basic services and instituting governance – all issues that had been given inadequate attention by the planners and leaders at the most senior levels.

Of these, security was the most important issue. With the collapse of the regime, all order broke down and destructive looting ensued. Iraqis destroyed Ba'athist regime and government facilities and residences and ransacked public buildings, often stripping them down to nothing more than concrete shells, even taking roof tiles and plumbing fixtures and tearing copper wire from the walls. Meanwhile, Ba'ath Party operatives and others plundered the numerous arms caches that Saddam had dispersed throughout Iraq in the years after the Iran-Iraq and Gulf Wars, providing the wherewithal for a future insurgency. Given these developments, it quickly became clear that the coalition forces lacked not just the number of soldiers needed, but the rules of engagement, equipment and training for the kind of operations that would enable them to stop the mayhem, as nowhere near enough Iraqi police remained on the job to deter destructive vandalism and theft. Secretary of Defense Rumsfeld brushed the issue aside with the dismissive comment, "Freedom's untidy."²⁰ This seemed more than a bit flippant to those of us on the ground, especially given the challenges Rumsfeld had injected into the planning process by delaying the deployment of critical logistical elements prior to the invasion, some of which were just joining us with their vehicles and equipment.

Lacking a comprehensive plan for the situation in which they found themselves and receiving minimal guidance from their higher headquarters in Baghdad, individual division commanders employed a variety of techniques to chart the way ahead. In Nineveh Province, the 101st Airborne Division quickly established security, held provincial and district caucuses and elections, formed a multi-ethnic, multi-sectarian governing council, reopened the border with Syria, began training police and other local security forces and used confiscated Iraqi funds to jump-start the economy, promote business deals and repair local infrastructure – the latter being efforts that would later be funded by the US Congress as the Commander's Emergency Response Program (CERP). Other divisions did likewise, though some focused more heavily on security, which unquestionably was job number one and the foundation on which all else depended, but which was nonetheless typically solidified by other, non-military tasks. As the magnitude of the stability

operations undertaking became clearer, the need for civil affairs, military police, engineer and medical units quickly dwarfed the US military's capacity and available force structure. Substantial numbers of private contractors were used to fill many of the gaps, but these substitutes came with additional challenges such as differing rules of engagement, capability shortcomings and issues of indiscipline and lack of accountability.

In retrospect, it is obvious that the planning for the post-conflict phase, the organizations established to perform the necessary tasks and the assumptions about Iraqi assistance were inadequate and flawed. And these shortcomings would be compounded enormously by subsequent decisions made in May 2003.

Losing the peace

In early May, frustrated by the lack of progress, the Bush administration decided to replace the ineffective ORHA with what would become known as the Coalition Provisional Authority (CPA), led by former US Ambassador L. Paul "Jerry" Bremer III.²¹ Bremer was unquestionably very intelligent; however, he lacked any significant knowledge of Iraq or the wider Middle East and proved to be an unfortunate choice for the job. His first three major decisions after arriving in Iraq, taken without consultation with those of us who had been on the ground for two months already, all but ensured that a virulent insurgency would erupt in the months ahead.

Bremer's first decision was to order an extensive de-Ba'athification of Iraq society, which cut too deeply into the Iraqi social fabric. Instead of forcing from public life just the top two layers of the ruling Ba'ath Party – around 6,000 members of Saddam's regime and his top lieutenants – the order axed the top four layers, removing from their positions 85,000–100,000 Iraqis, most of whom had joined the Ba'ath Party as a prerequisite to employment and were advanced largely automatically. These included civil servants, doctors, engineers, university professors, schoolteachers and other professionals – the very people that US war plans had assumed would remain in their positions to provide

continuity in government and to enable basic service restoration and reconstruction of Iraq. The order denied them government employment, pensions and, in many cases, their government-provided housing and car, as well as meaningful participation in civic life. With exceptions to the order controlled by a de-Ba'athification commission chaired by the highly sectarian Shi'a leader Ahmed Chalabi, an expatriate Iraqi who was closely connected to influential members of the Bush administration and who had returned to Iraq in the wake of the invasion, the process was draconian.²² The CIA station chief told Bremer that if he followed through with the order, "By nightfall, you'll have driven 30,000 to 50,000 Baathists underground. And in six months, you'll really regret this."²³ His estimate was an undercount by an order of magnitude or more.

The second fateful decision was to disband all Iraqi security organizations, including the Iraqi Army. Bremer claimed that Iraqis despised these instruments of regime control and that he was just acknowledging the obvious, as most soldiers had discarded their uniforms and gone home.²⁴ However, the hatred levelled at the Republican Guard and regime loyalist organizations was not directed at the sizeable Iraqi Army, which was seen by many Iraqis as their only true national institution. Indeed, coalition leaders had planned to use that Army to help secure the country after the fall of the regime. Though Iraqi soldiers had eventually melted away in combat, many leaders had re-emerged after the collapse of the regime and a very considerable number of soldiers could have been easily recalled with the right initiatives. This would have alleviated the enormous deficit of boots on the ground when order broke down. Instead, Iraqi officers and soldiers alike were dismissed, deprived of their positions, their pensions and their place in society. It took five increasingly violent weeks of enormous demonstrations before Bremer agreed just to provide stipends and back pay, using money captured during the invasion, to the former members of the military. After an exceedingly tense and dangerous demonstration in Mosul the fifth week after the military was fired, in which many thousands of former soldiers with weapons gathered in the square around the governance center, I engaged with the demonstrators using a loudspeaker

system and promised to fly immediately to Baghdad and convey their concerns if they dispersed peacefully, which they did. I subsequently flew to Baghdad and located the individual under Ambassador Bremer overseeing security sector reforms. "Your policies are killing our soldiers," I told him bluntly. "We must pay the former Iraqi soldiers stipends to enable them to take care of their families." Ambassador Bremer approved that recommendation within a week and it was implemented shortly afterwards, staving off a major crisis. Unfortunately, by the time stipends were announced, enormous damage had been done and many of the former members of the military had begun to take matters (and their weapons) into their own hands and entered the ranks of the nascent insurgency.

With these two decisions, Bremer had gone beyond regime change to destroy the Iraqi state and to create the political and military foundations for the insurgency. Unfortunately, President Bush and the National Security Council had not discussed nor considered the potential effects of these decisions.²⁵

Bremer's third decision was to govern as a viceroy through an appointed Iraqi Governing Council (IGC), rather than holding local elections to build interim governance from the ground up, as some of us had already been doing in the areas for which we were responsible. This was a much more debatable decision, as it would have taken considerable time to set the conditions for free and fair elections countrywide and to conduct them properly. Nonetheless, this decision inevitably created enormous challenges as well. The Governing Council included representatives from most of the major ethnic and sectarian elements, as well as existing Iraqi political parties (several of which had been clandestine or in exile under Saddam), but left out a number of important players, such as Shi'a leader Muqtada al-Sadr and his adherents, as well as influential representatives of the Sunni community. Essentially, the Governing Council was automatically making winners and losers in the new Iraq by creating fiefdoms within the Iraqi government to provide jobs to their supporters. It was not a coincidence that people left out of the system viewed it as foreign-imposed and corrupt, and Shi'a militias beholden to the fiery cleric Sadr would soon pose as big a challenge to

stability in Iraq as the growing Sunni insurgency. Moreover, Bremer began to put the brakes on democracy initiatives at local levels that I and others had been pursuing and instead focused on building a new Iraqi government from the top down through the creation of a Transitional Administrative Law. This inevitably lacked the necessary bottom-up legitimacy and sense of representation needed to unify the Iraqi people behind the new government. In addition, Bremer alienated the leaders of Iraq's tribes, a critical element of Iraqi society, by deciding that they were another relic of the past that had no place in the new Iraq, an action that would not be reversed until the beginning of the Anbar Awakening in mid-2006 and the conduct of the Surge in 2007. Bremer's decisions reminded us of the importance of ensuring that policies (and operations) did not create more enemies than they took off the battlefield by their implementation.

The first roadside bombs, or improvised explosive devices (IEDs), targeted American soldiers in April, followed shortly thereafter by the first car and truck bombs that could bring down the façades of entire buildings. Foreign fighters and terrorist operatives, sensing an opportunity to kill Americans, began to flock to Iraq in increasing numbers. US and other coalition forces battled to stem the rising tide of violence, but there simply were not enough security forces available to protect the population and also root out the operatives of a growing insurgency. The robust, seasoned land component headquarters that coordinated the invasion forces departed Iraq in June, and was replaced by a combined joint task force (CJTF-7) under the command of Lieutenant General Ricardo Sanchez – who was promoted in Baghdad and assumed command of V Corps (which formed the nucleus of CJTF-7) from Lieutenant General Wallace on 14 June.²⁶ Both he and his headquarters lacked the bureaucratic heft required to manage the many tasks associated with stabilizing the country, a situation made worse by unclear lines of authority and the development of a strained relationship between his headquarters and Bremer's. Throughout its existence, CJTF-7 struggled to develop a strategy and associated operational concepts to address the challenges it faced increasingly from the developing Sunni insurgency and extremist groups and the nefarious

activities of Shi'a militia elements. Given the inadequate number of US and coalition forces, it was also increasingly clear that Iraqi military and police elements needed to be reconstituted. To address this task, Major General Paul D. Eaton was brought to Iraq from the US Army's Infantry Training Center to establish a Coalition Military Assistance Training Team, but it and its affiliated organization, the Civilian Police Assistance Training Team (headed by a British civilian official), were vastly under-resourced. Moreover, the goal of creating just nine brigades (a total of twenty-seven infantry battalions) over a period of two years was a far cry from what was needed to help defeat the insurgency and eventually take over the security tasks in Iraq once US forces withdrew.

Despite these headwinds, there were some successes. On 22 July, soldiers of the 101st Airborne Division's 2nd Brigade and special operations forces killed Saddam's sons Uday and Qusay in Mosul. The 1st Armored Division defeated the insurgency's first Ramadan offensive in Baghdad in October and November. And most importantly, special operations forces working with the 4th Infantry Division captured Saddam Hussein in a spider hole south of Tikrit on 13 December. These accomplishments temporarily took some wind out of the sails of the Sunni insurgency, which might have shrivelled altogether had Bremer and the IGC made an effort to placate the Sunni community by establishing a national process for reconciling with the lower-level former Ba'athists and to more aggressively rebuild the Iraqi Army. Sadly, they did not.²⁷

The April uprising

Rumsfeld, meanwhile, took advantage of the relative calm to begin to draw down US forces in Iraq in the 2004 spring rotation, from the 125,000 soldiers still on the ground to just 95,000, while non-US coalition forces would drop from 35,000 to 25,000.²⁸ Since the Iraqi Army had been disbanded and there were still major shortages of police, however, there were simply not enough troops in country to protect the Iraqi people and deal with the growing insurgency, Shi'a militia challenges and rising criminality. We were, in essence, reducing numbers

just when we should have been ramping up. In northern Iraq, the situation was particularly acute when the three infantry brigades of the 101st Airborne Division and its 250 helicopters were replaced by a much less capable reinforced Stryker infantry brigade and a small aviation element overseen by a modest headquarters under a one-star general in early February 2004, the overall element less than one-third our size. The situation was compounded when, shortly after I left Mosul in early February 2004, Ahmed Chalabi, the Iraqi head of the de-Ba'athification Commission, disapproved my long-pending recommendations for reconciliation with the many thousands of former Ba'ath Party members we had needed (and had been using) to run the Ministry elements, hospital, university and other government entities in Nineveh Province. With Chalabi's actions, Baghdad was doing the opposite of what we should have been doing, and further inflaming a deteriorating situation.

Meanwhile, General John Abizaid, the Commander of US Central Command, the headquarters that oversaw operations in Iraq and the greater Middle East, began to assess that US forces were becoming part of the problem as opposed to part of the solution. In his view, the longer US forces remained embedded among the Iraqi people, the more the insurgency would gain strength. This was not an unreasonable concern; I had often noted that "Every army of liberation has a half-life before it becomes an army of occupation." But the question was one of timing in various areas and whether adequate Iraqi forces existed to take over security tasks from the Americans. Regardless, by early spring 2004, US forces began a slow progress that, over the next two years, would result in a reduction of numerous positions inside Iraqi cities to consolidate on large forward operating bases mostly on the outskirts.²⁹ Again, this view was not without some logic as long as violence remained relatively low; however, over time (especially when sectarian violence escalated in 2006), the repositioning and handover of security tasks to Iraqi forces of still limited capacity would lead to a vacuum of security inside Iraqi cities. And that vacuum would, increasingly, be filled by Sunni insurgents, Shi'a militias (some supported by Iran) and the increasingly lethal terrorists of al-Qaeda in Iraq (AQI).

The deceptive calm in Iraq came to an end on 31 March 2004, when four American civilian contractors took a wrong turn and drove their SUV into Fallujah, a Sunni stronghold just west of Baghdad, where they were killed by an armed mob who hung their charred bodies from a bridge in the center of the city. Incensed by this brutal action, Bush and Rumsfeld demanded an operation to apprehend the perpetrators. The Marine commander, Lieutenant General James Conway, argued for patience, believing a full-scale assault would be counter-productive. Ordered nonetheless to attack, the Marines began an assault on the city. The operation turned into a public relations nightmare, however, with Arabic news media accusing US forces of war crimes and several members of the IGC threatening to quit if the offensive was not halted. Bremer got cold feet and ordered a ceasefire just when the Marines were on the verge of securing the city. Sanchez thus had to order the Marines to withdraw, leaving the city under the de facto control of Sunni insurgents, who claimed victory. In the next few months, al-Qaeda fighters led by Abu Musab al-Zarqawi, a particularly effective (and brutal) Jordanian jihadist and leader, would turn Fallujah into a terrorist haven, complete with bomb factories and torture chambers.³⁰

To make matters worse, for the first (and only) time in the war, Sunni and Shi'a militants coordinated their attacks against coalition forces. The Jaish al-Mahdi (JAM), a substantial Shi'a militia beholden to Sadr, rose up in early April to attack US troops in Sadr City, a large, densely populated Shi'a area of north-eastern Baghdad, and to sever the coalition supply line that ran from Baghdad to Kuwait by destroying bridges and ambushing convoys along the route. The few battalions of new Iraqi security forces available, upon which the coalition strategy increasingly rested, proved wholly ineffective. As coalition forces defended against hundreds of insurgent and militia attacks in Samarra, Baqubah, Baghdad, Ramadi and Fallujah, as well as across south-central Iraq, their stocks of food, fuel and ammunition dwindled to dangerously low levels. The 1st Armored Division, which was in the process of redeploying at the end of its year-long deployment, was ordered to assist in restoring the situation. With its tour in country extended from twelve to fifteen months, the division sent battalion task

forces to destroy militia concentrations in Najaf, Karbala and Kut, and to reopen the main supply route to Kuwait.³¹ US forces counter-attacked to defeat Sunni insurgents and Shi'a militia forces and regain control of other Iraqi cities that had been besieged. But, just before his militia was destroyed, Sadr negotiated a ceasefire to temporarily end the fighting – a decision that enabled him to claim victory and that would come back to haunt the coalition in the years ahead.

The Sunni insurgency and Shi'a jihadists also targeted other members of the coalition in areas that had previously been calm. An attack on the Italian headquarters in Nasiriyah in southern Iraq on 12 November 2003, followed four months later by an attack by al-Qaeda suicide bombers on commuter trains in Madrid on 11 March 2004, ultimately led both Italy and Spain to withdraw their forces from the war. Honduras and the Dominican Republic also removed their forces from the Multi-National Division in south-central Iraq. As violence spread throughout Iraq in April, other national contingents responded by withdrawing into their bases, leaving their areas without effective security forces.³² These attacks ended whatever chance there was that US forces could be replaced in Iraq by an international peacekeeping force.

As these battles raged, plans were finalized for the dissolution of CJTF-7 and its replacement by Multi-National Force-Iraq (MNF-I), a strategic-level, four-star headquarters that would be commanded by General George W. Casey Jr. and would be focused on politico-military affairs and overall strategy for the war, and the Multi-National Corps-Iraq (MNC-I), a three-star headquarters commanded by Lieutenant General Thomas F. Metz that would focus on operations on the ground to subdue the insurgency and stabilize the country. The two new headquarters were established in mid-May and order restored in time for CPA to transfer sovereignty to a newly established interim Iraqi government under Prime Minister Ayad Allawi on 28 June, after which CPA was replaced by a US embassy under Ambassador John Negroponte, a seasoned and highly respected diplomat.

CPA had been hobbled by inconsistent, constantly rotating staffing and lack of capacity throughout its tenure. On reflection, it appears to have been established because of Defense Secretary Rumsfeld's desire

to control the effort in post-war Iraq through an ad hoc organization that reported to the Pentagon rather than establishing a US embassy, which would have meant having to share control of the war with Secretary of State Colin Powell, to whom the new US Ambassador naturally would report.³³ It had been an unwise decision. The prompt establishment of a US embassy in Baghdad, with experienced diplomats and development workers, would have been vastly better than the ad hoc team that was the CPA.

US credibility was further eroded in the spring of 2004 when news outlets published photos of prisoner abuse at Abu Ghraib, a former Iraqi prison just west of Baghdad that was being used for detainee operations by American forces. The exposure of the criminal acts by members of the 800th Military Police Brigade shocked the world and incentivized large numbers of Iraqis and others to join the insurgency. A subsequent US Army investigation substantiated widespread and systematic prisoner torture and abuse at the facility and resulted in the courts-martial and conviction of eleven soldiers.³⁴ In the aftermath of the scandal, public support for the war in the United States and among its coalition partners plummeted, and photos of the abuse released online would become indelible images of the US effort with repercussions throughout America's time in Iraq and beyond.

Urban battles

The United States, limited to that point by a short-war mentality, was now stuck in Iraq without a truly viable strategy to defeat the insurgency and disengage from the conflict. The focus on rapid, decisive operations had resulted in regime change at a modest cost in blood and treasure, but American policymakers and forces had been unprepared for the messy aftermath. Military leaders at that point, in essence, adjusted their tactics, unsure of what was required to stabilize Iraq and secure its people. Rapidly formed units of the Iraqi Civil Defense Corps, intended to be a stopgap until the establishment of a new Iraqi army, had lacked cohesion and melted away when they came under fire during the April uprising, as had the initial battalions of the Iraqi Army that

had been hurriedly trained and equipped. US commanders had been focused on rooting out and apprehending Saddam's "former regime elements," but it was becoming increasingly clear that the infusion of Sunni foreign fighters and the growth of homegrown insurgent and militia forces, as well as the emergence of ethnic and intra-sectarian tensions, were changing the character of the conflict.

One of the most powerful of the new groups was Tawhid wal-Jihad, a terrorist organization led by Abu Musab al-Zarqawi that would evolve into al-Qaeda in Iraq (AQI). Zarqawi's strategy was to attack the Shi'a and their religious sites in an attempt to ignite a sectarian civil war, which would force Sunni Arabs to back AQI elements as their defenders of last resort. In large part, it worked. In August 2003, AQI truck and car bombs targeted the Jordanian Embassy, the United Nations headquarters in Baghdad and the Imam Ali Mosque in Najaf. These attacks killed hundreds of people as well as UN Special Representative in Iraq Sérgio Vieira de Mello and the prominent Shi'a cleric and politician Mohammed Baqr al-Hakim. From that point onward until the group's demise during the so-called Surge in Iraq from early 2007 to the summer of 2008, Zarqawi and his adherents wreaked havoc, tearing apart the very fabric of Iraqi society and plunging the country into a full-blown Sunni-Shi'a civil war. The blows they struck also meant that the expected involvement of international organizations in Iraq would not materialize, as the security threats were seen as too great to allow the establishment of such elements in the country. Even the United Nations headquarters in Baghdad closed for a period after the terrible attack in August 2003.³⁵

Coalition hopes for a way out of the quagmire in Iraq in 2004 increasingly came to rest on nationwide elections for a new government planned for early 2005, with the hope that the outcome would be seen as more representative of all Iraqis and thus more legitimate in their eyes. This strategy rested on the assumption that all groups in the country would view the elections as legitimate, participate in them and respect the results. Sadly, that would not be the case with most Sunni Arabs. Rather than participate in a process that would inevitably give power to the Shi'a majority, significant numbers of Sunnis decided to

opt out of voting and instead back the insurgency, which they viewed as legitimate resistance to a foreign-imposed order that had displaced the Sunni-led regime of Saddam Hussein. Additionally, the distribution of seats in the Council of Representatives by a party's share of the vote rather than by election of individual politicians vying for individual seats would exacerbate civil tensions as Iraqis largely voted along ethno-sectarian lines.

The creation of effective military and police forces was also increasingly seen as a critical prerequisite for coalition withdrawal from Iraq. To oversee this effort, coalition leaders established the Multi-National Security Transition Command-Iraq (MNSTC-I) in the summer of 2004. I was promoted to lieutenant general and returned to Iraq to command it - and to implement recommendations I had provided to General Abizaid and Secretary Rumsfeld after an assessment in Iraq I conducted following the violence that April and the general failure of Iraqi forces. The development of all Iraqi security forces was now centralized under one command, but significant challenges remained, not the least of which was a lack of funding and advisers to embed with Iraqi Army and police forces, and the necessity of building our headquarters and multiple subordinate headquarters to oversee the tasks of helping the Iraqis rebuild their Ministries of Interior and Defense and hundreds of thousands of military, police and other security forces. The US Army ultimately created an advisory center at Fort Riley, Kansas, in 2005 to prepare adviser teams for deployment to Iraq, but institutional support for the advisory effort at the outset was late and inadequate, with personnel from US Army Reserve training units assigned to advise the new Iraqi units on operations in combat that few of the adviser team leaders, however energetic and determined, had ever conducted themselves in peacetime, much less in combat.

MNSTC-I focused on quickly adding combat capability to deal with the growing insurgency, which meant that Iraqi logistical capacity and institutional capability to oversee and administer the armed forces lagged well behind their growth. In the interim, Iraqi units would have to rely on contractors, fixed base logistics, local Iraqi civilian capabilities and coalition units for much of their supply,

maintenance, medical care and non-infantry combat support capabilities. Additionally, after the transfer of sovereignty to the elected Iraqi government in early 2005, MNSTC-I lost its power of promotion and dismissal. Unfortunately, that led to an insidious rise of sectarianism within the ranks as Iraqi politicians meddled with the makeup of the officer corps, favoring those from their ethnic, sectarian, tribal and political groups.

In the meantime, the Sadrist presence in the holy Shi'a city of Najaf, the lack of coalition control in predominantly Sunni Arab Samarra (north of Baghdad) and a Sunni insurgent/extremist-controlled Fallujah remained threats that needed to be addressed. An early-August 2004 gunfight in Najaf between a Marine patrol and JAM fighters led to a larger operation involving a Marine expeditionary unit and two battalions of the 1st Cavalry Division to clear the city. The fighting in Najaf, particularly in the massive cemetery near the Imam Ali shrine, severely weakened the JAM and forced Sadr to retreat once again via a ceasefire brokered by Grand Ayatollah Ali al-Sistani, the supreme Shi'a religious figure in Iraq. In a welcome development, the impressive interim Prime Minister Dr. Ayad Allawi was supportive of the operation, as he was of subsequent confrontations in Samarra and Fallujah, north and west of Baghdad respectively. With his backing, the 1st Infantry Division also cleared Samarra in a multi-battalion operation in October.

Fallujah, which had festered under insurgent control since April, would require a much larger operation and prove the most challenging. By the autumn of 2004, more than 4,000 Sunni insurgents, extremists and foreign fighters had populated Fallujah after the collapse of the coalition presence in the city, declaring the imposition of sharia law and forcing Shi'a Iraqis to flee. US leaders, conscious of their failure to win the battle of the narrative in the April fighting, focused on ensuring accurate information in the offensive operation they would conduct by embedding reporters in combat units and ordering the early seizure of the city's hospital to preclude disinformation emanating from there about civilian casualties. Military shaping operations then isolated the city, killed key insurgent leaders and convinced the majority of the civil-

ian population to evacuate until the completion of the operation, thereby significantly reducing civilian casualties.³⁶

On the evening of 8 November, two Marine regiments reinforced by two US Army mechanized infantry task forces and six newly trained Iraqi Army and police battalions assaulted the city. The Marines and soldiers moved block by block, house by house in urban combat that tested their strength and endurance.³⁷ They eliminated organized resistance in five days, although Marines continued to clear small pockets of resistance in the weeks that followed. The fighting devastated the city's buildings and much of its infrastructure, however, dissuading many of the local inhabitants from returning. And disappointingly, with the exception of the 36th Commando Battalion, the Iraqi units proved relatively ineffective in close combat. It was clear that more rigorous training was required for the new units. Fifty-seven Marines and six soldiers were killed in the battle of Fallujah and 600 wounded. The insurgents lost nearly 2,200 killed and more than 2,000 captured in what was the largest battle of the Iraq War.

While the battle for Fallujah raged, Zarqawi's fighters and local insurgents took advantage of the relative dearth of coalition troops in Nineveh Province to seize Mosul and Tal Afar on 10 November. Iraqi forces established there largely collapsed under the pressure, while the one US brigade left in the area was seriously stretched. After regaining situational awareness, the elements of Task Force Olympia, the headquarters in charge of Nineveh Province, reinforced by a Stryker battalion and two newly established Iraqi Special Police commando battalions from Baghdad, counter-attacked and regained control of Mosul after tough fighting. The city's police force of 4,000, however, had been devastated by the battles and would largely have to be rebuilt.

Nevertheless, the operations across Iraq from August through November 2004 had established the preconditions for holding the national elections of early 2005, upon which the fate of the coalition's strategic plan rested. And a critical decision by the exceedingly capable US Ambassador John Negroponte, who acted decisively to shift \$1.8 billion from other priorities to fund MNSTC-I's still under-resourced effort to recruit, train, equip and organize elements of the Iraqi

Ministries of Defense and Interior, would enable provision of increased numbers of Iraqi boots on the ground and supporting infrastructure that would prove crucial in providing security for the elections.

Clear, hold, build

The elections held on 30 January 2005 proceeded smoothly but they were not the magic bullet for which some had hoped. That idea rested on the assumption that all groups in the country would view the elections as legitimate, participate in them and respect the results. Sadly, that would not be the case with most Sunni Arabs.

An assemblage of Shi'a Islamist and Kurdish parties garnered the most votes but could not agree on a candidate for the most important position of prime minister. Ayad Allawi, the interim Prime Minister who had performed impressively under difficult circumstances, continued in office as a lame duck for four months of squabbling until the selection of his successor, Ibrahim al-Jaafari. Predictably, the political winners (mainly Shi'a and Kurds) would use the levers of government to exclude their enemies (mainly Sunni Arabs) from sharing in the power and resources of the new Iraqi state. And significant Shi'a control over the Defense and Interior Ministries (even though a Sunni would be the Minister of Defense) would lead to the creation of state-sponsored forces that would deliberately target the Sunni community. The conflict would thus continue largely unabated.

As the war carried on, General Casey began to adjust MNF-I's strategy.³⁸ Although he included the term "counter-insurgency" in the MNF-I mission statement and brought counter-insurgency advisers Kalev Sepp and Bill Hix to Iraq to establish a counter-insurgency academy in the spring of 2005, Casey had begun to conclude that the struggle had fundamentally changed into a competition for power and resources among a variety of Iraqi factions. Since, in his view, the war had morphed beyond an insurgency against the Iraqi government, Casey decided that counter-insurgency principles were somewhat less central to the campaign. He thus emphasized MNF-I's focus on building Iraqi Army and police and beginning to transition responsibility of security

operations to them – a strategy neatly summed up by President Bush on 28 June in a speech to the troops: “As the Iraqis stand up, we will stand down.”³⁹ In hindsight, however, this shift would be premature – especially over the following year, as the violence escalated precipitously in the wake of a significant attack on a Shi’a shrine and as the still young Iraqi forces were progressively degraded by that escalation.

Increasing numbers of Iraqi security forces were certainly helpful, but in the near term they were not fully capable and could not contend with the more numerous and capable insurgent and militia forces populating Iraq. Leaders of the Shi’a JAM, humbled by numerous defeats in 2004, reached out to the nefarious but capable Iranian Revolutionary Guards Corps (IRGC) Quds Force Commander Qasem Soleimani for training and arms. Meanwhile, the Sunni insurgency leaned more heavily on foreign fighters from across the Arab-Islamic world, jihadists who brought their extreme views on Islam with them to Iraq – and whose ranks included substantial numbers of would-be suicide bombers. The Iranians supplied their Iraqi protégés not just with additional small arms, ammunition, explosives and rocket-propelled grenades, but also, most worryingly, with explosively formed projectiles (EFPs), an extremely lethal form of improvised explosive device that could slice through the armor of a main battle tank. Ultimately, EFPs would kill more than 600 American soldiers in Iraq. The Sunni jihadists, meanwhile, relied heavily on suicide attacks, whether delivered by individual suicide bombers wearing explosive vests or by those driving cars and trucks full of explosives. The intent of both was to kill as many coalition soldiers and Shi’a Iraqis as possible. In retaliation, Shi’a militia groups such as the JAM targeted Sunni communities, carrying out operations that forced sectarian displacement and further stoked the flames of civil war.

During these darkest days of the war, there were initiatives that pointed a way forward. In May 2005, the US Army’s 3rd Armored Cavalry Regiment was deployed north to Tal Afar as part of a campaign to control western Nineveh Province and Iraq’s western border with Syria in order to stem the flow into Iraq of foreign fighters and jihadists. The talented regimental Commander, Colonel H. R. McMaster, partnered

with a very capable police chief (a former senior Iraqi Army officer), Najim Abed Jabouri, whom he then appointed as the city mayor. For the next nine months, McMaster and his regiment conducted a comprehensive counter-insurgency operation to isolate Tal Afar, clear it of its extremists and protect the population from violence by establishing numerous combat outposts within the city, and then going on to repair damaged infrastructure, restore basic services and revive the local economy.

Marine Lieutenant Colonel Dale Alford, similarly versed in classical counter-insurgency practices, used a comparable approach with the 3rd Battalion, 6th Marines in Al-Qa'im along the Iraqi-Syrian border in Anbar Province. The central concept of these operations, known as clear-hold-build, would subsequently be endorsed in a major speech by Secretary of State Condoleezza Rice. This was much to the consternation of Defense Secretary Rumsfeld, wedded to the strategy of transitioning tasks to Iraqis that he still believed was working. Adopting a fully resourced counter-insurgency strategy such as that previewed by McMaster in Tal Afar would require far more resources, and Rumsfeld was not about to advocate sending reinforcements to a conflict he increasingly viewed as fundamentally unwinnable by American forces.

The promulgation of a new constitution for Iraq and new parliamentary elections in the autumn of 2005 led to further alienation of the Sunni community, which had voted overwhelmingly against the country's new foundational law. Adding to the challenges was the selection in May 2006, after an extended period of political turmoil, of Nuri al-Maliki as the prime minister. Maliki was the candidate of the Dawa Party (known for its Shi'a conspiratorial inclinations) and was supported, initially, by Muqtada al-Sadr. At the time the parliament settled on him as a compromise candidate, he was a figure, in the eyes of many, whose "strength was his weakness." Over time, however, repeating a pattern we have seen in Vietnam, Afghanistan and other countries, Maliki would aggressively gather the reins of power in his hands and transform into an increasingly dictatorial and mercurial figure rather than the unifying leader so desperately needed in a country through

which ran so many of the ethnic, sectarian and tribal fault lines of the Middle East. Following the elections, General Casey continued the MNF-I strategy of transition, which now included the very helpful addition of civilian-led Provincial Reconstruction Teams to help with improving infrastructure, governance, basic services and the economy across Iraq. The plan was for the coalition force to gradually shrink as Iraqi forces progressively took control of security, with reductions of two brigade combat teams and other elements planned for early 2006.

The 2006 elections had given some on the outside reason for hope, based on the increased voter turnout. But the lack of full visibility into, and understanding of, social and security dynamics hid a darker truth: Iraqi society was a powder keg ready to explode.

Civil war

Coalition assumptions of progress in Iraq came crashing down on 22 February 2006 when AQI destroyed the Al-Askari Mosque in Samarra, a significant Shi'a shrine in a largely Sunni city north of Baghdad. The destruction of such an important Shi'a shrine by Sunni terrorists finally ignited the reaction Zarqawi had sought since the earliest days of the war. Across Iraq, Shi'a Arabs took to the streets demanding retribution and taking matters into their own hands by torching dozens of Sunni mosques and kidnapping, torturing and killing Sunnis. The killings were followed by deliberate efforts to displace residents of various neighborhoods along sectarian lines. This became, in certain areas, sectarian cleansing.

In Sunni and Shi'a communities alike, power devolved to militia, insurgent and terrorist groups with the most guns. Millions of Iraqis fled their homes, becoming refugees inside Iraq or in neighboring countries. As sectarian civil war escalated, MNF-I, which had lost a considerable amount of situational awareness of what was happening on the streets by consolidating forces on large bases and handing over security tasks to Iraqi security forces, did not immediately appreciate the magnitude of the chaos that was enveloping Iraq. Significantly, MNF-I did not change the strategic approach to the conflict or

immediately reverse the decision to reduce the number of brigades, which was projected to decline from fifteen to just ten by the end of the year.

The killing of AQI leader Zarqawi in a US airstrike controlled by special operations forces on 7 June 2005, had given coalition leaders a temporary lift; however, the demise of Zarqawi did not prove to be a fatal blow to the organization, which was too robust to be defeated by the death of one man, however capable he may have been. The episode was a reminder that counter-insurgents must avoid the belief that killing or capturing the leader of an insurgent group will cause the group's collapse. That is true only in small, immature groups. In larger organizations, such as AQI, there are always subordinate leaders ready to fill the void should the head of the group meet his end.

As sectarian conflict racked the country, MNF-I responded in the summer and autumn of 2006 with Operations Together Forward I and II, attempts to stem the rising tide of violence in Baghdad. Involving tens of thousands of troops, these operations did temporarily reduce violence in the areas of focus, but ultimately failed due to the inability of Iraqi Army and police forces to hold the areas cleared by US troops after the Americans handed over security responsibilities to them and returned to the large US bases on the edge of Baghdad. Moreover, some Iraqi forces, such as the Iraqi National Police, became part of the problem as they targeted Sunni residents and sought to intimidate them and to retaliate for Sunni extremist and insurgent attacks. Iraqi Army and police units, increasingly composed of Shi'a Arabs, had little incentive to protect Sunni areas. And Shi'a areas remained largely untouched by security force operations, giving free rein to Shi'a militias to continue to intimidate the local populations and also to prey on nearby Sunni neighborhoods. As the autumn of 2006 arrived, Shi'a death squads in and out of uniform stalked many streets in Baghdad, and the bodies of the slain floated down the Tigris River and piled up in the Baghdad morgue. Meanwhile, suicide bombers targeted Shi'a mosques and markets, adding to the carnage. More than a hundred civilians were killed every day during the month of June, a rate that would only increase as the year progressed.⁴⁰

In response to the violence, General Casey, backed by Rumsfeld and US Central Command Commander General John Abizaid, remained committed to a strategy of transition and the withdrawal of coalition forces from Iraq. Even as Operation Together Forward I commenced in the second week of July, the MNF-I staff planned the reduction of three brigades by the end of the year. Casey was convinced the problem in Iraq was political, which was absolutely correct, but he also believed that coalition forces could contribute little to the outcome of the Iraqi struggle over power and resources, which was arguable.⁴¹ In the meantime, the lack of forces also prevented the creation of an operational reserve, even as the overall strategy pulled US forces out of neighborhoods, and several areas of Iraq became insurgent and militia safe havens due to the lack of troops to clear and hold them.

As the situation in Iraq deteriorated, President Bush, to this point wholly supportive of his Defense Secretary and Commander on the ground, came to realize that the strategy of transition was not working. The descent of Iraq into communal violence continued to invalidate the assumptions upon which the MNF-I campaign plan rested. Killing Zarqawi and other insurgent leaders, the mass participation of Iraqis in the election of a government, removing coalition troops to reduce the number of "antibodies" they might produce among the local population and the transition of security operations to Iraqi control had not resolved the issues underpinning the conflict or improved the state of security. Seeking alternative approaches, Bush became much more involved in strategic discourse, and tasked his National Security Advisor, Stephen Hadley, with gathering information and developing options. As the end of 2006 approached, more than 3,000 Iraqis were dying every month as a result of ethno-sectarian-motivated violence. Until security improved and the levels of violence were driven down, politics would not be operative as the primary driver for the distribution of power and resources in Iraq.

Ramadi: the Awakening

In mid-August 2006, the intelligence officer of Multi-National Force-West (MNF-W), Colonel Peter H. Devlin, concluded in a formal assessment that coalition forces were no longer capable of controlling Al-Anbar Province, the Sunni Arab province that stretched from just west of Baghdad to Iraq's borders with Syria, Jordan and Saudi Arabia. This was a highly disturbing conclusion, and it made its way to the press in less than a month. Around the same time, however, a small bright spot began to appear in Anbar: the sheer violence and depredations of AQI prompted a reaction among some of the tribes in the area, particularly in Ramadi, where the 1st Brigade, 1st Armored Division under the command of Colonel Sean MacFarland had arrived in June after a short stint in Tal Afar.⁴² MacFarland was a gifted leader who had been employing many of the same techniques as McMaster had in Tal Afar, moving his troops off their large forward operating base and into local communities in smaller, mutually reinforcing combat outposts. There they would *partner* with local Iraqi security forces rather than transitioning control and turning neighborhoods over to them. More importantly, when approached by a local sheikh, Abdul Sattar Abu Risha al-Rishawi, who wanted to join forces with the Americans to battle the terrorists who had killed his father and two brothers, MacFarland and his key subordinates for tribal outreach, Lieutenant Colonel Anthony Deane and Captain Travis Patriquin, jumped at the opportunity. The brigade quickly enrolled hundreds of tribesmen in the local police, and then accepted the offer of other sheikhs to ally with the Americans as they saw the benefits of doing so.

Four days after the intelligence report about Al-Anbar Province was published in the press, Sheikh Sattar gathered together a coalition of tribes to begin what would become known as the Anbar Awakening, a movement that would gradually change the balance of power in Al-Anbar Province and eventually help turn the tide of conflict against AQI.⁴³ Continued outrages by AQI led forty-one sheikhs from seventeen tribes to ally with the coalition and go to war with AQI around Ramadi in September, a development firmly supported by MacFarland. The alli-

ance was just what the coalition needed: local tribes provided superb intelligence information, and local police were incentivized to defend their home territory, with the coalition providing firepower, economic assistance and other support. In late November, a brief, sharp battle eliminated the AQI presence on the eastern outskirts of Ramadi. And in February and March 2007, shortly after the beginning of the Surge in Iraq, forces under Colonel MacFarland, and then the 1st Brigade, 3rd Infantry Division, which replaced MacFarland's brigade, painstakingly cleared every neighborhood and building in Ramadi – and then held them, increasingly aided by local security forces.

Initially, MacFarland had difficulty convincing his superiors in Multi-National Force-West to support the Awakening, as the leaders in his higher headquarters were intent on engaging more senior, seemingly more significant sheikhs who had fled to Amman, Jordan, rather than those who had remained in the province and were now doing the fighting and dying there. The tension between the two approaches would not be resolved until the following February when, newly installed as commander of MNF-I, I directed full support of the Awakening movement, seeking to expand it throughout Anbar and then throughout the other Sunni areas of Iraq, including those in Baghdad. In time, with coalition support, the movement would expand west and east throughout Anbar and then east and north into neighboring provinces, and, ultimately, all the way to Mosul in the north, radically altering the dynamics of the conflict against AQI and the insurgency. Additionally, some of the mid-level leaders and very substantial numbers of rank-and-file members of certain insurgent groups were “reconciled” through a process established by MNF-I and became supportive of the Awakening, a dramatic and very welcome political development.⁴⁴

In response to the Awakening, al-Qaeda leaders formed the Islamic State of Iraq (ISI), led by Abu Omar al-Baghdadi (a pseudonym for Hamid Dawud Muhammad Khalil al-Zawi) and declared Ramadi as the capital of its new caliphate. The evolution of parts of AQI into ISI had no immediate consequences at the time; however, it would prove to be a significant development in the longer term. Seven years after the defeat of AQI during the Surge of 2007 and 2008, ISI and its successor

later, he announced a new commander for MNF-I, as well as a new ambassador, a new commander of US Central Command and a new strategy.

The Surge, as the new initiative for Iraq came to be known, featured the reinforcement of coalition forces by five US Army brigades and two Marine battalions, along with thousands of enablers such as aviation, engineer and military police units, as well as an additional division headquarters. Over time, the number would grow from the 20,000 announced by the President to nearly 30,000 troops in all, which would bring the coalition troop presence in Iraq to nearly 180,000 (of which 165,000 would be American), slightly higher than the number of troops in the initial ground invasion force. More importantly, these forces and those already on the ground in Iraq would be used differently, in accordance with a new counter-insurgency doctrine that made clear that control and protection of the population were the key to winning a counter-insurgency struggle. As part of that, defeating Shi'a militias would become an objective as important as defeating AQI and the Sunni-led insurgency – all critical tasks if the cycle of intercommunal violence in Iraq was to be broken.

The events over the next year and a half would change the strategic momentum in Iraq, leading to the defeat of AQI, the Sunni insurgents and the Shi'a militias, as well as a massive reduction in violence.⁴⁵ The results would provide Iraq and its leaders with an entirely new opportunity to resolve the challenges they faced.

The Surge was the result of President Bush's growing frustration with the strategy of transition, which had not halted the rising levels of violence in Iraq. Fuelled by this frustration, Bush had, by late 2006, come a long way in exercising the powers of his office since his initial decision to topple Saddam Hussein and subsequent "outsourcing" of the prosecution of the war to his Secretary of Defense. In response to his frustration with the situation in Iraq, three strategic reviews – by the National Security Council staff, a council of colonels convened by the Joint Chiefs of Staff and a small group under the auspices of the State Department – were conducted in the autumn of 2006 to examine alternatives to the existing strategy. Of these, it was the review overseen by

National Security Advisor Stephen Hadley that would prove critical to this change in strategy. Leveraging the input of experts from outside, as well as inside, government (including outreach on several occasions to me by Meghan O'Sullivan, Hadley's very impressive deputy for Iraq) and bolstered by a timely, influential think-tank study on how reinforcements employed in a fully resourced counter-insurgency could change the tide of the war in Iraq, Hadley's team presented a plan that offered the best opportunity for fulfilling the President's objective of decisively reversing the course of the war.⁴⁶ The President agreed, and after much back and forth with Casey, the Joint Chiefs of Staff (who were concerned that providing substantial reinforcements to Iraq would break the services – to which Bush responded, "I share your concern about breaking the military. The surest way to break the military would be to lose in Iraq") and the new Secretary of Defense, Bush went before the American people on 10 January 2007 to announce a change of strategy in Iraq and the provision of 20,000 troops to reinforce MNF-I.⁴⁷ The first Surge brigade would arrive in Iraq in late January, followed by one more each month until all were on the ground by late May.

I was nominated to command MNF-I, having already served more than two and a third years in Iraq, initially as a division commander during the invasion and the first year in Iraq and then as the first commander of the Multi-National Security Transition Command-Iraq (MNSTC-I). And since returning to the United States in late September 2005, I had, together with my Marine counterpart, Lieutenant General Jim Mattis, overseen the crafting of a new counter-insurgency doctrine for the Army and Marine Corps, which we published in December 2006.⁴⁸

As commander of the US Army Combined Arms Center at Fort Leavenworth, Kansas, from which I oversaw the bulk of the Army's schools and training centers, I had sought to "shake up the Army," as the US Army Chief of Staff, General Peter J. Schoomaker, had instructed me to do when I asked for guidance before assuming my new position. Over the subsequent fifteen months, with full support from General Schoomaker and General Scott Wallace (now the Commander of US Army Training and Doctrine Command), I worked with the leaders of

the staff college, Center for Army Leadership, Battle Command Training Program, combat arms schools and various training centers to overhaul every element of the year-long "road to deployment," the various actions taken to prepare leaders, staffs, units and soldiers for deployment to Iraq and Afghanistan. In essence, these initiatives led to considerably increased focus on counter-insurgency doctrine and operations during the schooling of commissioned, warrant and non-commissioned officers in professional development courses and also at the major combat training centers where units conducted the critical pre-deployment training exercises.

As I prepared to take command in Iraq, I was convinced that the "surge of ideas," the major concepts that would constitute the new approach in Iraq, would prove even more important than the surge of forces. The most significant of these were very different from the previous strategy. First and foremost, US forces would return to the Iraqi neighborhoods, generally in partnership with Iraqi security forces, and would "live with the people," as that was the only way to secure them. US forces also would take back control of security from the Iraqi forces.

Additionally, the Anbar Awakening would be fully supported and replicated throughout the entire country, augmented by a formal reconciliation process with insurgents and, over time, militia members. This was crucial, for as we often noted, "You cannot kill or capture your way out of an industrial-strength insurgency. You have to reconcile with as many of the rank and file as you can." Getting a Shi'a-led Iraqi government's support for reconciliation with Sunni Arabs who had tacitly or actively supported the insurgents was not easy, but it was ultimately achieved. (Of course, a substantial number of those reconciled were former Ba'athists with whom the Iraqi government could have reconciled years earlier had such a process been established.) Simultaneously, the exceptional special operators led by Lieutenant General Stan McChrystal and, later, Vice Admiral Bill McRaven, two extraordinary leaders, would capture or kill, if necessary, the "irreconcilables," the hard-core members of AQI and ISI, and the leaders of the major Sunni insurgent groups and Shi'a militias who were not assessed as reconcilable.

Detainee operations, not a trivial task (as there were 27,000 Iraqi detainees at the height of the Surge), would also have to be completely overhauled and transformed from serving as a "terrorist-training university" in which detainees were further radicalized by hard-core extremists in their midst, to an endeavor that focused on rehabilitating and training young Iraqis for return to their tribes. All that would be enabled by identifying and removing the serious extremists from the general detainee population and transferring them to maximum-security facilities that we constructed and establishing the education and training programs to reduce the recidivism rate of the rank-and-file detainees.

Finally, there would be even greater emphasis than previously on integration between the Multi-National Force-Iraq and the US Embassy team, including a significantly overhauled and fully integrated civil-military campaign plan developed by the staffs of Multi-National Force-Iraq and the Embassy and signed by both Ambassador Crocker and me.

My staff and I worked hard to ensure that our subordinate commanders understood and implemented the new concepts through the conduct of a rigorous schedule of activities on our "battle rhythm": daily morning operations updates, twice-weekly visits and patrols with tactical units conducting security operations, a weekly videoconference with President Bush and the entire national security team and another with Secretary of Defense Gates and his key staff members, a weekly meeting (together with the Ambassador) with Prime Minister Maliki, weekly attendance at Maliki's National Security Council gathering, regular meetings with the leaders of the various efforts and headquarters subordinate to MNF-I, weekly and monthly gatherings of key military commanders and exhaustive quarterly campaign-plan reviews that I hosted together with Ambassador Crocker and our respective military and diplomatic staffs, development personnel and intelligence leaders and key staff members. I also periodically published letters and counter-insurgency guidance to all the members of the Multi-National Force.⁴⁹

Ryan Crocker, the highly experienced and exceedingly talented new US Ambassador, proved the greatest diplomatic partner any commander

could have had. It was an enormous privilege to serve with him. Early on, we focused intently on overseeing the development and then implementation of the new comprehensive civil-military counter-insurgency campaign plan. The plan sought to ensure synchronization of all coalition activities across a wide range of areas, the primary focus of which would be improving security for the Iraqi people and then solidifying the security gains through various civil-military measures to improve daily lives and demonstrate to the local civilians that life would be better for them if they supported the new Iraq instead of fighting against it or supporting those who were fighting against it.

Ambassador Crocker and I also sought to work closely with Prime Minister Maliki, who initially had a very different vision of what US and coalition forces should do during the Surge. In fact, a few days after I assumed command of MNF-I in early February 2007 and before the arrival of Ambassador Crocker, Maliki's National Security Advisor, Dr. Mowaffak al-Rubaie, presented then-Ambassador Zalmay Khalilzad and me with a list of demands on behalf of the Prime Minister that included a *more* rapid transition of security authority to Iraqi security forces, an Iraqi veto on US military operations, further removal of coalition forces from Iraqi neighborhoods and other actions that were completely contrary to the approach we intended to follow. Taken aback, I replied that those actions would accelerate the implementation of a failing strategy; in essence, they would ensure that the overall effort would actually "fail faster." If Prime Minister Maliki was truly intent on pursuing his demands, I suggested that he present the list to President Bush via the weekly video teleconference scheduled for the next day with the PM, which the Ambassador and I would attend. But I warned al-Rubaie that if Maliki did so, I would be on the next plane back to Washington - and that I intended to "take the policy with me" - informing President Bush that the administration's goals in Iraq could not be achieved. Needless to say, I did not sleep well that night given, in essence, my threat to quit in my first week as the new commander.

To my enormous relief, Maliki backed down and I never heard anything more of his demands; nonetheless, the episode showed the tenuous nature of the relationship between senior coalition leaders and

Iraq's Prime Minister. I also recognized that once Ambassador Crocker arrived, a united US diplomatic and military front in Baghdad would be imperative, and we agreed that we would see Maliki only if the other were also present, a practice we religiously observed, even as we also continued the practice of maintaining offices so close together in the US Embassy that we shared the same reception area.⁵⁰

When the Surge commenced, Bush personally took over the Washington front of the Iraq War, showing how highly he prioritized the effort in Iraq by chairing an hour-long meeting of the National Security Council in the White House Situation Room every Monday morning at 7:30 a.m., with Ambassador Crocker and me participating by secure video teleconference, as did Admiral William "Fox" Fallon, the new Commander of US Central Command. This was a dramatic initiative by the President (at an unheard-of time for Monday morning in Washington). Over the eighteen-month course of the Surge, the amount of direct contact between the President and his Commander and Ambassador in Iraq would be totally unprecedented.

After being confirmed by the Senate and before heading to Iraq, I met one on one with Bush in the Oval Office. Among the topics we discussed, I noted that the military was about to go "all in" on Iraq and I hoped the rest of the US government would do likewise. Bush assured me that he would see to it, and he did. The early Monday meetings were a powerful demonstration of Bush's commitment, sessions during which Crocker and I could regularly speak directly to the President on matters that concerned us. These would be in addition to the issues that I raised in a weekly memo I sent each Sunday evening, Washington time, to the Secretary of Defense, Chairman of the Joint Chiefs and Commander of Central Command, in advance of the Monday-morning meeting. The Monday meeting also sent a powerful signal to those in the military and the administration who might seek to undermine or impede the President's strategy, as Ambassador Crocker and I made it clear early on that we would not hesitate to raise matters directly with President Bush if we felt that necessary.⁵¹

My key subordinate commander at the operational level in Iraq was Lieutenant General Ray Odierno, a great soldier and leader who had

earlier served in Iraq as a division commander and had taken command of MNC-I in mid-December. He was of like mind with me on what was needed and had already begun to plan the actions to be pursued with the arrival of the Surge forces. Ray and I saw eye to eye on the priority of securing the neighborhoods in Baghdad and the surrounding belts of territory used by insurgents as safe havens, while also targeting both Shi'a militias and Sunni insurgent and terrorist groups to tamp down the flames of civil war. As I would note later, if I was the strategic architect of the Surge, "General O," as he was called, was the operational architect, and I treasured my relationship with him and the leadership he provided.

Important though the additional forces were to the Surge, how they were used and positioned would prove even more critical. In accordance with the "surge of ideas," beginning with Operation Fardh al-Qanoon, or Enforcing the Law, launched in Baghdad on 13 February 2007, the objective of military operations would be to protect the population against ethno-sectarian violence. That would, in turn, make possible political progress that would more fairly distribute power and resources among the various sects and factions in Iraq. Hence the need to return to the neighborhoods, especially in Baghdad, the epicenter of the Sunni-Shi'a civil war, from the large bases on which US forces had been consolidating over the previous years.

As part of the Baghdad security plan, Colonel Stephen J. Townsend's infantry-heavy and highly mobile 3rd Stryker Brigade (in Stryker wheeled armored vehicles), the theatre reserve force, along with the other US units in the capital, would clear key Baghdad neighborhoods of insurgents, terrorists and militia members, one after the other. Townsend was another exceptional leader, and his forces did superb work in clearing extremely tough areas. However, instead of handing over cleared areas to Iraqi Army and police units, which had proven incapable of holding them in the past, US Army units now would hold the areas, partnering with Iraqi forces in doing so, and walling neighborhoods off with tall concrete barriers to inhibit the movement of insurgent and militia forces. (We sometimes jokingly noted to Iraqi citizens that "gated communities" in the US were very expensive, but we

were establishing them free of charge for the Iraqis.) Checkpoints would be equipped with biometric identity devices used to screen residents and check vehicle occupants against a database of known malign actors. Instead of patrolling their zones of operation from large bases, US troops would establish combat outposts and joint security stations in those zones throughout Baghdad, ultimately seventy-seven in total, and operate from them. They would live and patrol with Iraqi Army and police elements, allowing the professionalism of the US soldiers to rub off on their Iraqi counterparts and enabling the gathering of human intelligence from local residents. Only when the security situation and the readiness of the Iraqi forces met specific conditions would the American elements begin to thin out and transition tasks to the Iraqis. Even then, US forces would retain a presence to ensure situational awareness.

My subordinate commanders and I also worked with Prime Minister Maliki and the Defense and Interior Ministers to rid the Iraqi Army and National Police of the worst of their sectarian commanders. Over time, in fact, every general officer in the National Police would be replaced and each police brigade would undergo intensive refresher training to reinstall a sense of professionalism in the force and remove sectarian actors, a process that included pulling the unit off-line to a training center for thirty days of receiving replacement personnel, retraining and re-equipping. The process was far from perfect, and Sunnis still viewed the National Police to a degree as an extension of Shi'a militias, but the combination of new commanders, better training and close partnership with US forces and military and police advisers began to change the dynamics on the ground.

Lieutenant General Odierno also recognized that securing Baghdad required gaining and maintaining control of the belts of territory surrounding the city, a necessity made even clearer by the capture of documents outlining AQI's plan for Baghdad.⁵² He ordered divisions outside of Baghdad to focus their efforts on interdicting car bombs, weapons and other accelerants of violence before they could enter the capital. A new division headquarters (Multi-National Division-Center) was placed south of Baghdad to oversee forces that would dominate the

routes leading into the city from that direction and the east. MNC-I would also direct operations to clear insurgent and terrorist safe havens outside the capital, such as the area between Baghdad, Taji, Lake Tharthar and Karmah.

Accordingly, only two of the Surge brigades went into Baghdad; the remaining three, as well as the two Marine battalions and the 13th Marine Expeditionary Unit that went into Anbar Province, were deployed to locations that enabled them to focus on denying AQI safe havens outside the city. Nevertheless, Baghdad remained the priority, with additional battalions from brigades outside the city attached to Multi-National Division-Baghdad (MND-B) to increase its operating strength as needed. At the height of the Surge, MND-B alone controlled twenty-five maneuver battalions, double the number patrolling the streets of the capital the year before.

The Counter-Terrorist Task Force under the command of Lieutenant General Stan McChrystal (a brilliant leader who commanded the Task Force for an unprecedented five years, building it into an extraordinary machine for relentlessly targeting high-value targets (HVTs), night after night) also substantially ramped up its efforts to locate and capture or, if necessary, kill key Sunni and Shi'a extremist leaders. The Task Force under McChrystal included special elements of the Army SOF and Navy SEALs, the Ranger Regiment, the UK's Special Air Service, the 160th Special Operations Aviation Regiment and other US special mission units. An airborne infantry battalion, Task Force Falcon, was also attached to it to conduct operations in select areas that contained insurgent sanctuaries, forcing the insurgent and militia leaders to move and communicate and, in so doing, become targetable by Task Force elements. A robust intelligence system supported the Task Force and integrated all forms of intelligence to provide specific, actionable intelligence on the patterns of life and locations of the HVTs. Task Force operators then conducted operations that targeted them, which often led to subsequent operations – often on the same night – as intelligence gathered on site was quickly processed and turned into targetable information. The Task Force scored innumerable successes against Sunni extremists and insurgents and Shi'a militia leaders (for whom an addi-

tional task force would be established halfway through the Surge), and also detained operators of the Iranian Revolutionary Guards Corps Qods Force, which were attempting to turn special groups of the JAM and other militia into a Hezbollah-like militia beholden to Teheran.

Operations by MNC-I and McChrystal's special operators were all part of the broader holistic strategy that I labelled the Anaconda Plan, which envisioned using every possible military and civil capability to deny the assets needed by the insurgents, extremists and militia members – in essence, to squeeze the life out of them.⁵³ It included six major parts: kinetic operations (conventional and special operations by coalition forces, as well as use of affiliated Iraqi forces for local security); political engagement (support of the Awakening, outreach to insurgent groups and militias, reconciliation initiatives and Iraqi legislation); intelligence (greater use of unmanned aerial vehicles (UAVs), signals and other forms of intelligence, and intelligence fusion centers); inter-agency actions (strategic communications, information operations, winning the battle of the internet, efforts to stem the flow of suicide bombers and lethal aid to Iraq from other countries); non-kinetic aspects (religious engagement, provision of basic services, education and economic initiatives); and reform of detainee operations. Derided as armed nation-building by some critics, the plan's overarching objective was rather to secure the population, that foundation without which nothing was possible; with it, other initiatives could be pursued that would reinforce and solidify the security gains. Over time, careful transition of security to Iraqi control would be conditions-based, a function of both the increasing capabilities of Iraqi security forces and improvements in the security situation, rather than a lever to force them to take on more challenges than they could handle. The goal was the provision of sustainable security and stability in the near term, leading to a secure, stable, free and democratic Iraq over the long term.

Early on, I led a process with General Odierno, Lieutenant General McChrystal and my exceptional deputy, the British Lieutenant General Sir Graeme Lamb (a long-time friend with whom I had previously worked in Bosnia, Iraq and our respective home countries) to help persuade our subordinate commanders to fully support the Awakening

and, over time, the reconciliation initiative that built on it. I promoted these actions despite the understandable reluctance of some of our battalion and brigade commanders to sit down with Iraqis who had American blood on their hands; but these defectors were after all willing to ally with the coalition against a common enemy rather than continue to fight us, and we needed to reconcile with them. The progress in Al-Anbar Province was stunning, especially given the fact that less than a year earlier the intelligence officer of MNF-W had assessed the situation there as out of control. The Awakening was proving increasingly important. From its start in Ramadi, the movement had spread over time throughout Anbar and then to the Baghdad belts, reducing the ability of AQI to inject personnel, car bombs and other weapons into Baghdad. Defections from the ranks of the insurgency were encouraged further by a strategic engagement effort led by Lieutenant General Lamb. (In fact, I knew that Lamb would be a hugely important part of the effort to promote reconciliation, given his experiences in Northern Ireland; hence, one of the key requests I made of Prime Minister Tony Blair, when I stopped in London on the way to Iraq, was to extend Lamb's tour as the deputy commander of the Multi-National Force-Iraq. "Lambo's" contribution more than validated the wisdom of that request.) This involved promoting reconciliation with former enemies, and its success allowed MNF-I increasingly to focus its resources on the truly irreconcilable elements in the insurgency and AQI, as well as among the Shi'a militias.

In June, a new opportunity arose when a group of insurgents in Ameriyah, a district of western Baghdad that had been devastated by Sunni extremist and insurgent violence, indicated their willingness to fight AQI in coordination with the American forces in the area. Lieutenant General Odierno and I took advantage of this development to recruit local security forces – who came to be known as the Sons of Iraq – to help defend neighborhoods from depredations by Sunni terrorists and Shi'a militias alike. Over time, I gained Washington's approval to use US funds to pay Iraqis as local security contractors, with the Sons of Iraq working under the local US chain of command, which provided oversight and enforced accountability for their actions. Those

who had joined the coalition effort in Anbar and elsewhere were quickly added to the program as well. In the autumn of 2007, MNF-I established a similar initiative for Shi'a militia members. Ultimately, at the height of the program more than 103,000 Iraqi men – the equivalent of 180 battalions of light infantry – were paid to help guard their communities, significantly adding to the combat power of coalition forces. Since most of the Sons of Iraq were Sunni, however, Prime Minister Maliki was less than pleased with having to support the initiative. Nonetheless, he did not curtail the program until well after the completion of the Surge, when security gains and the expansion and professionalization of the Iraqi security forces made it less critical – at least in the near term.⁵⁴

The first five months of 2007 were very difficult for the coalition, with military casualties increasing and the insurgents, extremists and militias fighting hard to retain their control of neighborhoods to which US forces were returning. I had warned during my Senate confirmation hearing in Washington in January that the situation would get harder before it got easier, and now that warning was being validated – even as key metrics such as civilian casualties, suicide bombings and sectarian violence began to decline. By the summer of 2007, however, MNC-I forces had gained the strategic initiative and never relinquished it for the duration of the Surge.

By June, with all the Surge forces on the ground in Iraq, Odierno launched Operation Phantom Thunder, a full-scale offensive targeting extremists across the Baghdad belts in Anbar, Diyala, Salahadin, Babil and Wasit Provinces. The battle to clear the AQI sanctuary city of Baqubah, where the group had relocated its capital after the fall of Ramadi, was particularly intense. This was the first of a surge of operations that took the fight to AQI, eliminating its sanctuaries and safe havens. And rather than pause once the operations were completed, MNC-I continued to put pressure on AQI by advancing into areas further afield, into which the organization would likely retreat, always coordinating its actions closely with McChrystal's Counter-Terrorist Task Force, whose elements were simultaneously targeting the key leaders. The remaining elements of AQI gradually withdrew north to the

greater Mosul area, where a future confrontation with coalition forces awaited.

While AQI had taken the brunt of coalition efforts during the Surge to date, that was about to change. Increasing pressure on the JAM had caused Sadr to flee to Iran, leading to a splintering of the organization into multiple "special groups," supplied, armed, trained and, to various degrees, directed by IRGC Qods Force operatives, while mainstream JAM still responded to orders from Sadr and his representatives. On 27 August, a gun battle between JAM operatives and shrine guards in the holy Shi'a city of Karbala, south of Baghdad, led to the deaths of fifty-two people and the wounding of 279 others, causing Grand Ayatollah Sistani to cancel the enormous pilgrimage to Karbala normally conducted during the Islamic holiday of Mid-Sha'ban. Prime Minister Maliki was incensed and responded aggressively, strapping on a pistol and personally leading a column of fifty-two vehicles to Karbala, where he and his security detail arrested scores of JAM fighters to the cheers of onlookers. Having overplayed his hand, Sadr declared a six-month ceasefire, which further reduced violence across Iraq as mainstream JAM elements took a knee and ceased operations.

The Surge was also helped enormously by dramatically increased numbers of US technological enablers – drones, blimps with optics, special signals intelligence capabilities, wheeled armored vehicles designed to counter IEDs, counter-rocket systems, etc. – and also a significant increase in Iraqi security forces in both quantity and quality, helped by the steady deployment of increasingly well-prepared coalition military and police transition teams. When Iraqi security force numbers were combined with coalition forces, private security contractors and the Sons of Iraq, the ratio of security personnel to population in Iraq by the end of the Surge reached roughly one to fifty, the minimum ratio deemed necessary to defeat an insurgency according to the counter-insurgency doctrine we had published in late 2006. For his part, Secretary Gates drove the US military and defense industries to produce the additional armed drones and new mine-resistant, ambush-protected (MRAP) vehicles, which could better withstand blasts from roadside bombs, the signature weapon of the insurgency in Iraq. MRAPs, in

particular, saved countless lives in Iraq and, later, in Afghanistan.⁵⁵ Gates and Admiral Mike Mullen, who took over as chairman of the Joint Chiefs in the early autumn of 2007, were an exceptional team and absolutely relentless in ensuring that the military services provided everything humanly possible that our men and women in combat needed. They were aided enormously on Capitol Hill by equally committed and relentless members of Congress, especially John McCain, Joe Lieberman and Lindsey Graham, whom I dubbed "the Three Amigos." No one on Capitol Hill had our soldiers' backs more than they did.

Charge of the Knights

As Lieutenant General Odierno and I saw it in early 2008, shortly before he rotated back to the US, areas in northern Iraq were the last AQI strongholds that needed to be cleared, and Odierno crafted a major offensive to do just that. However, the operation would not take place as scheduled. Instead, an intra-Shi'a civil war would erupt in Basra and Baghdad in the spring of 2008, leading Prime Minister Maliki to use the Iraqi Army to go to war with the Sadrists – and coalition forces would be there with their Iraqi partners when the situations were at their most dire.

The prelude to this development was the tacit ceding of Basra to JAM control by Multi-National Division–Southeast (MND–SE), led by British commanders imbued with deep experience of "the Troubles" in Northern Ireland and increasingly pressured by policymakers in London to reduce casualties and set conditions to withdraw, despite the Surge being conducted by US forces. Basra in late 2007, however, was not Northern Ireland, and the deals cut by British commanders with JAM leaders in order to rush the transition of Basra to Iraqi control ultimately led to increasing violence and criminality by JAM in the most important city in southern Iraq. By early 2008, Basra had descended into near chaos as militias took over the streets and engaged in largely unchecked criminal activity.

In response, the Iraqi Commander in Basra, Lieutenant General Mohan al-Freiji, and his British adviser, Colonel Richard Iron, devel-

oped a plan for regaining control of Basra, which they briefed to me and my Iraqi counterparts in Baghdad in early March. I believed the assumptions underpinning the plan were somewhat overoptimistic and preferred to set conditions for several months before beginning the execution of the plan – focusing coalition resources on clearing AQI in northern Iraq before tackling the intra-Shi'a conflict in the south. But Prime Minister Maliki had different priorities, and the improvement in security in Baghdad had allowed him to focus on his political competitor, Sadr, and Sadr's militia, especially in Basra, the most important city in the oil-rich south.

On 22 March, Maliki informed me that he was deploying a division headquarters and several Iraqi Army brigades to Basra, and that he would personally lead the operation as he had done the previous August in Karbala. Though surprised by this decision, I pledged to do all that we could to support the operation. Dubbed *Saulat al-Fursan*, or Charge of the Knights, the operation came close to disaster. As the Iraqi 14th Division moved into Basra, it was unable to "set conditions" on the outskirts for several days, as Maliki had committed to doing so that we could reposition coalition assets to support the Iraqis. Rather, it got sucked immediately into a major battle. JAM elements hit it with multiple ambushes, and volleys of indirect fire also rained down on the headquarters Maliki had rashly established in Basra Palace, located in the center of the city. Without coalition advisers on site, the F-16 aircraft and drones that had been quickly shifted to Basra could not bring their ordnance to bear on JAM positions, which were difficult to distinguish from Iraqi security force elements in the dense urban setting. The situation only got worse as supply shortages began to cripple the Iraqi formations. In fact, the Iraqi Army lacked the logistical capability to sustain its forces away from their home bases, and they were unable to garner sufficient supplies in the local markets of Basra as they had often done in other areas of Iraq.

The impending failure of the operation portended the end of Maliki's government. Smelling blood in the water, political sharks circled in Baghdad until the Deputy Prime Minister, Barham Salih, a highly educated and exceedingly competent Iraqi Kurd I had come to know

and respect highly during my previous tours in Iraq, called the Iraqi ethnic, sectarian, political and religious leaders together at his residence in Baghdad and rallied them to support their Prime Minister, who was literally under heavy fire in Basra, with the situation on the battlefield hanging in the balance. "Dr. Barham," as we referred to him, would eventually serve as the prime minister of the Kurdish Regional Government and then as president of Iraq. And during the battle of Basra, his leadership inspired leaders of various allegiances to put Iraq and their elected Prime Minister first at a pivotal moment for the Land of the Two Rivers. Despite understandable differences at times with a frequently sectarian Prime Minister, Dr. Barham had Maliki's back at the most critical of moments. His performance was exceptional.

Lieutenant General Lloyd Austin, the highly competent commander who had replaced Lieutenant General Odierno two months earlier as the commander of MNC-I, and I were determined to prevent defeat of the Iraqi forces. Austin quickly flew to Basra and immediately deployed his corps' mobile tactical command post, equipped to display the video "feeds" sent down from the drones and to provide the command-and-control systems needed to orchestrate the fight. Set up next to the British command post, the US and British headquarters quickly committed additional assets to reinforce Iraqi forces in Basra, even as JAM elements also rose up in Sadr City and across southern Iraq. A courageous British brigadier, Julian Free, who was the acting MND-SE Commander (while his boss was on his mid-tour leave skiing in the Alps), decided on his own, without asking London's permission, to send British advisers to rejoin and help their Iraqi counterpart units fighting in the city. I remain grateful to him for that gutsy decision.

Additional US advisers rapidly deployed and embedded in other Iraqi Army formations in Basra, enabling the provision of much needed close air support. Attacks by F-16 fighter jets, Apache attack helicopters and armed drones pummelled JAM positions, turning the tide of the battle. Coalition staff sorted out resupply and logistics requirements and surged emergency support, as well as Iraqi reinforcements, to the units on the front lines, even as additional Iraqi units, along with their embedded US Army and Marine Corps transition teams, arrived, includ-

ing brigades from the well-trained 1st and 7th Divisions from the Sunni province of Al-Anbar, which had no issues with attacking and destroying Shi'a militias. The assembled Iraqi forces, with US enablers overhead, now cleared Basra in a deliberate process, seizing weapons caches, killing JAM fighters and dealing another significant blow to Sadr's reputation.

The scene of the heaviest fighting then shifted to Sadr City, the densely populated Shi'a neighborhood in eastern Baghdad of well over 1.5 million people, where JAM militiamen had risen in concert with their brethren in the south. JAM forces attacked Iraqi Army and police checkpoints encircling Sadr City and launched seemingly endless volleys of rockets and mortars on Baghdad's Green Zone, imperilling Iraqi government facilities and the US Embassy. As the fighting continued, the battle centered on the construction of a line of concrete barriers along Quds Street (Route Gold on coalition maps), which would enable US and Iraqi forces to control the south-western third of Sadr City and push JAM rocket teams out of range of the Green Zone. The wall also threatened JAM's access to the key Jamila market (a big source of extorted revenue for JAM), forcing JAM fighters out into the open in an effort to prevent its establishment. Colonel John Hort's 3rd Brigade, 4th Infantry Division became the coalition (indeed, the national) main effort, and his brigade was massively reinforced by fixed and rotary-wing air support, multiple launch rocket systems with precision munitions, drones, engineers and even special forces sniper teams.⁵⁶ The tanks and infantry fighting vehicles of Hort's mechanized infantry brigade, normally stored at his unit's bases and not employed on the streets of Baghdad, were brought into the action and used very effectively to attack the militia in areas in and around Sadr City.⁵⁷

The forty-five-day battle for the south-western third of Sadr City and its surrounding neighborhoods was the most intense fighting seen in Baghdad since the early tough months of the Surge, and Hort's soldiers on the ground and precision assets in the air fought tenaciously, finally breaking the back of JAM, with more than seventy rocket teams destroyed and key militia leaders either killed or in exile in Iran.⁵⁸ In May, Maliki ordered the Iraqi Army to seize the remainder of Sadr City,

and a month later he also ordered forces to clear the city of Amarah, near Basra in southern Iraq, tasks easily accomplished against negligible resistance, as was the clearance of other smaller cities in the Shi'a south. The JAM militia had now been defeated, along with the Sunni insurgents and the vast majority of AQI. US and coalition units would focus the final months of the Surge on the remnants of insurgent and militia elements around the country, as well as on further development of the Iraqi security forces and the various civil efforts that were solidifying the gains achieved since the commencement of the Surge in early 2007.

Aftermath

The drawdown of US forces in Iraq began in December 2007, and the final Surge brigade departed in July 2008. Ethno-sectarian violence had been driven down by over 85 percent over the previous eighteen months, and the number of attacks and other security metrics would continue to decline modestly over the subsequent three years. The ethnic, sectarian, tribal and political centrifugal forces threatening to tear Iraq apart in early 2007 had been brought under control, and the major centripetal force – the central government's distribution of the country's enormous oil revenues – was once again helping to keep Iraq together. The dramatic improvements in security in Baghdad and the rest of the country made politics, rather than violence, the focus of the competition for the distribution of power and resources.

The final showdown with the remnants of AQI in northern Iraq would not materialize until the spring of 2010 (with General Odierno promoted, back in Iraq, and at the helm of Multi-National Force-Iraq), when coalition operations defeated the group in its remaining northern strongholds. Driven across the border into Syria, the surviving elements of AQI combined forces with Syrian and foreign jihadists and rebranded themselves as ISIS, the Islamic State of Iraq and al-Sham. ISIS would remain there and exploit the explosion of Sunni grievances with the onset of the Syrian Civil War. Ultimately, ISIS would build its power there so substantially that it was able to return to Iraq begin-

ning in late 2013, defeat the Iraqi security forces in Al-Anbar and Nineveh Provinces, and establish a caliphate that encompassed north-eastern Syria and northern Iraq (where the capital would be Mosul). Until its ultimate defeat in 2019, ISIS was the most dangerous Islamist extremist group in the world and attracted tens of thousands of would-be jihadists to Syria and Iraq, as it also sought to inspire, direct and support sensational terrorist attacks in Western Europe and the United States.

Meanwhile, over a year after the conclusion of the Surge in Iraq, a massive electoral turnout in provincial elections in January 2009 brought to power more representative governance at the local level. The trends seemed positive. However, the results of parliamentary elections in March 2010 proved much more contentious, as former Prime Minister Ayad Allawi's coalition won two more parliamentary seats than Prime Minister Maliki's coalition – but Maliki was able to retain his position nonetheless when Allawi was blocked by judicial decree from forming a government and Maliki was then able to generate the votes (and, curiously, both the US and Iran supported his candidacy). Maliki's machinations thus enabled his return as prime minister, but under clouded circumstances.⁵⁹ Regardless, through it all, the achievements of the Surge were generally sustained, although the progress in the quality of governance and provision of basic services never reached the levels Iraqi citizens (or we) had hoped to see.

Unfortunately, by late 2011, as the time approached for US combat forces to leave Iraq in accordance with an agreement reached in 2008 between Maliki and President Bush, complications emerged. Maliki frustrated US political and military leaders who were considering whether to request Iraqi support for a modest continued US military presence by being unable to provide a parliamentary-approved Status of Forces Agreement (SOFA) – which US President Barack Obama had unnecessarily established as a requirement for US combat forces remaining beyond the end of 2011. The result was the departure in mid-December 2011 of the residual US combat forces and also of General Lloyd Austin, the final four-star commander in the country (from 2021 the US Secretary of Defense).

Less than forty-eight hours after the departure of US forces, Maliki's government undertook the first of a number of destructive and highly sectarian actions, seeking to shore up his support in the Shi'a community, the base of his political strength. In the first of these, the Iraqi Judicial Council brought charges against Iraqi Vice President Tariq al-Hashemi, the senior Sunni Arab in the government, and his security force for alleged illegal killings. Maliki followed this several months later with charges against the next most senior Sunni in government and then against a prominent Sunni member of parliament. Tragically, these actions began to undo much of what the Surge and subsequent years of initiatives had accomplished, particularly in knitting back together the fabric of Iraqi society. The actions inflamed Sunni sentiment, led to large demonstrations – which were put down violently by predominantly Shi'a security force units – and reignited the sense of Sunni disenfranchisement and alienation that had imperilled Iraq from shortly after the invasion in 2003 until the spread of the Anbar Awakening, the creation of the reconciliation initiative and the establishment of the Sons of Iraq program during the Surge. Over and over again, Maliki used the levers of government to attack his political enemies, brutally suppress dissent and dissolve important Surge initiatives, once again driving Iraq's Sunni Arabs into resistance and essentially pouring fuel on the remaining embers of the sectarian civil war that had nearly destroyed Iraq in 2006 and the first half of 2007.⁶⁰

US combat forces would not be present to save Maliki from the fire once Iraq again descended into near civil war. Nor would the once impressive Iraqi security forces, since, to ensure his administration would be safe from a coup, Maliki had hollowed them out by appointing politically reliable but militarily incompetent, and often abusive, officers (many of whom had been fired during the Surge) to command its formations. He thought he could do this without jeopardizing the security situation, given the reduction in violence since 2007, but the calm proved illusory. As Sunni outrage grew, many came to see ISIS as preferable, in some areas, to Shi'a-dominated Iraqi security forces.

Fallujah was the first city to fall to ISIS in January 2014. When confronted by an invasion in northern Iraq of largely truck-borne ISIS

fighters five months later, the four Iraqi Army divisions in northern Iraq ignominiously collapsed, obliging the Iraqi government to turn to hastily raised Shi'a militias to defend the capital, thus giving the militias defeated in 2008 the authority to return to the streets in uniform, this time supported by the state. The creation of these Popular Mobilization Forces, many of which were beholden to Iran, would create a long-term problem for the Iraqi government – a problem that continues to create enormous challenges for Iraq to this day.

Meanwhile, the threat of ISIS-inspired genocide against the Yazidi people of northern Iraq in 2014 compelled the Obama administration to return US forces to Iraq, and also to deploy them to Syria, which had collapsed into civil war after Syria's Arab Spring uprising of disenfranchised Sunni Arabs threatened the government of strongman Bashar al-Assad.⁶¹

The ultimate war against the Islamic State, however, would be fought mostly via the Iraqi Army and local Syrian forces with US airpower, special operations forces, and advisory teams, the latter coordinating the air reconnaissance and precision-strike assets that enabled the Iraqis and later Syrians to defeat ISIS and eliminate its caliphate. In the end, that achievement would require five more years of combat operations, an extension of the war that, tragically, had not quite ended after the withdrawal of US combat forces from Iraq in 2011.

Lessons from the Iraq War

The Iraq War was America's most costly conflict since the end of the Vietnam War. The Bush administration embarked on regime change in Iraq for a number of reasons, but, on reflection – especially given the intelligence failure regarding weapons of mass destruction – one can ask whether any of those reasons represented an existential threat to the United States and its vital national interests. Although military operations quickly dispatched the Iraqi armed forces and ousted Saddam Hussein from power, the conflict continued as an unanticipated insurgency erupted and various sects and factions began a violent competition for power and resources.

The lessons from this experience are not new, but they are clear. As Clausewitz observed in *On War*, the political underpinnings of war are far more important than skillfully conducted military operations. The Bush administration put far more intellectual effort into fashioning a war plan than into determining how to stabilize and rebuild the Iraqi state once Saddam Hussein and the Ba'ath Party were forced from power.

As Winston Churchill observed in his history of the Great War, policymakers must never assume that the conduct and aftermath of war will be easy. In the run-up to the Iraq War, however, senior political and military leaders made overly optimistic assumptions about the duration of the receptivity of the Iraqi people to the coalition presence and goals. American leaders then took too long to understand that these assumptions were not valid, and then to recalibrate resources, doctrine and strategy to compensate for the situation in which we found ourselves.

In the decade following the dissolution of the Soviet Union, the US armed forces had become enamored of a so-called "revolution in military affairs" centering on guided munitions coupled with high-tech intelligence, surveillance and reconnaissance systems that would presumably eliminate the fog and friction of battle. Although there was much to this concept in terms of war-fighting, it tended to overlook the equally important role of military forces in stabilizing countries after military operations have terminated. In Iraq we learned – or rather relearned – that shock and awe based on high-tech forces is not a substitute for troop numbers in counter-insurgency operations or for the proper employment of those troops. Iraq did not stabilize until Multi-National Force-Iraq and its Iraqi counterparts and tribal allies reached 600,000 personnel (which, as noted earlier, meant roughly one security person for every fifty Iraqi civilians), and deployed those forces properly. In counter-insurgency operations, numbers matter – as do the overarching big ideas that guide the employment of those forces.

The biggest of the big ideas is that security in a counter-insurgency campaign is job number one. If the population cannot be controlled and protected, all other initiatives will come to naught. Population

security requires trained and capable military and police forces operating under thoughtfully crafted rules of engagement that enable them to accomplish their security tasks while protecting the population from excessive violence. This is not an easy balance, but carefully metering security and violence is essential to the successful outcome of these types of conflicts.

Iraq also reminded us of the imperative of truly understanding, in a very granular manner, a country in which we are going to operate. Without a deep appreciation of the ethnic, sectarian, tribal and political elements, as well as how the country is supposed to function *and* how it really does function, it is very hard to govern it. Here it is important to remember that, as occupation force leaders, military commanders were, during the first year or more, exercising the powers of the executive, legislative and judicial authorities in the provinces they oversaw. The same was true of the overall authority in Baghdad. And it became very clear early on that our understanding of Iraq was inadequate.

Beyond that, the experience of the first eighteen months also underscored the importance of using existing organizations and institutions (e.g. a State Department embassy, the US Army's Corps of Engineers, the Defense Contracting Agency, etc.) rather than ad hoc organizations of rotating personnel (the Coalition Provisional Authority and its one-off engineering and contracting elements). Moreover, the experiences of the first year – and beyond – highlighted the importance of not approving policies or operations that will create more bad guys than they take off the streets by their implementation, e.g. overly expansive de-Ba'athification without an agreed reconciliation process, and firing the members of the Iraqi military without an agreed plan for their support. Those policies were exceedingly counter-productive and set our effort in Iraq back for a number of years.

President Bush hoped to see Iraq as the South Korea of the Middle East – a regional US ally with a democratic government and a strong, free-market economy. He understood that this transition would likely require US forces to remain in Iraq for the long-term, just as US forces have remained on the Korean peninsula since their first deployment in

1950. US military forces there provide needed leverage to back diplomacy and encourage the stability that provides the foundation for economic growth. Provided US forces do not take casualties, the American people have proven willing to underwrite long-term overseas deployments in the greater interests of US national security. Bush was willing to underwrite this commitment, but the follow-on Obama administration was not. How to attain a bipartisan consensus on such a crucial national security issue is a question worth considering in the run-up to war, rather than assuming that the natural end state of war will result in the rapid redeployment of US forces from the conflict zone.

Finally, if history has shown us anything, it is that there will be other counter-insurgency conflicts in the future in which the US military will be engaged. US armed forces might not want to prepare for or conduct counter-insurgency operations, but they must be prepared to do so or risk failure when inevitably confronted with such conflicts again. The US Army required more than three years in Iraq to regain the competencies so unwisely jettisoned after the end of the Vietnam War. Keeping counter-insurgency doctrine current and educating mid-grade and senior leaders about it (while understandably focusing more on major combat operations given the developments of the past decade) will be a small price to pay to ensure that when the United States is again confronted with a messy, irregular conflict the leaders of its armed forces are intellectually prepared to cope with it.

Ten

The Wars of the Future

Wars are not just contests of weapons and will; they are also laboratories of a sort.

Peter Warren Singer, 2023¹

Trying to predict the future of warfare is notoriously difficult. General Giulio Douhet commanded the Italian Air Force in the First World War, an experience that led him to predict in the 1920s that armies and navies would be rendered obsolete, because all future wars would be fought and won by aerial bombing alone. Needless to say, that assessment proved wrong, even though airpower did come to play an increasingly important role.

Although the historian Margaret MacMillan has likened predicting the outcome of future wars to “betting on horses or guessing where new technology is going,” there have of course been innumerable attempts at glimpsing at least the outlying contours of forthcoming conflict.²

Few have proved accurate, and Major General Bob Scales, a respected thinker and writer who served as commandant of the US Army War College, once described such attempts as “the least successful enterprise in Washington DC.”³ Despite that caveat, having examined the last seven decades of warfare in these pages, we feel compelled to venture some observations and reflections on some of the potential developments that lie ahead.

Technological and strategic developments in warfare are ever evolving: the previous nine chapters of this book bear eloquent witness to that, especially the last. As with so much else in human affairs, change

is also accelerating exponentially. Arsenals are always acquiring new weapons and moving into new dimensions.⁴ By the end of the First World War, warfare spanned all three of the earthly elements, and by the end of the Second World War capabilities in the air and under the sea were proving decisive in widely different theatres. Today, emerging technology leaves us reasonably confident that future wars will be fought in even more dimensions – space and cyberspace among them – some of which are in their infancy but are now becoming increasingly important and, indeed, central to modern conflict.

“The lines between war and peace can blur into near-irrelevance,” political scientist Mark Galeotti has observed, “and ‘victory’ just means today was a good day, with no guarantees for what may happen tomorrow.”⁵ Economic sanctions, targeted assassinations and political-influence campaigns are becoming more common, more alluring and, in some cases, less detectable than actions on the usual battlegrounds of land, sea, air and space. Perpetual low-level conflict masked by plausible deniability both de-intensifies war and makes it more ubiquitous. Disconnected from traditional battlefields, such actions comprise a form of warfare where computers, currencies and public opinion become primary battlegrounds, with little definitive indication of final success or failure. This has been termed “the weaponization of everything,” and we can assume it to be a growing phenomenon.⁶

Conflict is thus likely to diminish in clear, geographical scope – though that will still be the major focus of the great powers – while simultaneously reaching further than ever before. In a world in which everyone has a computer in their pocket, almost all of which are controlled by just a few companies, espionage, corporate sabotage, subversion, cyberattacks and online disinformation can each become highly effective methods of future struggle.⁷ Yet none of this means that advanced states will not continue to need well-funded, sizeable militaries with cutting-edge technology.

Encouraged by swift and significant developments in civilian technology, militaries have found themselves testing a whole range of technologies previously seen as belonging to the realm of science

fiction. Generals John R. Allen and F. Ben Hodges note that these currently include:

Artificial Intelligence, deep learning, natural language processing, computer vision, and other related characteristics: super-computing, eventually quantum-computing, and nano and bio technologies; advanced big-data analytics; and other emerging technologies are beginning to offer an entirely new way of war, and at command speeds hitherto unimaginable. The revolution in sensor and command and control technologies is matched and enabled by developments in long-range, hypersonic "intelligent" weaponry and new swarms of killing machines allied to a range of directed-energy weapons. Such a potentially revolutionary change in the character and conduct of war must necessarily impose entirely new ways of defense.⁸

In wars of the twentieth century, militaries pioneered technological advances. Areas such as computing, cryptography, radar, plastic surgery and the internet would have taken far longer to emerge had it not been for early military funding. Today, something of the reverse is happening. Having spent so much time on traditional forms of warfare, and sinking vast amounts of money into them, Western armies now find themselves ever more reliant on civilian developments in robotics and increasingly autonomous systems to illuminate their blind spots and provide the means for identifying and responding to such threats.

In particular, data analytics and now artificial intelligence enable the processing and analysis of all types of intelligence, as well as their fusion, and also enable increasingly lethal, precise and capable weapons systems and autonomous capabilities. A related, enabling development is the advent of more and more powerful big-data analytics, computational capability (using cloud computing), quantum computing and other capabilities that enable the rapid analysis of enormous, dissimilar data sets and can pull needles – such as locations of high-value targets, major weapons systems and platforms – out of digital haystacks.

This is particularly significant given the proliferation of surveillance capabilities of all types in all domains. So reliant is the military on advances in the civilian-consumer sphere that Allen and Hodges call for “a new strategic public-private partnership in which technology plays an ever-larger role in driving security and defense policy and strategy.” They are particularly blunt about how “all the strategic and political assumptions underlying Europe’s current defense effort must change.”⁹

In 2017, the US Army prioritized six new conventional capabilities for future large-scale combat operations; namely long-range precision fires, the next-generation combat vehicle, future vertical lift, the Army network, air and missile defense, and initiatives to increase the lethality of individual soldiers.¹⁰ In August 2018, a new four-star Futures Command was established in Austin, Texas, to oversee the Army’s acquisitions and modernization program, just one of many such initiatives in the US military and beyond intended to deepen the relationships between the military services and those in industries on the cutting edge of capabilities with military potential and relevance. More can be anticipated as each US military service strives to foster innovation and relationships with advanced technology companies.

Hybrid warfare

The term “hybrid warfare” has many soubriquets: grey-zone war, asymmetric warfare, non-linear warfare – the terminology changes almost as much as the means to fight it. While it may be a recent and somewhat ill-defined term, the concept is nothing new. It means the use of unconventional or asymmetric methods of war that stretch across subjects, arenas and domains of warfare, and we have seen this in earlier chapters in theatres as far removed as Kashmir, Borneo, Dhofar, El Salvador and pre-2022 Ukraine. Each side aims to disrupt its opponent’s efforts while maintaining an air of deniability, existing just below open hostilities and within the “grey zone” of covert action. Proxies, economic warfare, targeted disinformation, political manipulation and covert military action – all fall short of traditional forms of conflict, and come under the umbrella terminology of “hybrid war.”

The phrase "hybrid war" was popularized in a 2005 paper in the *Naval Institute Proceedings*, authored by then-Lieutenant General James Mattis and Lieutenant Colonel Frank Hoffman.¹¹ It included a discussion of the concept of a "three-block war" that had been put forward by US Marine Corps Commandant General Charles C. Krulak in 1997, in which US forces in the future would have to conduct military operations against an enemy, conduct peacekeeping operations and also provide humanitarian assistance to refugees "all on the same day" and "all within three city blocks."¹² In other words, Marines and other forces would need to possess versatility, adaptability and varied operational capabilities.

Writing eight years later, in the light of the Afghan and Iraq campaigns, Mattis and Hoffman added a discussion of "the psychological or information aspects" which turned it into a "four-block war." The term "hybrid war" soon came to include the full spectrum, comprising terrorism, insurgency, criminality, conventional operations and disinformation campaigns.¹³ To take just one example of this, the criminal violence in Mexico today counts as a conflict, as it seriously undermines the elements of the rule of law: the police, security forces, judiciary and prison system. And the criminal activity in Mexico is waged in virtually all domains of warfare, including the employment of increasingly heavy weaponry.

In 2013, eight years after Mattis and Hoffman's article, Valery Gerasimov, the Russian Chief of the General Staff, set out what Mark Galeotti has dubbed the "Gerasimov Doctrine," which emphasized the way that political, economic, humanitarian and informational warfare could work in tandem with military power.¹⁴ "The role of non-military means of achieving political and strategic goals has grown, and, in many cases, they have exceeded the power of force of weapons in their effectiveness," stated Gerasimov, who at the time of writing is Commander-in-Chief of the Russian forces in Ukraine, as well as Chief of the General Staff.¹⁵

This "non-linear" form of psychological subversion ("psyops") was seen during the annexation of Crimea in 2014, with the aim of reducing Ukraine to a "web of chaos, humanitarian disaster and civil war."¹⁶ As we have seen so graphically, however, hybrid cold war of the Gerasimov

Doctrine can easily turn into the hot war that has been fought there since 24 February 2022, yet again justifying the need for well-equipped militaries. The results of the Russian invasion of Ukraine suggest that Gerasimov was not quite the infallible military genius he had been assessed to be after Crimea and Russia's brutal support for the Bashar al-Assad regime in Syria.

Hybrid warfare particularly appeals to China and Russia, since they are much more able to control the information their populaces receive than are their Western adversaries. A 1999 book, *Unrestricted Warfare*, written by two People's Liberation Army colonels suggests that militarily, technologically and economically weaker states can use unorthodox forms of warfare to defeat a materially superior enemy – and clearly they had the United States and NATO in mind. Rather than focusing on direct military confrontation, the weaker state might succeed against the dominant opponent by shifting the arena of conflict into economic, terrorist and even legal avenues as leverage to be used to undercut more traditional means of warfare. The subtitle of their book, *Two Air Force Senior Colonels on Scenarios for War and the Operational Art in an Era of Globalization*, notes a core truth of the early twenty-first century: an increasingly globalized world deepens reliance upon, and the interdependence of, nations, which in turn can be used as leverage to exploit, undermine and sabotage a dominant power.

The two colonels might not be happy with the lesson their book teaches Westerners, which is that no superpower can afford to be isolationist. One way to keep America great, therefore, is to stay firmly plugged into – and leading – the international system, as it has generally done impressively in leading the Western world's response to the invasion of Ukraine. The siren voices of American isolationism inevitably lead to a weaker United States.

Another practitioner of hybrid warfare theory is Iran. In the late twentieth century, Iran chose to pursue an active form of hybrid warfare against the United States and its allies. It recognized that it could not hope to prevail against the West using traditional means; indeed, in the 1990s it had seen the US-led coalition demolish Iraqi forces that had themselves largely defeated Iran three years earlier.¹⁷ Yet the Iranian

leadership also recognized that the United States had imposed specific limits on when it could and would use outright military force.

Iran's asymmetric strategy thus focused on attacking America in those areas that would not trigger the United States to engage in a direct military response against it: primarily diplomatic, propaganda and financial subversion, and support for terrorist proxies.¹⁸ Through a wide range of non-traditional means, Iran tried to straddle a delicate line, inflicting enough punishment to encourage the United States to pull its forces out of the Arabian Gulf, but never so much as to invite direct retaliation.¹⁹ It was happy to wound, but careful not to strike too overtly.

In the final years of the twentieth century and at the beginning of the twenty-first, Iran, Russia and China learned from each other's asymmetric, hybrid war theories and practices to disrupt and weaken conventional Western powers. China has done this while rapidly modernizing its military in recent decades, forcing American planners to keep developing new conventional concepts and capabilities, and to spend huge amounts of money on weaponry and high-end platforms such as high-technology carrier strike groups, fifth-generation fighter aircraft and stealth drones – and, now, unmanned platforms in all domains. This must be done even though, as counter-insurgency expert David Kilcullen argues,

the decisive action may be taking place elsewhere, in a domain that we do not consider to be warfare, through the manipulation of technology transfer, the leveraging of cyberwarfare by civilian actors, control of key mineral resources, or the purchase of strategic real estate. Simultaneously, out on the fringes, China has made swift and significant advances in fields (such as 5G mobile telecommunications, cyber operations, nanotechnology, artificial intelligence, robotics, human performance enhancement, quantum computing, genomics and biotech political warfare, as well as financial manipulation) that lie outside the ken of Western war-fighters and thus invoke limited direct military competition.²⁰

Robotics and Artificial Intelligence (AI)

For over fourteen years, Israel had wanted to assassinate Mohsen Fakhrizadeh. In 2004, the Israeli government had issued Mossad with *carte blanche* to find ways of preventing Iran from developing its own nuclear arsenal; following that, Israel's intelligence service had reportedly been diligently thinning out the number of Iran's best nuclear scientists. Mossad believed, with good reason, that the gentle-looking Fakhrizadeh, acknowledged in public simply as a professor of nuclear physics, was in fact the lynchpin of Iran's efforts to create its own nuclear weapons, which the mullahs who rule Iran had often and unmistakably boasted would one day be used to turn the Jewish state into a pile of radioactive rubble.

Fakhrizadeh had survived previous assassination attempts, but in late 2020 the time had come for Mossad to test out a new technology. On the night of 27 November, as Fakhrizadeh travelled back to Teheran from his holiday home near the Caspian Sea protected by armed guards, his chauffeur-driven car passed a parked pickup truck on an empty stretch of road. The truck had a tarpaulin cover that hid a machine gun. As Fakhrizadeh's car drove past, the gun was able to achieve a good "visual" on the physicist, ascertain his identity and fire thirteen rounds, mortally wounding him.

News reports over the following days revealed that Fakhrizadeh had been killed by a remotely controlled weapon. The tarpaulin had hidden a gun, but no human being. The equipment needed for the operation weighed around a ton, necessitating each of its components to be broken down and smuggled into the country. After killing Fakhrizadeh, the truck, which was packed with explosives, was then detonated, but enough equipment survived for the Iranian Revolutionary Guard to piece together the fact that Iran's top nuclear scientist had been killed by a remote-controlled robotic machine gun.²¹

The ability of increasingly sophisticated computers to assess vast amounts of data means that AI and robotic-directed assassinations may well proliferate over the course of this century. Human beings are able to use AI to comb through photographic data in order to locate

anything from individual park benches to nuclear facilities. AI also increases the power of states to, in the words of Henry Kissinger, “deploy machines and systems employing rapid logic and emergent and evolving behavior to attack, defend, survey, [and] spread disinformation,” but also to “identify and disable one another’s AI.”²² In an area where warfare will almost certainly evolve beyond all recognition, the United States and its allies must be in the forefront. AI has already been used in the Russo-Ukrainian War in areas as wide as facial-recognition software, making military supply chains more efficient and producing “deepfake” videos. We can be certain that it will continue to evolve in these areas and others.²³

The great majority of robotics and AI research is civilian. From NASA to domestic vacuum cleaners, non-military organizations lead the technological development; however, it was inevitable that their technology would be adapted to the battlefield as well. Peter Warren Singer, who worked in the Pentagon, State Department and CIA, wrote in his 2009 book *Wired for War* that:

Robotics in Iraq and Afghanistan today are sketching out the contours of what bodes to be a historic revolution in warfare. The wars of the future will feature robots of a wide variety of size, design, capabilities, autonomy, and intelligence. The plans, strategies, and tactics used in these future conflicts will be built from new doctrines that are just now being created, potentially involving everything from robotic motherships and swarms of autonomous drones to cubicle warriors managing war from a distance ... In these battles, machines will take on greater roles, not just in executing missions, but also in planning them ... Our robotic creations are creating new dimensions and dynamics for our human wars and politics that we are only just beginning to fathom.²⁴

Wired for War prompted the military historian Max Boot to ask, “Will wars someday be fought with Terminator-like machines?” At present, it certainly looks that way. Unmanned ground vehicles are already efficient

and helpful tools; they are used for de-mining and searching for and destroying roadside IEDs. The American V60 Q-UGV is a robot that can cross terrain and sense, scan and communicate a wide range of environmental factors. AI can, in Jeremy Black's words, "link, sense, scan and fire technologies and systems at a speed and sophistication that humans are incapable of matching."²⁵ This is a particularly significant observation, as it has considerable implications for keeping humans in the loop in future tactical operations.

Somewhat paradoxically, unmanned remote-controlled systems require heavy manning. The US Air Force estimates that keeping a single Predator UAV orbit in the air non-stop needs a crew of 168 military personnel to maintain, arm, fuel, fix and fly the vehicle on station and flying to and from the location of the "unblinking eye," as well as to process, exploit, analyze, store and disseminate the intelligence it gathers. The larger Reaper 180 and Global Hawk unmanned aerial vehicles require as many as 300 people per orbit. "The number one manning problem in [the US] Air Force," states one of its generals, "is manning our unmanned platforms."²⁶

Yet this would not be the case with autonomous robots, where humans would be "on the loop" monitoring the robot, but not "in the loop" controlling it, though many tasks beyond flying and payload operations would still need to be performed by humans. Over time, the humans in the loop are likely to become those who write the code and algorithms to guide the system. The humans on the loop monitoring its operations are those who permit it to take lethal action when certain conditions are met, with the determination of those conditions employing other advanced capabilities enabled by machine learning and AI.

The "PackBot," an agile and hardy robot first developed in the late 1990s, was used in the aftermath of the 9/11 attacks to help rescue teams at Ground Zero. Weighing 42 pounds and the size of a lawnmower, it would soon be employed in the wars spawned by that atrocity. The first battlefield robots to be used by the US Army were employed in scouting out booby-trapped cave complexes in Afghanistan, before being used to defuse IEDs in Afghanistan and Iraq. In 2006 there were 2,500 IED attacks in Iraq per month, and as PackBots began to proliferate

erate, the insurgents began offering bounties of \$50,000 for the destruction of a PackBot.²⁷

Depending on how much explosive has been packed into an IED, a soldier on foot has to be roughly 50 yards away to escape death from its detonation. The PackBot was a much easier loss to bear. "When a robot dies," one bomb disposal chief observed, "you don't have to write a letter to its mother."²⁸ It was fitted with cameras and sensors, and moved on four tank treads known as "flippers" due to their ability to flip up and down to climb stairs. By 2011 there were no fewer than twenty-two different robot systems operating on the ground in the US Army.²⁹

Many more have been introduced in the intervening decade. Current robots include the Marcbot (multifunction agile remote-controlled robot) – a device able to search for enemies and bombs under cars – and Swords (special weapons observation reconnaissance detection system) on which a variety of weaponry can be mounted. American Special Forces have already performed tests in which they have worked alongside Robotic Combat Vehicles to best understand how robots and humans can operate together. In the autumn of 2016, the US Army conducted its first force-on-force training cycle that featured a robot. The University of Manchester and the Ministry of Defence in the United Kingdom recently experimented with a "Project Origin" vehicle to perform primarily defensive actions, such as obstructing a helicopter landing zone.³⁰

An industry cliché has it that humans employ robots to do the three Ds – work that is dull, dirty and dangerous. Over a decade ago, robots were able to detect mines more accurately than a human about one-fifth of the time; since then, they have improved enormously.³¹ Robots can also operate in all weathers, as well as during chemical and biological attacks, and can take cover when their radar detects incoming fire. Moreover, as an official at the Defense Advanced Research Projects Agency has pointed out, because pilots black out at extreme gravitational forces, "the human is becoming the weak link in defense systems."³²

Once robots fight robots, one US Army colonel predicts, "there won't be any time ... for humans."³³ Peter Warren Singer agrees, arguing that "A soldier who learns French or marksmanship cannot easily pass that

knowledge on to other soldiers. Computers have faster learning curves. They not only speak the same language, but can be connected directly via a wire or a network, which means they have sharable intelligence.”³⁴ He envisages that the dawn of the robot soldier represents nothing less than the end of the human monopoly on war.³⁵

The Pentagon already distinguishes between what it calls “self-directed” and “self-deciding” systems in its *Unmanned System Integrated Roadmap*: “self-directed” systems are semi-autonomous and pre-programmed to perform actions independently. The jet-powered Global Hawk UAV, which can stay aloft for thirty-five hours and fly as high as 60,000 feet, can already operate independent of human control, albeit within parameters set by humans. By contrast, a “self-deciding” system is a fully autonomous robot which responds on its own to sensors and does not have a pre-programmed response, but rather seeks “optimal solutions in unforeseen situations” by acting like a human brain.³⁶ Once again the challenges of keeping a human in the loop with such systems, especially if in operations against an adversary’s autonomous systems, become obvious.

While we currently witness remote-controlled, robot-on-human warfare, the political scientist Dr. Elinor Sloan predicts that soon we shall see robot-on-robot warfare, with battles fought in the skies between unmanned combat aerial vehicles.³⁷ Fighter jets piloted by AI already tend to beat human pilots in simulated dogfights, not least because they can near-instantaneously “identify patterns of conduct that even an adversary did not plan or notice, then recommend methods to counteract them.”

Any states that want a modern military must embrace AI, and, as Kissinger and Eric Schmidt argue, “The solution to these complexities is neither to despair nor disarm.”³⁸ An arms race in AI between China and the United States is already well under way, with each aiming to develop it for tactical – and even strategic – purposes. The dawn of AI brings the world to what Kissinger and Schmidt call “the threshold of a strategic transformation as consequential as the advent of nuclear weapons – but with effects that will be more diverse, diffuse, and unpredictable.”³⁹

Dr. Sloan has summed up the ethically positive aspect of robots on the future battlefield, pointing out that they "will not carry out revenge attacks on civilians, commit rape, or panic in the heat of battle. They do not have human emotions like fear, anger, and guilt, which may lead to war crimes, and they are not constrained by desire for self-preservation."⁴⁰ It has fallen to Lawrence Freedman to set out a useful corrective, pointing out what robots cannot do. In a sober synthesis of robotic potential and its realistic limitations, he argues that:

Set against a human commander, an AI commander will still have many drawbacks. Machines cannot lead by their brave example, or explain the rationales of their decisions to humans. They have no moral sense or personal fear. They might be able to manage multiple tasks, but would struggle to switch to a wholly new endeavor. Moreover, because AI is about machine learning, situations with many new features might spook the AI commander ... Unlike a human commander, an AI commander might fail to attach significance to a few odd points in the incoming data that would attract human curiosity ... AI might be tactically brilliant but it is strategically banal.⁴¹

None of that means that AI does not represent the future of war, however. The US Air Force has undertaken plane flights and radar systems operations without human overrides. Unresponsive to human logic, such systems are not affected by long-established norms, signals or misdirections. The AI-flown warplane knows "only its instructions and objectives, not morale or doubt ... When two AI weapons systems are deployed against each other, neither side is likely to have a precise understanding of the results their interaction will generate or their collateral effects."⁴² Any future conflict might thus be liable to escalation that is highly unpredictable.

This is, of course, most dangerous in the nuclear sphere. AI strategist Kenneth Payne notes "intriguing parallels" between the developments of artificial intelligence and nuclear strategy. Both are "offset" developments that can make up for the disadvantages in conventional

weaponry. In the nineteenth century, Clausewitz believed that war was limited "both by the capabilities available to the belligerents and by their desire to pursue particular goals through violence"; however, as Payne points out, in the twenty-first century, "War involving AI need not be subject to the same limitations. If the AI miscalculates what its human principals want, there is tremendous potential for catastrophic and unwarranted violence."⁴³ A robot intent solely on defeating an enemy, therefore, might blow up the world in the process.

For all that this might sound like the stuff of science fiction, it is currently evolving, and rapidly. Delegating autonomy to machines saves all-important time in active conflict. Today, more than thirty countries have robot autonomized weapons for situations for which the speed of engagement is simply too fast for the human mind to respond to in real time.⁴⁴ Sixteen nations operate armed drones. The Israeli Harpy drone searches areas for enemy radars which it can then destroy without requesting human permission, something which the Chinese have already reverse-engineered.⁴⁵ Such systems typically have very clear, machine-verifiable criteria that the machine has to meet before taking action. For over a decade, South Korea has employed a heat-detecting robot sentry gun facing North Korea across the demilitarized zone to dissuade North Korean infiltration.⁴⁶

Attempts to stem the more morally dubious elements of technological development often rest on the tender consciences of individual states, which may not prove substantial – and non-state actors might have even fewer qualms. Russia is developing armed ground robots to lessen its human casualties in any future war against NATO, though their failure to be deployed in Ukraine suggests that they are not yet ready, and General Gerasimov has stated that in the near future a "fully robotized unit will be created, capable of independently conducting military operations."⁴⁷ Keeping in mind that one of the few factors limiting Putin in Ukraine is the heavy losses that Russia is currently sustaining, one can only imagine what might happen if it were mainly robots who were bearing the brunt of action instead of flesh-and-blood fathers, brothers and sons.

For the advantages robots enjoy on the battlefield are immense: they can be faster, smaller (or larger), lighter (or heavier) and more dexterous

than humans. And they can have far greater resilience, require no sleep, can cross any terrain and can take part in suicide missions that rest on the conscience of neither themselves nor their operators. The idea that they will not be employed by countries out of moral considerations is ludicrous; rather than presenting a moral Rubicon, many nations consider robotics a moral boon. That some states, fearful of the moral compromises involved, may not use or develop robotics is similarly absurd – especially in the light of history, which shows that humans have tended to grasp at the most lethal weapons possible, especially in dire situations. Moreover, in future wars the need to try to jam or “fry” the electronics of enemy robots will mean that the electromagnetic spectrum will be even more contested than it is already. Of course, many of the systems contesting that spectrum will be robotic, as well.⁴⁸ On Russia’s Knowledge Day in 2017, Vladimir Putin told Russian school-children that “Whoever becomes the leader in [AI] will become the ruler of the world.”⁴⁹ In this, if little else, he may well be right.

Nuclear weapons

President Kennedy predicted that sixteen states would have achieved nuclear arsenals by the end of the 1960s; however, today there are only nine: the United States, Russia, the United Kingdom, France, China, Israel, India, Pakistan and North Korea. His prediction would have been closer had not South Africa, Belarus, Kazakhstan and Ukraine acquired and then disposed of their own nuclear capabilities.

Nuclear threats interwove the major conflicts of the second half of the twentieth century, from Douglas MacArthur’s request to use tactical nuclear weapons during the Korean War to the Cold War nadir of the Cuban missile crisis. More recently, Vladimir Putin has elliptically threatened the use of tactical nuclear weapons in 2014 and 2022. Implied nuclear threats between India and Pakistan have been a continual source of mutual antagonism since 1974, and the advent of tactical nuclear weapons in Pakistan makes that situation even more delicate.

Despite that, easily the most serious present-day threat to the delicate balance of nuclear non-proliferation is Iran. In addition to its

asymmetric or hybrid approach to warfare, Iran's concurrent response to its own conventional military inferiority has been a longstanding interest in acquiring nuclear weapons. Ayatollah Khomeini had originally been uninterested in Iran's nascent nuclear program and had begun to close it down, but after the devastation of the Iran-Iraq War, his military aides convinced him that developing nuclear weapons would provide security against Iraq, Israel and the United States.⁵⁰ Had Iran already possessed the bomb, they argued, it would have prevented the Iran-Iraq War entirely.⁵¹ The United States needs to stay at the forefront of efforts to prevent Iran acquiring a nuclear bomb, which would both pose a threat in itself and serve as an incentive for several of its enemies in the region to acquire one too.

When a possible future invasion of Taiwan by the Chinese is wargamed at high level by the Center for a New American Security, the confrontation between China and the United States escalates into the nuclear sphere very quickly and disturbingly.⁵² This seems to reflect Lawrence Freedman's observation that much in future nuclear warfare will depend on "the likely passions raised by the preceding conventional campaigns, in which many would have already died."⁵³ The desire for vengeance is one of the most basic human emotions and one of the most mutually destructive, but, as held true during the twentieth century, hopefully the sheer ubiquity of the devastation caused by nuclear weaponry might give pause to even the most bloodthirsty of leaders. "Since the dawn of the nuclear age we have progressively acquired the capacity to call the ultimate moment of truth, and we are not gods," stated Father Bryan Hehir, the Dean of Harvard Divinity School, in 1987. "But we must live with what we have created."⁵⁴

Disinformation

There are currently five widely recognized dominions of warfare – land, sea, air, cyber and space – but it appears that a sixth should be added, namely information, which is more important now than ever before. "A great part of the information obtained in war is contradictory, a still greater part is false, and by far the greatest part is uncertain," wrote Carl

von Clausewitz in the aftermath of the Napoleonic Wars. Two hundred years later, that observation is still true, and still pertinent. From Stalin's *desinformatsiya* campaigns to Sergei Lavrov's 2022 insistence that Russia "did not attack Ukraine," disinformation has been a crucial component of modern warfare that shows no sign of lessening.⁵⁵

In 1988, just before the fall of the Berlin Wall, the East German Ministry of State Security (the "Stasi") employed 90,000 people directly and had a further 175,000 "unofficial collaborators," or informers, on its books. Some were the teachers, landlords, employers and even parents and spouses of targets. Its files alone cover 70 miles of archival shelves in fourteen locations serviced by 1,400 people. The Stasi was exceptionally harsh, ideologically unbending and thorough. According to one history, it "even collected samples of its enemies' body odour from chairs and sofas on which unsuspecting victims had been sitting."⁵⁶ One of its principal tasks was to sow conspiracy theories in the West that were detrimental to its ideological foes.

The methods of promoting disinformation changed over time in Russia as the KGB First Chief Directorate became the SVR.⁵⁷ Much like the various terms for hybrid warfare, however, it retained the same core characteristics. The internet was to give the phenomenon of disinformation an entirely new lease of life in the 1990s, as the historian Thomas Rid has observed, although the level of craftsmanship by disinformation specialists fell significantly:

Digital storage made it possible to breach targets remotely and extract vast amounts of compromising material. The internet facilitated acquiring and publishing unprecedented volumes of raw files at distance and anonymously. Automation helped to create and amplify fake personas and content, to destroy data, and to disrupt. Speed meant that operational adaptation and adjustments could take place not over years, months or weeks – but in days, hours, even minutes ... And the darker, more depraved corners of the internet offered teeming petri dishes of vicious, divisive ideas, and guaranteed a permanent supply of fresh conspiracy theories.⁵⁸

Genuine and legitimate leaks can mask those planted by hostile actors, who can also plant disinformation. An FSB hack into the Ukrainian Central Electoral Commission's network in May 2014, for example, managed to invent a chart that suggested that the far right was likely to win the upcoming election, which was then reported on Channel One, Russia's most watched TV station.⁵⁹ The FSB hoped that this would confirm in Russian minds the truth of their propaganda that the Ukrainian government was neo-fascist – a line they continued to push to justify their invasion in 2022 as an effort to de-Nazify Ukraine. As Rid writes, such measures are designed “to erode the capacity in an open society for fact-based, sober debate, and thus wear down the norms and institutions that resolve internal conflict peacefully.”⁶⁰

With the advent of deepfakes and video footage that can be altered by AI, seeing should no longer equate with believing.⁶¹ It is not hard to create a deepfake; the technology can create original images from the ether.⁶² One such was “Katie Jones,” a young woman with professional connections to the Center for Strategic and International Studies and the White House. She had impeccable professional standing, ability and competence, but simply did not exist.⁶³

China in particular uses networking websites for espionage purposes. “Instead of dispatching spies to some parking garage in the U.S. to recruit a target,” states William Evanina, Director of the US National Counterintelligence and Security Center, “it’s more efficient to sit behind a computer in Shanghai and send out friend requests to thirty thousand targets.”⁶⁴ In the spring of 2019, a retired CIA officer was sentenced to twenty years in prison for selling classified information to a Chinese intelligence agent who had contacted him while posing as a recruiter on LinkedIn.⁶⁵ So common is this use of deepfake-illustrated profiles used to contact Western targets with access to sensitive defense information that NATO intelligence agencies have publicly warned of the tactic.

As well as videos, audio deepfakes can mirror the tones, accents and intonations of public figures, since most anti-hacking software focuses on traditional fraudulent activity and cannot easily detect computer-generated voice mimicry. Politicians and military leaders might be

opening themselves up to audio mimicry every time they speak in public, yet in the words of one cybersecurity expert, "You can't go around and be silent the entire time. You're going to run into situations like this where you expose information that you never thought could be used against you."⁶⁶ Efforts are always under way to detect such technology, and there will always be an arms race between detection and generation.⁶⁷

In 2019, some 42 percent of the global population regularly used social media in some form or other, so there is an enormous number of people who are vulnerable to such misrepresentations and disinformation.⁶⁸ There is also an information crisis presently haunting democracies; one MIT study has shown how it takes truth about six times as long as falsehood to reach 1,500 people, and that disinformation was 70 percent more likely to be shared on social media than a piece of news that was true.⁶⁹ Once again, advances in human nature lag far behind advances in technology.

Operation Denver, a KGB disinformation campaign of the 1980s focused on blaming the AIDS virus on a CIA-funded biological laboratory, was a significant success. In a telegram sent to its allied Bulgarian secret service, the KGB reported that:

We are conducting a series of measures in connection with the appearance in recent years in the USA of a new and dangerous disease, Acquired Immune Deficiency Syndrome ... and its subsequent, large-scale spread to other countries, including those in Western Europe. The goal of these measures is to create a favorable opinion for us abroad that this disease is the result of secret experiments with a new type of biological weapon by the secret services of the USA and the Pentagon that spun out of control.⁷⁰

The KGB then leaked false information to sympathetic newspapers, claiming the development of the disease occurred through Pentagon operatives travelling to Zaire, Latin America and Nigeria to collect samples of deeply malignant viruses which could be used to create the

HIV supervirus, and which were secretly tested on Haitian and American homeless, addicted and homosexual people. Denver was a massive and costly undertaking that spanned several intelligence agencies and relied on traditional forms of media to pass into the public consciousness. By 1992, it had succeeded in convincing 15 percent of Americans that the virus had indeed been deliberately produced by the CIA in an American laboratory.⁷¹

Directly comparable is the Chinese operation undertaken to convince the world that Covid-19 was an American bioweapon. This disinformation was tweeted to Western conspiracy theory websites and only required a small fraction of the infrastructure of Operation Denver. Whereas Denver had taken months and years fully to germinate, within days of the Chinese campaign starting in 2020, some 29 percent of the American population believed that Covid had been artificially created in a laboratory outside China.⁷² Social media may have revolutionized information-sharing, but it frequently fails adequately to differentiate between fact and fiction, with generally harmful effects for Western democracies.

After 298 lives had been lost when the Malaysian civilian airliner MH17 was shot down by pro-Russian separatists with a Russian-made missile in 2014, no fewer than 260 different explanations were suggested by Russia and its supporters, from the predictable accusation that it was shot down by the Ukrainians to the inventive one that each passenger had been a carefully arranged cadaver, put into a plane and deliberately shot down over Donbas as a provocation.⁷³ Similarly, the attempted murder of Alexei Navalny through the poisoning of his underwear with a nerve agent in 2020 was blamed on Navalny drinking too much on a flight to Tomsk.

Putin's war in Ukraine in 2022 led to a freshly galvanized series of Russian disinformation campaigns, spearheaded by his intelligence services. Ukrainian soldiers fighting in the Donbas region were targeted with cell-phone messages from supposed comrades urging them to desert or surrender, for example. Russia employed a drone-based Leer-3 electronic warfare system capable of targeting thousands of mobile connections at any given time, hoping that they could capitalize on

enemy soldiers' loneliness and fear.⁷⁴ Ukrainian expertise with such technologies and operations was also used against Russian forces and citizens.

Moscow's disregard for the truth can backfire, to the point that sometimes Russian statements are disbelieved even when truthful.⁷⁵ This disregard is often so blatant that it can be immediately revealed. After an attack at a Ukrainian shopping mall in 2022 that killed around a dozen civilians, Sergei Lavrov explained that a hangar nearby which was used to store European and American ammunition and weapons had been bombed, an action which had unintentionally resulted in the mall catching fire soon afterwards. Unfortunately for this narrative, many witnesses testified that a Russian missile had indeed directly hit the shopping center, in what one Ukrainian politician described as a "pre-determined, deliberate attack on civilian infrastructure knowing well enough civilian people, peaceful people would be there."⁷⁶

Open-source intelligence

Open-source intelligence has come into its own during the Russo-Ukrainian War, overwhelmingly on Ukraine's side, where social media, commercial satellite images and cell-phone data have yielded almost as much actionable intelligence and information as the traditional sources. This marks a significant development in the evolution of warfare, reflecting the fact that there is a massive, almost overwhelming, quantity of unclassified material available online or for purchase that includes posts on social media and web forums, as well as commercially available data and imagery collected by technology firms and advertising companies.⁷⁷ There are also firms that can track all ships at sea and others that track all aircraft in the skies.

Commercial satellite imagery enabled Western defense and intelligence officials (augmenting classified imagery, but more easily releasable) to monitor and publicly report on Russia's mobilization before February 2022, and has continued to provide strategic and tactical military insight since. This has enormous consequences. It has been estimated that, by the late summer of 2022, at least thirty-two

Russian battalion tactical group command posts had been destroyed by Ukrainian military strikes that were helped in some way by these new technologies.⁷⁸ Location-tracking apps installed on Russian cell phones have also offered particularly useful insights. In April 2022, a Ukrainian whose Apple AirPods had been stolen by a Russian soldier was able to track Russian troop movements by using the "Find My" app.

Drones

Although unmanned aerial vehicles (UAVs, or drones) were originally intended for reconnaissance in the air, they were swiftly developed into lethal systems, and their maritime counterparts are now also being used underwater, combining mine and torpedo technology.⁷⁹ By 2009 there were already more than 5,300 drones being used by the US military, and virtually no mission took place without their help.⁸⁰ Drones costing as little as \$3,000 have also been used to direct artillery strikes, especially effectively by the Ukrainians, and it is likely that in the Russo-Ukrainian War, just as in the First and Second World Wars, artillery will have caused more military casualties than mortars, machine guns, aerial bombing and all other kinds of weapons combined.⁸¹ "All wars have their iconic weapons, from the AK-47 to the I.E.D.," the *New York Times* has commented. "In Ukraine, it's the drone."⁸²

In his 1886 poem "Arithmetic on the Frontier," Rudyard Kipling pointed out how cheap were the weapons that could kill a British public-school-educated officer. "Two thousand pounds of education," he wrote, "Drops to a ten-rupee jezail." The heavy, long Afghan jezail flintlock rifle proved the financial asymmetry of warfare in the nineteenth century, but the phenomenon is just as true today, when a missile from a \$35,000 Next-generation Light Anti-tank Weapon (NLAW) can destroy a \$2 million T-72 tank.

There are dozens of different types of drones, some of which will inevitably play a significant part in future conflict. The US Army has near-silent, pocket-sized Black Hornet drones that weigh only 1.1 ounce (32 grams) and survey surroundings to give troops situational aware-

ness through live video transmissions. By contrast, the Predator is a 27-foot-long, \$4.5 million, propeller-powered drone that can spend up to twenty-four hours as high as 26,000 feet in the air and is piloted (after locally controlled takeoff) some 7,500 miles away in Nevada. It can be armed with laser-guided Hellfire missiles, a 500 lb. precision bomb and other munitions. In the first year of the war in Afghanistan, Predators took out 115 targets there, a number that grew exponentially over the years.⁸³ To be sure, the experiences for the operators who fly them from bases in the United States can be jarring. "You are going to war for twelve hours, shooting weapons at targets, directing kills on enemy combatants," says one operator, "and then you get in the car, drive home and within twenty minutes you are sitting at the dinner table talking to your kids about their homework."⁸⁴

Russia has used Iranian-made drones in Ukraine since midsummer 2022, and that October they were used to attack civilian targets in Kyiv.⁸⁵ The world's first drone war is undoubtedly a harbinger of the future, although it does not yet feature the extensive drone-on-drone engagements that will probably become ubiquitous in future conflicts.

In the last days of June 2022, a precision munition launched from a drone struck and killed a senior member of a Syrian al-Qaeda-linked group. Rather than employing a traditional explosion that might risk civilian collateral damage, the Hellfire R9X missile instead used a 100 lb. warhead with six extendable blades designed to shred just the intended target. Described by one US official as "an anvil that falls from the sky at full speed," it leaves little but the mangled remains of a car, balcony or, in this case, the motorcycle that the terrorist leader had been riding. One British newspaper reported the attack with the headline: "Motorbike-riding Al Qaeda chief is MINCED by US Hellfire Ninja Missile in Precision Drone Strike on Syrian Dirt Road."⁸⁶

Defense against drones is thus a priority for the US. Among other initiatives, it has developed a new "proximity" airburst to protect its Stryker armored fighting vehicles against incoming drones. This ejects small munitions equipped with radio-frequency sensors able to detect drones and explode. While tests have been successful against small numbers or groups of drones, swarms of drones have a much better

chance of getting through, as has been seen in Ukraine, though recent breakthroughs in directed-energy weapons by both Israeli and US companies suggest that even swarms will be vulnerable to high-powered microwave and laser weapons systems.⁸⁷

US armed drones have operated successfully in Bosnia, Iraq, Afghanistan, Yemen, Somalia, Libya, Mali and many other countries during the halcyon period of near-total US technological supremacy. They were invulnerable in those locations in a way that they may well not be against a scientifically advanced nation in the future, especially against swarming. As noted above, it is feared that even aircraft carriers might be vulnerable to this kind of attack, an area which the Iranians are believed to be pursuing. Dr. Elinor Sloan believes that, should this swarming concept be implemented, it would mark a change of direction in the evolution of warfare, by reintroducing the importance of mass and quantity after more than a century of developments focusing on mobility and agility.⁸⁸

Enormous investment is being concentrated on technology aimed at countering such possibilities, from hacking and jamming to directed-energy weapons that can melt or incinerate drones and their electronics.⁸⁹ One of the more significant anti-drone developments is the potential use of microwave energy, currently effective at destroying drones but imprecise at distinguishing between friend and foe. One invention, the Leonidas Pod, is a small unit that uses gallium nitride transistors to produce microwaves, and can be mounted on ground platforms or attached to larger drones capable of lifting heavy weights. When a swarm of drones emerges, the combination of a precise, nimble drone or a ground platform and a streamlined high-powered microwave system can destroy it. One engineer notes that the operator can distinguish between friendly and enemy drones, and is able to create a protective sphere around a "friendly system."⁹⁰

In August 2018, there was an assassination attempt on President Nicolás Maduro of Venezuela using two DJI-M600 drones armed with a kilogram of explosives. It failed, wounding nearby soldiers, but future such attempts will likely become more sophisticated, more accurate and more effective. Over time, it is likely that increasing numbers of

government facilities and even venues with large crowds will need to be protected with counter-drone systems.

Drones – in all domains – have many uses. They can take supplies to nuclear submarines, for example, thus prolonging their time on station.⁹¹ Unmanned maritime vessels and aircraft give militaries much improved visibility over the oceans. By the summer of 2023, the US Navy had around a hundred small maritime and aerial surveillance drones operating from the Suez Canal to waters off the Iranian coast, feeding information to the US Fifth Fleet. Captain Michael Brasseur believes that in this crucial area the United States is “truly on the cusp of an unmanned technological revolution.” Maritime drones can float at sea for up to six months, sending detailed images back to land-based military analysts. Vice Admiral Brad Cooper says that the US Navy uses them “to detect activity that we simply did not know was previously happening.”⁹² The drone fleet has already detected Chinese naval ships moving through Iranian waters, as well as likely illicit transfers between ships and actions by vessels using electronic trackers to disguise their identities. It is likely that undersea surveillance systems – and, over time, lethal systems – will become increasingly capable and ubiquitous.

As we saw in Chapter 9, drones that are relatively modest in capability compared to a US Reaper have become an essential tool for Ukrainian and Russian forces. Yet the capabilities we are seeing employed on the battlefield in Ukraine are really quite limited in range, surveillance capability, armament and duration compared to what may be coming.

The future will also bring increasingly precise and capable munitions for all forms of weaponry – surface-to-surface, air-to-surface, air-to-air, sub-sea to surface, sub-sea to sub-sea, cyber weaponry and so on. The advanced systems already in use by the United States and others are incomparably more capable, and also integrate imagery and other information collected by overhead systems operated in outer space, with the resulting intelligence enabled considerably by other systems that exploit AI and machine-learning capabilities. “The power of advanced algorithmic warfare systems is now so great that it equates to having tactical nuclear weapons against an adversary with only conventional ones,” states one executive of a company producing this technology.

"The general public tends to underestimate this. Our adversaries no longer do."⁹³

Sensors and electronic jammers

Sensors are an integral part of most major modern militaries, and they, too, are experiencing revolutionary developments in capability. The so-called "internet of things" – encompassing any objects with sensors and processing software that exchange data with others via communication networks – creates a world of new opportunities for military operations. Today's civilian sensors, which can be used by the military, are often imperfect and vulnerable to manipulation and exploitation, but they contribute an unprecedented amount of data for virtually any given area.⁹⁴

Sensors allow soldiers to detect and hit opponents without revealing their own positions. Increasingly, forces can be detected even without movement, as infrared and thermal imaging devices proliferate on modern battlefields.⁹⁵ Soldiers and civilians alike are able to track and be tracked through data pouring in and out of battlefield technology, making it very hard to hide from anyone.

The electronic warfare undertaken in Ukraine by Russia, including the jamming of electronic equipment, has invigorated the response of some NATO armies. Electronic warfare is one of the hardest capabilities to discern on the battlefield, and Russia's electronic efforts in Ukraine imply that the days when troops could sit in a tactical operations center with perfect communications are over.⁹⁶ Ukrainians have taken to using unjammable analogue landline phones, and American servicemen have been taught to expect their own electronic communications to be jammed in future combat.

There was a Cold War adage that has even greater relevance today than it did in those times of much less sophisticated intelligence and surveillance systems – as well as much less precise and shorter-range munitions and before the advent of today's armada of unmanned and robotic weapons systems. "What can be seen can be hit," it observed, "and what can be hit can be killed." Given the advances of the past three

decades, particularly the proliferation of sophisticated surveillance systems aided by computer analysis, this adage is one that has to be taken very seriously.⁹⁷ For today, virtually any significant military platform – ship, plane, fighting vehicle, base, headquarters, logistical site and assemblage of troops – can be seen in a given theatre of war. And if it can be seen, it can be hit and killed with weapons that fly at hypersonic speeds, can overwhelm defenses with capabilities that include swarming munitions and have extraordinary precision. It is this confluence of factors that often leads military leaders to observe that they must dramatically transform their forces and all aspects of them in order to ensure deterrence of the most capable potential adversaries. In future wars, expensive and important weapons systems will have to be protected from inexpensive drones and precision missiles linked to networks of sensors.⁹⁸

Cyber warfare

In 2007, Moscow launched a cyberattack against Estonia, shutting down websites associated with its parliament, ministries and banks, and hoping to spark a run on Estonia's currency. A similar but more sophisticated attack occurred a decade later, when cyberattacks on Maersk brought the shipping conglomerate with seventy-six ports and nearly 800 ships to a halt – and, with it, a fifth of the world's shipping capacity. While the GRU (Russian military intelligence) hired smart young computer science graduates to work for it, the FSB by contrast tended to employ illegal hackers, who escaped jail by being transformed into what it termed "patriotic hackers," and who attacked Estonia in 2007, Georgia in 2008 and Ukraine almost continuously since the Russian invasion of Crimea in 2014.⁹⁹

By the time of the 2022 invasion, Ukraine had long been a testing ground for Russian cyberattacks. With the release of the NotPetya virus on its systems in mid-2017, for example, Ukraine lost an estimated \$10 billion. Russia was testing its cyber warfare tactics, with great success and very little blowback. However, those attacks and subsequent Western assistance helped Ukraine to dramatically improve its cyber

defenses and resilience, as was evident when Russian cyberattacks during the invasion achieved much less disruption than Moscow had hoped to create.

In 2010, Iran became an unwilling host to the world's first digital weapon. Stuxnet, a tenacious and malicious computer worm, had been smuggled into the country and let loose upon Iran's Natanz nuclear facility. Computer viruses and worms had existed prior to this, but Stuxnet differed in a dramatic way: rather than simply hijacking computers, it also destroyed the equipment that the computers controlled.¹⁰⁰ For two years, the worm operated undetected, sabotaging Iran's uranium enrichment program.¹⁰¹ Enrichment at Natanz ground to a halt multiple times throughout 2010, and centrifuge operational capacity fell by 30 percent.¹⁰² Though Iran took the brunt of Stuxnet, the worm spread to Indonesia, Pakistan, India and even the United States – which was believed to be one of its two architects, alongside Israel. Ultimately, America took less than 2 percent of the total Stuxnet damage, a bearable amount of collateral damage in light of the greater aims being achieved.¹⁰³

Worms and viruses are not the only means of extracting information from electronic devices. For all that TikTok was useful to the Ukrainians in disseminating information about the war, the platform had disadvantages. Security experts fear that TikTok user data can be harvested by the Chinese company ByteDance and passed on to the Chinese government, which can then track the location of government and military employees, steal intellectual property and build blackmail cases against individuals.

The Russo-Ukrainian War has already provided militaries all over the world with invaluable insights into the many ways that warfare is evolving. It is already being studied as intently as the Yom Kippur War was in the years after 1973. One lesson has been that, as an influential study by the Royal United Services Institute puts it, "There is no sanctuary in modern warfare."¹⁰⁴ Because the Russians have been able to strike deep into Ukraine, in future wars survivability will depend on the wide dispersal of, among other things, ammunitions stocks, command-and-control

centers, maintenance areas and, especially, aircraft. In previous wars we have seen air forces destroyed on the ground - in June 1941 some 40 percent of the Soviet bomber force was destroyed before it could take off - but the Ukrainians avoided that through dispersal.

Another major lesson is that large stockpiles of shells are necessary for any modern war lasting more than a few days. Although Kyiv was saved by the massed fires of two artillery brigades, and the Ukrainians kept up rough equality of fires in the first six weeks of the war, by June the Russians were firing ten shells to every one Ukrainian.¹⁰⁵ Without NATO's supply of shells, Ukraine could not have stabilized the line in the Donbas. Yet no NATO country besides the USA has the depth of shell production and stockpiling necessary to fight a general war, especially not the United Kingdom.¹⁰⁶ As in so many other areas, it is the American taxpayer who is ultimately expected to pick up the lion's share of the costs, and the United States that is the sole indispensable nation in defending the rules-based international order from growing threats.¹⁰⁷ But even the US has to increase its defense industrial base to support the consumption rates in Ukraine.

The constant struggle to deny the enemy space in the electromagnetic spectrum, be it in radio, radar or infrared, and thus to be able to disrupt his use of precision weapons, is only likely to grow as warfare evolves. Ukraine has underlined how electronic warfare can defeat precision weaponry and how it will be essential to victory in the wars of the future, but this will require huge and ongoing investment. With Putin set to spend \$143 billion on defense, security and policing in 2023, some 30 percent of Russia's tax income, the West must not be left behind in this vital area.¹⁰⁸

There are profound lessons from the Russo-Ukrainian War about NATO's best strategic posture for the future, which needs to be oriented along its borders adopting the "hedgehog" approach that assumes defense to be dominant, at least for the immediate future, and strategic maneuver extremely difficult.¹⁰⁹ For the moment, the ancient offense-defense balance has tipped towards the latter because of the ubiquity and relative low cost of surveillance and targeting technologies.¹¹⁰ In any likely future war between advanced powers, the intelligence,

surveillance and reconnaissance systems would be incomparably more capable than we have seen in Ukraine, and precision munitions would have vastly greater range, speed and explosive power. There would also be far larger numbers of very much more capable unmanned systems (some remotely piloted, others operating according to algorithms) in every domain – not just in the air, but also at sea, in the sub-sea, on the ground, in outer space and in cyberspace, and operating in swarms not just individually. And every intelligence and strike capability will be integrated and connected by highly advanced command, control, communications and computer systems.¹¹¹

The implications of the Russo-Ukrainian War for China and Taiwan

We can be certain that military lessons from Ukraine are being studied very carefully by the high command of the People's Liberation Army, and that a good deal of intensive staff work is currently being undertaken in Beijing to apply these lessons to the case of Taiwan.¹¹² As we noted in Chapter 1, Taiwan is the most sensitive and dangerous situation in the world today besides Ukraine itself, because it has the capacity to draw the world's two superpowers into direct conflict in a way that never happened during the Cold War.¹¹³ China may have been emboldened after the chaotic American withdrawal from Afghanistan in August 2021; in fact, the Department of Defense's November 2022 annual report to Congress on national security developments noted that China had "employed multiple diplomatic tools in an attempt to erode U.S. and partner influence," including "highlighting the U.S. withdrawal from Afghanistan."¹¹⁴

As well as learning from the many Russian blunders in Ukraine which we list at the end of Chapter 9, Chinese planners might also feel deterred from invading Taiwan by seeing the Russians' challenges, the Ukrainians' resilience, the dangers of committing tanks and aircraft against NLAWS and Stingers, as well as by the West's unity against Russia and its willingness to employ economic sanctions.¹¹⁵ "The war in Ukraine has in certain respects accelerated and amplified certain

elements of great power *competition*," observes Vance Serchuk of the Center for a New American Security; "however, it has also likely reduced the prospects of great power *conflict*."

That is because the Chinese, always astute students of history, have probably seen what has transpired in Ukraine as a cautionary tale, despite the numerous obvious differences between Russia and China. The reverses that Russian forces have experienced in Ukraine will have reminded Chinese planners that large-scale operations are exceedingly complex and no amount of training can truly prepare a force for what can happen once the "iron dice" are rolled. Certainly, a war between China and the United States and its allies would unfold in ways that are impossible to predict and risk catastrophic global consequences.¹¹⁶

The Taiwanese are undoubtedly also watching Ukraine closely, and have been advised to pursue what the *War on the Rocks* website has described as "an asymmetric dragon-choking 'porcupine strategy,' prioritizing a large number of small things for its defence."¹¹⁷ These include ballistic missile defense, air defense, sea-denial fires, shore-denial fires, mine warfare, information warfare, civil defense and resilient critical infrastructure. Taiwan clearly will seek to glean key lessons and apply them to ensure that their defenses are so substantial as to constitute an effective deterrence.

Conclusion

A number of observations emerge from our review of those conflicts of the post-Second World War era that have seen warfare evolve. Firstly, tragically, Plato was right: only the dead have seen the end of war. Contrary to what was widely expected at the start of the present century, the world has not even seen the end of major wars involving large conventional forces, much less the end of so-called small wars – insurgencies, terrorist campaigns and guerrilla warfare. Beyond that, nuclear weapons, clearly still a critical element of superpowers' and major nations' arsenals and deterrence regimes, certainly have not precluded wars; instead they seem in several cases merely to have placed undefined limits on war rather than preventing it.

We have also been reminded about the potential duration of major wars, not just insurgencies. The Russo-Ukrainian War has, in particular, dispelled the notion that major wars will be short and decisive affairs, and thus militaries can get by with only modest stockpiles of munitions and weapons systems. Russia and Ukraine have been expending such vast quantities of munitions that they and their supporters have had to undertake urgent programs to produce more of virtually every major weapons system and related munitions.¹¹⁸ Any hope that major wars would be resolved as quickly as was the Gulf War has clearly been dispelled.

Ukraine also provides glimpses of what a major war among superpowers might look like, but only glimpses. With a few exceptions such as anti-ship missiles, the Ukrainians' longest range of precision munitions is presently no more than 50 miles (though additional precision munitions being provided by the United States are doubling that), a fraction of that of superpower arsenals. The drones used by both Russia and Ukraine are also fairly limited in range and capability, although Russian use of Iranian drones to swarm Ukrainian air defenses has shown how difficult it might be to defend against such a capability in the future, for such a tactic undoubtedly would feature in war between more advanced militaries, likely in concert with missile strikes.

Air force operations in Ukraine have also been constrained by the air defenses on both sides, and remotely piloted and algorithmically operated air, ground and maritime systems have made only minor appearances beyond the extensive use of relatively short-range aerial drones. Finally, the intelligence, surveillance and reconnaissance assets on each side have been relatively modest, compared with the state of the art of the United States military, for example. The Ukraine War does suggest, however, that actual combat between high-end forces would take to a new level and to vast distances the old Cold War adage noted earlier: "What can be seen can be hit, what can be hit can be killed." Furthermore, combat between superpowers would be carried out with systems that fly many times the speed of sound, are increasingly unmanned and either remotely controlled or autonomous, functioning in accordance with algorithms that instruct the machine, and enabled

by extraordinary networks of sensors and computers, all of which are constantly updated by machine learning and Artificial Intelligence.

This world of unmanned machine-on-machine conflict, in every domain of warfare including cyberspace, and driven by algorithms rather than remote operators, enabled by self-healing communications and surveillance networks, might seem futuristic, but it is not that many years from becoming reality. Ukraine has, once again, provided merely a glimpse of what is already possible and only hints at what might be possible in the future.

Beyond the hardware and technology, however, our examination of post-Second World War conflicts also underscores the central importance of leadership. As we have repeatedly highlighted, effective leadership, especially at the strategic level, is absolutely critical – and can, in many cases, determine the outcome of a conflict. The abilities of the leaders at the top, and also those below that level, to understand the context and nature of the conflict and to get the big ideas – the strategy – right; to communicate those big ideas throughout the breadth and depth of a unit, a country, a coalition, the world; to oversee the implementation of the big ideas, providing example, energy, inspiration, determination and solid operational direction; and to determine how to refine and adjust the big ideas so that the leader can perform the four tasks again and again – these abilities are absolutely critical.

The importance of the ability to perform the four tasks of strategic leadership cannot be overestimated. Indeed, we have seen the impact of great leadership in several of the conflicts – Ben Gurion and Yitzhak Rabin in Israel, Ridgway in Korea, Briggs and Templer in Malaya, Giap in Indo-China and Vietnam, Qaboos and Akehurst in Oman, George H. W. Bush and General Thurman in Panama; George H. W. Bush and Schwarzkopf (with Colin Powell in the Pentagon) in Desert Shield and Desert Storm; Volodymyr Zelensky and his senior lieutenants in Ukraine – just as we have seen what happens when such leadership is lacking – as in Vietnam especially, and in Ukraine where Vladimir Putin and his high command have so far repeatedly demonstrated terribly flawed performances of the four tasks of strategic leadership.

The qualities of a successful military strategist will change from person to person, but there are a central few that all of them need. These include, above all else, strategic judgment, but also stamina, interpersonal skills and a feel for people; an ability to energize, inspire and motivate; the ability to communicate effectively orally and in writing; a degree of personal presence and charisma; a sincere love of servicemen and women; an ability to be tough when needed, but also compassionate when that is appropriate; fortitude in the face of adversity and the capacity to stay calm in the midst of chaos; an ability to deal with setbacks, missteps and mistakes; a sense of what leadership style is required to bring out the best in those immediately below, and also for the organization collectively. A great strategic leader also needs to be able to foresee how a conflict will end.

Conflict also reminds us never to underestimate the moral component and the role of morale in war. The recognition by the Ukrainians that they are, in essence, fighting their war of independence has been an element of incalculable importance to them. So has been the resulting mobilization of the entire country to defend Ukraine against the Russian invaders, who clearly lack the motivation, commitment and, increasingly, professional competence and initiative of their Ukrainian counterparts. Napoleon clearly was correct in observing that "The moral is to the physical as three is to one."

The professional expertise and training of a force, as well as the importance of a professional non-commissioned officer corps, must also be highlighted, as it is non-commissioned officers who are the standard bearers, standard enforcers and trainers at the critical small-unit level. Rigorous and demanding training will always be a vital component of combat readiness. So should be the intangible but critical element of initiative, especially of competent junior leaders empowered and encouraged to exercise initiative and acting in accordance with one of the admonitions in the counter-insurgency guidance issued during the Surge in Iraq: "In the absence of orders, figure out what they should have been and execute aggressively."

The war in Ukraine and several of the other conflicts we have reviewed in this book have also demonstrated the importance of being able to adapt quickly and respond to changing circumstances on the battlefield. A military should always strive to be a "learning organization," especially in war. The side that learns and adapts the fastest typically prevails, and commanders have to take explicit actions to promote a culture of learning and adaptation, to institute various practices and engage in individual actions that all contribute to the overall entity being a learning organization. Commanders have to remember that a lesson is not learned when it is identified, only when it has been incorporated in the big ideas, communicated effectively and actually implemented.

The importance of coalitions also deserves highlighting. As Churchill observed during the Second World War, "There is only one thing worse than fighting with allies, and that is fighting without them." The value of the coalition that the United States assembled and led in supporting Ukraine and in imposing financial, economic and personal sanctions and export controls on Russia – and in encouraging major businesses to curtail or halt their operations in Russia – has been enormous. The same has been true of other successful coalitions, particularly those in the Gulf War.

Related to the importance of coalitions is the importance of non-military means to complement and augment battlefield operations. These clearly deserve note: diplomatic initiatives in the United Nations and the broader international community; financial, economic and personal sanctions; export controls; actions by elements of the business community; and information campaigns.¹¹⁹ All of these are currently contributing significantly to the effort to convey to Vladimir Putin that the war in Ukraine is unsustainable not just on the battlefield but also on the home front in Russia. Such an ultimate recognition is crucial, because until Putin acknowledges that Russia will not be able to out-suffer the Ukrainians, Europeans and Americans he will not make the exceedingly painful decision to suspend or negotiate an end to the war he so rashly began.

The significance of the information domain – striving to "be first with the truth" (not with spin or "putting lipstick on pigs") – has also been

shown to be a key element in warfare. The Ukraine War has demonstrated the importance of actions in this realm, particularly the impressive ones taken by the CIA and MI6 before and after the invasion to release information publicly that clearly came from highly classified intelligence assessments without jeopardizing sources and methods.

While much of this chapter has focused on Ukraine, we cannot forget that other forms of conflict persist in addition to conventional warfare. These include terrorism, insurgency (based on ideological, religious or criminal motivations), cyber warfare, guerrilla actions, major criminal activities (such as those in Mexico) and, increasingly, information warfare. The United States and other major powers have to be able competently to craft campaigns to address such conflicts, as well as major combat operations, ideally to help a host-nation partner resolve them, or, if that is not possible, at least keep the problem from spreading. It needs to be recognized that while major conventional warfare will hopefully be infrequent at most, small wars will continue to be fought and will often continue to require Western involvement in some fashion.

In this regard, it is important that the US and its partners keep the lessons of Iraq, Afghanistan and Syria – and other similar endeavors – fresh in mind and continue to refine them as time goes on. It is also critical that the militaries of the United States, the United Kingdom and other countries sustain the various doctrinal, training, organizational, materiel, leader development and weapons system initiatives and “tactics, techniques and procedures” that, in recent years in particular, have enabled our forces to help local partners defeat serious threats without Western forces having to do the front-line fighting.

In northern Iraq and Syria, for example, the US-led counter-Islamic State coalition provided critical assistance to Iraqi security forces and Syrian democratic forces that enabled them to destroy the Islamic State caliphate and defeat the Islamic State as an army, although remnants of ISIS continue to operate as terrorists and insurgents. Coalition forces were only rarely in the lead, typically only in the most demanding operations conducted by our elite counter-terrorism forces against high-value targets. Rather, our elements provided training and equip-

ping and, most importantly, advice, assistance and enablers – the latter including an armada of drones for surveillance, precision air attack, cyber capabilities, counter-drone assets, intelligence fusion and other forms of support.

Over time, the US Army has established Security Forces Assistance Brigades, and the British Army a Ranger Regiment, in order to augment special forces elements in the conduct of “advise, assist and enable” missions, as the demand for such elements has outstripped the capabilities of the special forces units in our militaries.* It is clear that the demand for such units will remain robust in the decades ahead. While the focus will rightly need to be on deterring the most potentially cataclysmic conflicts, there should be no doubt about the need to continue missions to combat extremists, insurgents and the most dangerous of criminal organizations – but to do so by advising, assisting and enabling local partners rather than fighting on the front lines.

Yet when the United States does have to fight on the front line again, it must be ready to do so. A lesson of Ukraine and of the other post-9/11 wars is that the US, in particular, has to maintain the capabilities for all types of conflict and also other missions – not just major combat operations with a peer competitor across a vast theatre, but also various forms of irregular warfare – counter-insurgency, counter-terrorism, “advise, assist and enable” operations in support of local partners – as well as humanitarian support operations and support to civil authorities, and all of them in all domains.

Conflict also underscores the inevitable human toll of war – both for those engaged in combat and for the innocent civilians caught in it. It recalls for us – especially as we observe the ongoing Russian campaign to destroy Ukraine’s civilian infrastructure – the terrible toll of war on civilian communities writ large. This accentuates the critical need to deter war whenever possible – keeping in mind that deterrence is a function of two factors: a potential adversary’s assessment of our capabilities

* Such missions have often been described as “by, with and through” missions; however, beyond that phrase being ungrammatical, it is also not as accurate a description of such efforts as is “advise, assist and enable.”

on the one hand, and of our willingness to employ those capabilities on the other. Ensuring there are no doubts about either of those components of deterrence is imperative. Hence the need, for example, for the United States and its Indo-Pacific allies and partners to transform their forces in terms of the reach, resilience, survivability, lethality, speed and intelligence means of modern military weaponry and systems. The amount of money that needs to be spent might seem vast, but historically it has always proven to be a mere fraction of what it costs in blood and treasure when deterrence fails.

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General David Petraeus, US Army (Ret.), Arlington, Virginia

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Andrew Roberts, House of Lords, London, England