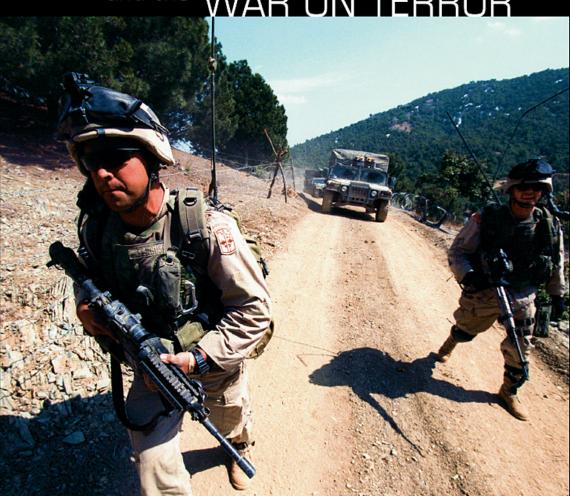# GLOBAL SECURITY
and the WAR ON TERROR

Elite power and the illusion of control

Paul Rogers

Global Security and the War on Terror

As the 'War on Terror' evolves into the 'Long War' against Islamofascism, it demands an enduring commitment to ensuring the security of the United States and its allies. This policy is based on the requirement to maintain control in a fractured and unpredictable global environment, while paying little attention to the underlying issues that lead to insecurity. It is an approach that is manifestly failing, as the continuing problems in Afghanistan and Iraq demonstrate.

Moreover, 'control' implies the maintenance of a global order that focuses on power remaining in the hands of a transnational elite community, principally focused on North America and Western Europe, but extending worldwide. This elite largely ignores socio-economic divisions and environmental constraints, and sees continuing stability as being best achieved by the maintenance of the status quo, using force when necessary.

This collection of essays by Professor Paul Rogers argues that this post-Cold War security paradigm is fundamentally misguided and unsustainable. The book concludes with two new essays on the need for a new conception of global security rooted in justice and emancipation.

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Global Security and the War on Terror

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Introduction

Secure homes

A few miles to the east of Cape Town and close to the suburb of Somerset West lies a new town that is slowly taking shape – Heritage Park. Development started in 1996 and a decade later there are 1,500 residents in 650 new houses, as well as two churches, two schools and several factories. Another 800 houses will be built on the 500 acres of what was originally a farm and vineyard and the development is expected to be very popular with buyers, situated as it is close to the beach and with a backdrop of attractive mountain scenery. As the developers put it: 'The natural beauty of the area will not suffer as existing woodlands and mountain streams will be retained while landscaping and beautification around the developments will ensure a pleasing environment.'[1]

Elsewhere in the marketing literature the developers enthuse about that environment. 'Throughout the town there are several clear mountain streams which have been left to provide a major feature of the town. In the centre of Heritage Park a dam has been stocked with trout and hundreds of water birds have adopted the lake as their sanctuary.' The internal environment of Heritage Park is matched by its location: 'Added to the beauty of the immediate surroundings are the vast and stunning views of blue tinged mountains with wine farms nestling into their folds and the soft golden beaches of False Bay only a few kilometres away.'

A key part of the Heritage Park concept is the provision of enlightened schooling centred on an international school located within the development. This will take 3-year-old children into a nursery school which will feed into a primary school, in turn leading on to a high school through to the age of 18, the whole complex eventually having 900 students. Residents of Heritage Park could see their children educated entirely within the town, and the character of the school is expected to be hugely attractive to those prospective parents:

> The unique blend of the School's philosophy of internationalism; the ethos of Christian love and care which underpins its discipline and

relationships; the internationally respected and recognized broad and balanced curriculum based on the UK National Curriculum and leading to University of Cambridge IGCSE and A level certification has proved to be a recipe attractive to both citizens and overseas visitors alike.

If Heritage Park turns out to be something of a utopia, it has one feature that ensures the peace and tranquillity – the entire development is surrounded by what is described as a 6-foot high fence with 'an attractive palisade style', except that it is less than attractive to potential intruders, being electrified to 33,000 volts. The Heritage Park website says proudly that 'We have taken a leaf or two out of the medieval past and placed it in our future. To be precise, we have stolen the concept of whole-town fortification to create a crime-free state.'

That 'crime-free state' has additional features. Heritage Park has just four entry and exit points, each with security personnel on duty, and residents must have a smart card to pass through, with visitors requiring security clearance. The electrified fence has armed guards on duty every 200 yards, there are optional extra security features in the houses and the whole of the development has surveillance cameras.

The intense security enveloping Heritage Park is in response to high crime rates in South Africa or, more strictly, the perception of high crime rates. South Africa does indeed have a massive crime problem with 25,000 murders each year, but the crime rate is actually falling, although the fear of crime among wealthier sectors of the population is rising.

Heritage Park is not restricted to any particular ethnic group, although all but fifty of the first 1,500 residents are white. The developers also point out that part of the intention is to improve the economic situation for the many thousands of people who live in overcrowded townships close to the complex. The Park itself requires numerous people as labourers, maids, cooks, gardeners and security guards, and the developers have even built accommodation for many of these potential employees, although they live beyond the barrier and must have security clearance to get to work.

Secure states

Heritage Park is a somewhat extreme example of a gated community of the sort that is common right across the world. In northern cities, the richest people seek 24-hour security in their city centre apartments and high levels of protection for their gated communities elsewhere. In Sao Paolo even this is not enough – it is reported to have one of the most active markets for helicopters as the richest members of the elite eschew road travel for fear of drive-by shootings and 'car-knappings', preferring air travel between the rooftop helipads of their city high-rise blocks and their closely guarded country estates.

In a sense, Heritage Park and similar developments are little more than small-scale models for a phenomenon that exists more and more at the level of the state. Countries such as France, Italy and Spain have progressively reorientated their military forces to boost their ability to police the offshore areas of the Mediterranean as increasing numbers of desperate people try to cross over from North Africa. In the United States, border security has reached new levels of intensity as the federal government begins the construction of a 2,000-mile long border security zone between its southern states and Mexico. Budgeted at around $2 billion, this will be akin to the Iron Curtain of Cold War Europe, except that the intention will be to keep people out, not in.

As Western Europe, Australia and the United States progressively address their problems of economic migrants and asylum seekers, so they seek to close the castle gates. 'Give me your tired, your poor, your huddled masses yearning to breathe free' may have been appropriate at the beginning of the twentieth century, but not now. Fears of the barbarians at the gate are ensuring that Heritage Park is becoming more and more of a metaphor for the hundreds of millions of members of the world's elite communities wherever they may live, whether minorities across much of the south, or the majorities in the states of the Atlantic community and East Asia.

In the ten years after the Cold War, there was a marked transition from a bitter and immensely costly confrontation between two superpower alliances to a new axis of potential confrontation as the United States and its allies sought to maintain order in what was seen to be a disorderly, uncertain and even fragile world. The Iraqi invasion of Kuwait in 1990 was the starting point, being an early and uncomfortable response to the idea that a 'new world order' of Western orientated tranquillity was evolving, and the following years saw the progressive reordering of military postures to provide the means to maintain control, especially in the Middle East.

Meanwhile, the benefits of globalised economic liberalism did not appear to be delivering a level of economic success shared across the human community. Poverty remained intractable, an elite sector of perhaps one fifth of the world's people was increasingly successful and pulled away from the majority, and there were early indications of radical social movements arising to press for an improved status for elements of that marginalised majority. Moreover, there were also growing concerns about two key environmental issues – resource security and the potentially devastating implications of climate change. By the end of the 1990s, a disparate anti-globalisation movement was evolving and even leading members of the international business community were expressing doubts as to the viability of the economic model.

Then came the 9/11 attacks and the forceful response from the United States and its partners, first in Afghanistan and later in Iraq. Many of the doubts of the late 1990s were overshadowed by the immediacy and extent of that response but the evident problems facing the war on terror may now mean that such questioning can re-emerge with a new vigour.

Through a series of essays and papers written over the best part of two decades, this book seeks to examine the security context from the Cold War through to what is becoming called the 'Long War', from a confrontation with the 'evil empire' of communism to the new war with the 'axis of evil' of Islamofascism. Part I examines that Cold War period and explores the dangers and diversions of the era and some of the early attempts to suggest an alternative security posture that might have been less likely to lead to a military confrontation. Part II then goes on to look at the Western military transition of the 1990s, with the emphasis on enhanced force projection in the face of the increasingly dominant importance of Persian Gulf oil. The manner in which the jungle of an insecure world is to be tamed is then contrasted with the idea of new security threats that may not be amenable to traditional military control.

Part III gives two opposing examples of military and paramilitary developments. One is the search for 'ideal weapons' as part of the requirement to maintain control. The other is the parallel development of economic targeting by sub-state groups and its implications for those who believe that new challenges can be met by traditional responses. Part IV then goes on to explore the vigorous and violent response to 9/11 and the many problems that subsequently arose for the United States and Britain.

The final part, written for this volume, begins by reviewing the first five years of the war on terror as it transmutes into the Long War, and then returns to the theme of the book, that the current constructions of elite power cannot be maintained. It is an illusion to think that dissent can be contained in a divided and constrained world and it is therefore advisable to seek to evolve a system of sustainable security.

In one sense, the reaction to 9/11 may have resulted in such a forceful yet thoroughly misplaced response that it will make it possible to engage in a thorough and much more deep rethinking of attitudes to security. It might even mean that there is a greater chance of moving towards forms of sustainable security based more on justice and emancipation than on elite control. If so, then the period through to 2020 may be the best opportunity to entertain such changes.

Acknowledgements

several of the contributions to this volume, especially Chapters 7 and 8. Chapter 2 on *Alternative Military Options in Europe* is taken from a book co-edited with Michael Randle that arose directly out of the work of the UK Alternative Defence Commission during the 1980s. Michael Randle and April Carter were the two key people who did such ground-breaking work at that time.

In recent years I have had the advantage of working closely with the Oxford Research Group (ORG), a small but extraordinarily innovative think tank working on a range of international security issues but with a particular concern with sustainable security. One of the essays (Chapter 11) was originally an ORG briefing paper. My work with the ORG has benefited greatly from frequent contact with many of the current and former staff and consultants, especially Scilla Elworthy, Gabrielle Rifkind, Frank Barnaby, John Sloboda, Rosie Houldsworth, James Kemp and Chris Abbott.

Over the years I have learnt a great deal from many talks and discussions with supporters of peace movements across Britain as well as from lecturing at defence colleges in the UK and overseas. Regular lecturing commitments to diverse groups of international students at James I University in Castillon, Spain, and at the UN University of Peace in Costa Rica have been invaluable. Since the 9/11 attacks and the evolution of the 'war on terror' I have found visits to a number of countries, including Iran, Pakistan, the United States, China and Japan to be very useful, and my contributions to www.opendemocracy.net have resulted in many responses and exchanges.

Most of all, though, the real privilege has been to work throughout the whole period at the Peace Studies Department at Bradford University. With a deeply committed group of staff drawing on numerous disciplines and an extraordinary diversity of experience, together with many hundreds of students from over a hundred countries, the Department has provided a unique environment that provide a persistent contrast to the ethnocentric Atlanticism that otherwise so dominates the study of international security.

Paul Rogers
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Part I

Cold War and old war

Introduction

The Cold War came to an end in 1990 and, as a result, is not even a memory for at least 2 billion people across the world. As new generations emerge, it becomes, at best, an interesting sideline of history, even if there remains a residual awareness of the dangers of the nuclear arms race. Even so, one of the persistent themes that has long survived that era is that nuclear weapons kept the peace, with the superpower arsenals being the ultimate deterrent.

It is a theme that needs to be rejected for numerous reasons. The Cold War era was not a period of peace between the superpowers and their associates. Instead, proxy wars were fought across the world in Korea, Vietnam, Afghanistan, the Horn of Africa and elsewhere in which at least 10 million people were killed and 30 million injured. Nor was the nuclear arms race 'safe'. Many analysts were deeply critical of the notion of stable deterrence at the time, and many of the sources of information that have become available since the end of the Cold War confirm their suspicions. During the course of the Cold War there were crises that came uncomfortably close to all-out nuclear war, there were many nuclear accidents, some involving the loss of nuclear weapons and others resulting in the release of radioactive contamination. Indeed a notable feature of the 1990s was the manner in which some of the leading figures of the Cold War era, once they had retired, became convinced supporters of radical moves towards a nuclear-free world.

Furthermore, the Cold War involved a 40-year diversion of a massive range of scientific and intellectual endeavour into an ideological and political confrontation at a time of immense human needs. At the height of the world food crisis of 1974, for example, when several tens of millions of people faced starvation and hundreds of millions were malnourished, a United Nations (UN) blueprint for a 10-year programme of radical improvements in tropical food production was costed at a level of barely 2 per cent of world spending on the military. Given that well over 80 per cent of world military spending was down to the NATO and Warsaw Pact alliances, one gets some appreciation of the diversion of resources. Not surprisingly, the UN proposals never got full funding and now, more then three decades later, the number of people malnourished is scarcely less than at that time.

The two essays in this first part approach the issue of the Cold War confrontation in different ways. The first concentrates on the era itself, with an emphasis on the development and potential consequences of the nuclear arms race. It says little about nuclear proliferation but seeks to indicate the manner in which an interconnected process of relationships between East and West resulted in the eventual deployment of around 70,000 nuclear weapons – sufficient to destroy all major centres of population many times over.

Although written in the late 1990s and covering the four decades from the late 1940s, there is a strong relevance to current developments. The excesses of the Cold War nuclear arsenals may have lessened, even if 10,000 or more nuclear weapons are still deployed, but all the major nuclear powers – the United States, Russia, Britain, France, China and Israel – see a long-term role for nuclear forces and all are modernising their systems. Furthermore, with the rise to nuclear status of India, Pakistan and now North Korea, and with nuclear ambitions developing across the Middle East, an understanding of some of the dangerous features of the Cold War may help provide a context for the years ahead.

At the same time, one of the more hopeful features of the Cold War was the development of alternative approaches to security, especially work undertaken in Europe in the 1980s on non-nuclear defence. The second essay, written in 1988 as the Cold War was just beginning to wind down, explores such approaches. There is some evidence that these ideas were taken up in the Soviet Union during the early part of the Gorbachev era and helped convince Soviet strategists that it was not necessary to match NATO at every level. Whatever the extent of this impact, what is also interesting is that some of the approaches to security that were based on 'defensive defence' do have a marked relevance to the post-Cold War.

1 Learning from the Cold War nuclear confrontation (1998)

Introduction

Since the ending of the Cold War in the early 1990s, two broad views of the confrontation have emerged. One contends that the Cold War ended in victory for the NATO alliance, with the Soviet bloc collapsing first into the Commonwealth of Independent States and a number of independent East European countries, and subsequently into an even looser alliance, with the Russian Federation itself under threat of decline if not disintegration. This analysis sees the nuclear confrontation as an essential part of the process, with stable nuclear deterrence providing a security context within which the much greater free market economic success of Western liberal democracies could ultimately lead to the downfall of a rigid centrally planned economic system. Central to this was the manner in which the Eastern bloc was forced into crippling defence budgets in a desperate attempt to maintain military parity with NATO.

An alternative view acknowledges the role of excessive defence commitments in hastening the collapse of the Soviet bloc, but is critical of the Cold War era as being both massively wasteful of human and material resources and also a highly dangerous period with great potential for disaster. It is pointed out that when Cold War military spending peaked in the late 1980s, it made up rather more than 80 per cent of world military expenditure of around $1,000 billion per annum (at 1998 prices). Not only is this held to be a wasteful diversion of state spending away from pressing national and international human needs, but it also required an immense commitment of scientific and technical capabilities which might otherwise have been available to civil use.

A further development of this view is that the 45 years of the Cold War produced a military/technological momentum which has given rise to numerous advanced military developments which are proliferating across the world in the post-Cold War era. These include biological and chemical weapons, ballistic and cruise missiles, and conventional weapons of mass destruction such as fuel-air explosives, cluster weapons and other area-impact munitions.

The Cold War critique also places emphasis on the dangers of the nuclear confrontation, arguing that nuclear deterrence was far from stable, that there were nuclear accidents and near-disastrous crises and that the much-vaunted notion of stable nuclear deterrence was, to an extent, a myth.

In the 1990s, support for this view has come from some unlikely sources, in particular from a number of former senior military officers and security advisers such as one-time US Secretary of Defense Robert McNamara and the retired head of US Strategic Command, General Lee Butler. Such people are becoming strong advocates of proposals to move rapidly towards further reductions in numbers of nuclear weapons, with some raising the possibility of a nuclear-free world. They argue that the ending of the Cold War does not in any sense rule out the risk of nuclear confrontation, an argument given weight by an event occurring not during a period of peak tension at the height of the Cold War but several years after the East–West confrontation had begun to decay.

Early on the morning of 25 January 1995, a Norwegian-US research team launched a large four-stage Black Brant XII rocket as part of a long-term programme to observe the Northern Lights. The rocket was launched from an island off the North Coast of Norway, an area which had been a very sensitive part of the Cold War, given that it could have been a launch zone for US submarine-launched ballistic missiles aimed at targets in the former Soviet Union.[1]

To avoid false alarms, such experiments were notified in advance to the relevant Russian authorities, and the Norwegian Foreign Ministry had sent a letter to them reporting an impending launch of a research rocket in late January or early February depending on weather conditions. Probably as a result of the chaotic state of the Russian bureaucracy at the time, this message had not been received by Russian radar crews. Moreover, the Black Brant XII rocket was much larger than previous experiments and its four stages resembled the multiple stages of a US submarine-launched Trident missile.

The Trident D5 missile carries six substantial thermonuclear warheads and, to the radar operators, it was not possible to dismiss the idea that it might be part of a surprise attack on Russia. Within minutes, the alert had reached the highest levels in Russia and, possibly for the first time, Yeltsin's 'nuclear briefcase' was activated. It would have been possible for a Trident missile launched from off the Norwegian coast to have delivered its warheads over Moscow within 20 minutes, giving President Yeltsin very little time to decide whether to launch a retaliatory strike. In the event, the early warning system was able to detect, within those 20 minutes, that the Black Brant rocket was not heading for Russian territory, and the alert status was reduced.[2]

Part of the explanation for this sudden and dangerous alert lay with an event in 1987 when a young German, Mathias Rust, flew a light aircraft right across Russia to Moscow and landed in Red Square. Rust's ability to evade detection by Soviet air defences had had a profound effect on the system, making operatives highly sensitive to the need to avoid being caught

out. Thus, at several levels up the ladder of command, officers decided to play safe and pass on the alert rather than check in detail before doing so.

When they first detected the Black Brant rocket, the radar operators could be blamed for causing a false alarm if they passed on details of the launch, but they were concerned that the rocket could just have been part of a missile attack and passed on responsibility to a higher level. The general on duty adopted a similar stance, not least because the 'missile' could have been equipped with an electromagnetic pulse warhead designed to explode high over Moscow and disrupt the Russian command and control system as a prelude to a more general attack.[3]

Once the warning of the rocket's trajectory had been passed on to the Russian command and control system, *Kazbek*, predetermined procedures came into operation, ending with alerts in the three nuclear briefcases held by the Russia President, Defence Minister and Chief of Staff. With the command and control system now operating in combat mode, the trajectory of the rocket was monitored as Yeltsin and his colleagues conferred. Only when it was concluded that the rocket was not a threat was the alert terminated, the whole episode lasting just a few minutes.

The January 1995 incident happened after the Cold War and at a time of relatively low East–West tensions, yet it prompted an immediate high-level alert. Evidence from a number of sources now indicates that there were several false alarms during the Cold War, coupled with numerous nuclear accidents. Together, they indicate a degree of danger during many of the Cold War years which turns out to be fully supportive of the much-derided warnings of anti-nuclear campaigners, so often dismissed as scaremongering at the time.

This chapter examines some of the developing evidence of these dangers and suggests some lessons which arise from this experience. To put this in perspective, though, a brief examination of the general history of Cold War nuclear weapons developments and a more detailed discussion of their potential use is appropriate, not least because this wider context also has a relevance to the future.

Origins and development of Cold War strategic nuclear arsenals

Nuclear weapons were originally developed as a result of the collaborative Manhattan Project in the United States, with the first atomic device tested on 16 July 1945 and atom bombs dropped on Hiroshima and Nagasaki on 6 and 9 August of that year. The Manhattan Project embraced an immediate production capability as well as being a research and development project – had Japan not surrendered in August 1945, as many as ten more atom bombs could have been produced within six months.

Following the end of the war, the United States Congress passed the McMahon Energy Act in 1946, one of its provisions being the ending of

involvement in the nuclear project of states such as Britain, a factor which encouraged Britain's Attlee government to initiate its own nuclear programme. Within the United States, progress was rapid and an arsenal of some fifty free-fall atom bombs was available by 1948, these being deliverable first by Second World War vintage planes such as the B-29, but then by the first of the new intercontinental bombers, the B-36.[4] The Soviet nuclear programme was initiated by the mid-1940s and made rapid progress, leading to the first atomic test in 1949. Both states moved rapidly into the field of fusion or thermonuclear weapons, with the United States testing a device in 1952, followed a year later by the Soviet Union. Britain tested its fission bomb in the same year, and a fusion bomb in 1957. France started a nuclear programme in the early 1950s, testing its first device in 1960, and China followed suit in 1964. Israel's nuclear programme probably delivered useable nuclear weapons by the very early 1970s, India tested a device in 1974, and South African and Pakistani efforts came rather later.

By the mid-1950s, the United States and the Soviet Union were engaged in a full-scale nuclear arms race comprising very powerful nuclear weapons delivered initially by bombers. Concerns over their vulnerability to air defences resulted in intensive programmes to develop ballistic missile nuclear delivery systems, initially with medium and intermediate range missiles based in Europe (and an attempted Soviet basing in Cuba which resulted in the 1962 missile crisis).

The next stage was the development of 8,000-mile range intercontinental ballistic missiles (ICBMs); the first test was conducted by the Soviet Union in 1957, and the United States was the first to deploy them three years later. These ICBMs were based on land, were liquid-fuelled and were slow to prepare for launching, making them vulnerable to surprise attack. If a missile took several hours to prepare for launching, but had a flight-time of less than 30 minutes, there was a vulnerability that led on readily to the 'use them or lose them' outlook.

More immediately, other solutions to this problem of missile vulnerability were sought. One was to develop ICBMs with storable solid fuels which could be kept at more or less instant readiness for launch. A second was to place them in heavily protected underground silos which could survive almost anything short of a direct nuclear strike, and the third was to develop submarine-launched ballistic missiles (SLBMs), which could be fired from large nuclear-powered submarines when submerged and which were, at least in theory, impossible to detect and destroy.

Both the United States and the Soviet Union went on to develop so-called 'triads' of strategic nuclear forces based on ICBMs, SLBMs and heavy bombers. Overall, though, the Soviet Union placed most emphasis on ICBMs and least emphasis on bombers, whereas the United States developed a more balanced set of forces.

During the late 1950s, both superpowers developed extremely powerful weapons, with the largest of the missile warheads and free-fall bombs having

destructive yields of 10–25 megatons, a megaton being equivalent to 1,000,000 tons of conventional high explosive such as TNT. Used against cities, these would be utterly devastating – a 25 megaton warhead detonated at an altitude of 100,000 feet would cause near total devastation over an area of 500 square miles and would cause serious fires up to 25 miles from the point of detonation. Many of the early devices were tested in the atmosphere at ground level and the resultant controversies over the effects of radioactive fallout were early prompts for anti-nuclear campaigning in a number of countries.

By the late 1960s, production lines for several types of strategic nuclear weapon were operating intensively in the United States and the Soviet Union, and strategic nuclear arsenals were numbered in the thousands. There was a belief in the need to have very large forces to ensure the survival of some part of a nuclear arsenal in time of war, but the extent of the forces amounted to a remarkable degree of 'overkill'. Given that the destruction of a handful of major cities and centres of industrial production could devastate the economies of either the United States or the Soviet Union, there was already a developing air of unreality, but this was to be carried to extremes with two new strategic developments under way by the early 1970s.[5]

The first was the development of multiple warheads on each missile, a number of smaller warheads giving a wider 'spread' over a larger target and ensuring greater destructive capability. These multiple re-entry vehicles (MRVs) were then superseded by multiple independently targetable re-entry vehicles (MIRVs) in which each warhead could be directed at a different target. The US Poseidon SLBM was an example of a MIRVed missile – carrying ten warheads (fourteen over a reduced range), it could direct them at targets spread over an area of well over 20,000 square miles.[6]

This MIRVing of missiles coincided with the second round of the Strategic Arms Limitation Treaty (SALT) negotiations from 1972 to 1979. At the very time when these talks aimed to curb increases in numbers of missiles, the two negotiating superpowers were rapidly increasing the number of warheads on each missile, negating the very basis of the talks. Thus, over the seven years of the talks, the United States increased its strategic warhead numbers from 5,700 to 9,000 and the Soviet increase was from 2,100 to 5,000.

In parallel with this MIRVing was a remarkable increase in warhead accuracy. Early missiles were able to deliver large single warheads to within one to two miles of their target, but major improvements in guidance made it theoretically possible for warheads to be accurate enough to destroy missiles in hardened underground silos. By 1980 the United States had a missile, the Minuteman III, which had an accuracy of 600 feet CEP (circular error probable – a 50 per cent chance of a warhead landing within this distance of the target).

Highly accurate missiles carrying multiple warheads could theoretically 'disarm' an opponent's land-based missiles while leaving the attacker with many missiles in reserve. Developments in anti-submarine warfare and air

defences also suggested that other legs of the strategic triad might have some vulnerability, and the notion of a 'disarming first strike' acquired impetus, leading to the development of hair-trigger responses such as launch-on-warning. In such a scenario, a proportion of a state's nuclear arsenal could be launched in a pre-programmed sequence when warning of an incoming missile attack had been received but before the missiles hit their targets. A variant was launch-under-attack, in which retaliation would be delayed until the first detonations of an incoming salvo of missiles, but both strategies had worrying aspects because of the possible effects of false alarms.

By the early 1980s, the United States had over 10,000 strategic nuclear warheads and the Soviet Union about 8,700, and missile and bomber programmes then in progress indicated that the two states would have well over 30,000 strategic warheads by the early 1990s. In the eventuality, the peak was reached in the late 1980s, and improving relations, the ending of the Cold War and the negotiation of the Strategic Arms Reduction Treaties (START) began to have an effect, not just on total warhead numbers but also on the most destabilising strategic weapons – the accurate multi-warhead missiles.

In terms, then, of numbers of weapons and sheer destructive power, the Cold War was characterised at the strategic nuclear level by an extraordinary degree of overkill, which would have been absurd if the policy objective for each state was primarily to be able to cause massive retaliatory damage to the opponent. In the public mind, this was the function of nuclear weapons – to provide an ultimate deterrent against nuclear attack. Thus, with both states able to cause such damage, the existence of mutually assured destruction (MAD) was the underpinning of nuclear stability. In reality, though, this was rarely, if ever, the actual nuclear targeting policy of either the United States or the Soviet Union.

The strategic nuclear postures of the superpowers

If the public perception of nuclear weapons has been to see them as ultimate deterrents, then the declaratory nuclear weapons postures of the United States and the Soviet Union systematically endorsed this perception. The difficulty was that declaratory policies and actual deployment policies were never the same. Furthermore, governments tended to promote the idea of mutually assured destruction in the public mind. This contrasted with military thinking, as demonstrated powerfully by an exchange between Senator Tower and General Jones, then Chair of the US Joint Chiefs of Staff, at a Senate Hearing in 1979:

> SENATOR TOWERS: General Jones, what is your opinion of the theory of mutual assured destruction?
> GENERAL JONES: I think it is a very dangerous strategy. It is not the strategy that we are implementing today within the military but it is a dangerous strategy . . .

SENATOR TOWER: Your professional military judgement is that it is a dangerous strategy and it is not one which we should follow?

GENERAL JONES: I do not subscribe to the idea that we ever had it as our basic strategy. I have been involved with strategic forces since the early 1950s. We have always targeted military targets. There has been a lot of discussion . . . about different strategies. We followed orders, but basically, the strategy stayed the same in the implementation of targeting.

SENATOR TOWER: Unfortunately I am not sure that your opinion was always shared by your civilian superiors.

GENERAL JONES: I agree that there have been some, including some in government, who have felt that all we require is a mutual assured destruction capability. I am separating that from our targeting instructions in the field[7].

There is now ample evidence from the literature on nuclear targeting that both the Soviet Union and the United States targeted their opponent's nuclear forces. General Jones simply did not accept that the basic US strategy had ever been to achieve stability by threatening only retaliation against Soviet cities as in the popular misconception of nuclear strategy being based on assured destruction.

If mutually assured destruction was not the deployment policy for strategic nuclear forces, then what was the extent of the potential for pre-emptive surprise attack? Even as far back as the 1950s, there is evidence that US nuclear planners recognised the advantages to be gained from first strikes with nuclear weapons in time of crisis. A briefing from the Head of Strategic Air Command (SAC) at the time, General Curtis le May, illustrates this:

Q: How do SAC's plans fit with the stated national policy that the US will never strike the first blow?

A: I have heard this thought stated many times and it sounds very fine. However, it is not in keeping with United States history . . . I want to make it clear that I am not advocating a preventive war; however, I believe that if the US is pushed in a corner far enough we would not hesitate to strike first . . . .[8]

From the late 1950s, the United States produced a series of integrated strategic nuclear targeting plans, designed to bring together the targeting undertaken by the ICBM, SLBM and bomber forces. These were (and are) known as the Single Integrated Operational Plans (SIOPs), and, with the rapid expansion of the strategic nuclear arsenals, reached their peak in the early 1980s.

By 1982, Desmond Ball could write of SIOP-5: 'As a result of these developments, the US Target Plans for strategic nuclear war are now extremely comprehensive. The current version of SIOP-5 includes more than 40,000 potential target installations, as compared to about 25,000 in 1974 . . . .'[9]

SIOP-5 had targets in four broad categories:

1   Soviet nuclear forces included ICBM and intermediate-range missiles and their launch facilities and command centres, nuclear weapons storage sites, airfields with nuclear-capable aircraft and ballistic missile submarine bases. There were approximately 2,000 targets in this category.
2   Conventional military forces included barracks, supply depots, and conventional air fields and comprised 20,000 targets.
3   The military and political leadership included command bunkers, key communications and intelligence facilities, and represented 3,000 targets.
4   Economic and industrial targets comprised war-supporting industries such as munitions and arms factories, transport and energy facilities, and industries contributing to economic recovery including coal, steel, non-ferrous metals and cement. This economic and industrial base included 15,000 targets.[10]

Furthermore, nuclear targeting plans such as SIOP-5 involved a number of levels of nuclear war-fighting, ranging from limited use of strategic nuclear weapons for specified actions, through to all-out nuclear war – a central nuclear exchange. Thus, SIOP-5 included:

1   Major attack options (MAO) involved substantial use of strategic nuclear forces against a wide range of Soviet assets.
2   Selective attack options (SAO) included the targeting of Soviet facilities adjacent to allied states, one example being destruction of Soviet military facilities such as air fields and army bases close to Iran, which, in the 1970s, had been an ally of the West. Another selective option, in the event of a war involving China against the Soviet Union, would have been destroying Soviet military forces close to China, an option known colloquially as 'kicking the back door in'.
3   Limited nuclear options (LNO) embraced the selective destruction of fixed enemy military or industrial targets, envisaging an attack that fell short of general destruction but might induce a negotiated end to the nuclear war-fighting short of a central nuclear exchange.
4   Regional nuclear options (RNO) could involve the destruction of leading elements of an attacking force, an aspect of strategic nuclear targeting relating closely to the use of tactical nuclear weapons (discussed later in this chapter).

According to Ball, within each of these groups of options, there was a wide range of further plans, including 'withholds' – targets not attacked – such as population centres and national command and control systems. Decisions to avoid destroying centres of population ran in the face of the declaratory policy of MAD, and avoiding destruction of command and control systems made it more possible to envisage a nuclear war being controlled, with a negotiated

end to the conflict. It is thus clear that SIOP-5, and the deployment policy which it embraced, was firmly based on the idea that nuclear wars could be fought without assured destruction – that victory was possible.

Furthermore, the idea of first strike was certainly embraced, not least in relation to potential Soviet action. As Ball comments: 'Special categories of targets have also been delineated for pre-emptive attacks against the Soviet Union and for launch-on-warning (LOW) or launch-under-attack (LUA) scenarios in the event of unequivocal warning of Soviet attack.'[11]

By the early 1980s, another element was intruding into nuclear strategy, the Strategic Defence Initiative (SDI – popularly called Star Wars) and its Soviet equivalent. SDI made superficial sense in that it appeared to suggest that a state could be protected from incoming ballistic missiles, but most expert opinion was dubious that any missile defence system could be so effective as to provide full protection from thousands of warheads. The more troubling aspect of SDI was the idea that it might be employed in conjunction with highly accurate MIRVed missiles. While an SDI system could not protect against an all-out missile attack, it might offer significant protection against a residual nuclear attack coming from a state that had lost the great majority of its nuclear forces to a disarming first strike.

By the mid-1980s, ballistic missile defence programmes, taken in conjunction with improved missile accuracy, were causing real concern to analysts of nuclear crisis management. Moreover they came in parallel with developments in tactical nuclear policy, especially in Central Europe where the NATO/Warsaw Pact confrontation was most obvious.

The development of tactical nuclear weapons

Although the early nuclear weapons were essentially strategic – intended for use against the core assets of an opposing state – the development of nuclear weapons intended for tactical use within particular war zones was an early feature of the East–West nuclear confrontation. By the late 1950s, both the United States and the Soviet Union were developing relatively low-yield free-fall bombs as well as early forms of nuclear-capable artillery. Over the next 25 years, a remarkable array of tactical nuclear weapons was developed and deployed, covering almost every type of military posture.

As well as free-fall bombs, short-range artillery missiles were developed along with nuclear-tipped anti-aircraft missiles and several types of nuclear artillery and mortars. Nuclear land mines, known as atomic demolition munitions, were developed which could be emplaced to destroy major bridges or tunnels or even block mountain passes. At sea, submarines were equipped with nuclear-tipped torpedoes, surface ships carried anti-submarine nuclear depth-bombs which could be delivered by missile or helicopter, and aircraft carriers could fly off strike aircraft carrying several kinds of nuclear bomb. There were even air-to-air missiles, such as the US Genie, which were nuclear-armed.

By the 1980s, there were around 20,000 tactical nuclear weapons deployed by the United States and the Soviet Union, based in more than fifteen countries and on warships and submarines throughout the world.[12] In the great majority of cases, the presumption was that if such weapons were used, they would not necessarily involve an escalation to a central nuclear exchange. In other words, nuclear war-fighting could be controlled. In the most tense region of the Cold War confrontation, both alliances had policies of the first use of nuclear weapons in response to conventional attack. While the policies of the former Soviet Union are not yet fully clear, those of NATO have been analysed by a number of writers.

The NATO nuclear posture of flexible response

In the 1950s, prior to the Soviet Union having developed a large arsenal of nuclear weapons, NATO's nuclear posture was based on a military document, MC14/2, colloquially termed the trip-wire posture. Any Soviet attack against NATO would be met with a massive nuclear retaliation, including US strategic nuclear forces, and this assumed that the US could destroy the Soviet Union's nuclear forces and its wider military potential without suffering unacceptable damage itself.

By the early 1960s, the Soviet Union was developing many classes of tactical and strategic nuclear weapons, making it less vulnerable to a US nuclear attack. In such circumstances, MC14/2 became far less acceptable to Western military planners, who consequently sought to develop a more flexible nuclear posture for NATO. This became known as flexible response and involved the ability to respond to Soviet military actions with a wide range of military forces, but also with the provision that nuclear weapons could be used first in such a way as to force the Soviet Union to halt any aggression and withdraw[13]

The new flexible response doctrine was progressively accepted by NATO member states in 1967 and 1968 and was codified in MC14/3 entitled *Overall Strategic Concept for the Defence of the NATO Area* and dated 16 January 1968. It was a posture with one particular advantage for the United States in that it might avoid nuclear weapons being used against its own territory. A US Army colonel expressed this rather candidly a few months after flexible response became accepted NATO strategy when he wrote that it 'recognizes the need for a capability to cope with situations short of general nuclear war and undertakes to maintain a forward posture designed to keep such situations as far away from the United States as possible'.[14]

Flexible response remained in operation for close to 25 years, including the period of maximum Cold War tension in the early 1980s. Operational plans for nuclear use were (and are) developed by the Nuclear Activities Branch of the Supreme Headquarters, Allied Powers in Europe (SHAPE) near Mons in Belgium, operating in conjunction with the US Joint Strategic Target Planning Staff responsible for the SIOP strategic nuclear posture.

By the early 1970s, flexible response was well established under the Nuclear Operations Plan, which embraced two levels of the use of tactical nuclear weapons against Soviet forces, selective options and general response. Selective options involved a variety of plans, many of them assuming first use of nuclear weapons against Warsaw Pact conventional forces. At the smallest level, these could include up to five small air-burst nuclear detonations intended as warning shots to demonstrate NATO's intent.

At a higher level of use were the so-called pre-packaged options involving up to 100 nuclear weapons, the US Army Field Manual at the time defining a package thus:

> A group of nuclear weapons of specific yields for use in a specific area and within a limited time to support a specific tactical goal . . . Each package must contain nuclear weapons sufficient to alter the tactical situation decisively and to accomplish the mission.[15]

The belief was that such a first use of nuclear weapons would be enough to 'win' a war with the Warsaw Pact but the possibility remained that this would fail, and a more general nuclear exchange would result. This was termed a general nuclear response, in which NATO nuclear forces in Europe would be used on a massive scale along with US strategic forces.

Thus, by the end of the 1970s, NATO had developed a flexible response strategy which involved detailed planning for the selective first-use of nuclear weapons in the belief that a limited nuclear war could be won. This was followed, in the early 1980s, by two further developments, which made the strategy even more risky.

Since the formulation of MC14/3, the West Germans had been unhappy at the prospect of short-range nuclear weapons being used, since this would involve huge civilian casualties among their own people. They therefore argued within NATO nuclear planning circles that first use should involve the immediate selective targeting of places within the Soviet Union. This required highly accurate ballistic missiles with a very short flight time yet with a range sufficient to hit key targets such as command centres within the Soviet Union. The terminally guided Pershing 2 ballistic missile was the first to have this capability and was deployed in West Germany from late-1983. It was one of a new generation of theatre nuclear forces (TNF) which included US ground-launched cruise missiles and Soviet SS-20 missiles, but it caused considerable concern in the Soviet Union, which did not have a similarly accurate missile.[16]

The second development was a move to an 'early first use' policy, outlined by the NATO supreme commander, General Bernard Rogers, who said that his orders were:

> Before you lose the cohesiveness of the alliance – that is, before you are subject to (conventional Soviet military) penetration on a fairly

broad scale – you *will* request, not you may, but you *will* request the use of nuclear weapons . . . (emphasis in the original).[17]

By the early 1980s, the essence of NATO nuclear planning policy was that nuclear weapons could be used selectively to win a limited nuclear war, they were available for use very early in a conflict, before NATO was losing a conventional war and they could be used immediately against key targets in Soviet territory.

The basis of NATO's first use policy was the perceived conventional superiority of the Soviet Union and its Warsaw Pact allies, although when the Cold War ended it became apparent that the competence, efficiency and technical capabilities of Warsaw Pact forces were highly questionable. At the time, though, the political context of, and commitment to, this policy were neatly summarised by the British government:

> The fundamental objective of maintaining the capability for selective sub-strategic use of theatre weapons is political – to demonstrate in advance that NATO has the capability and will to use nuclear weapons in a deliberate, politically controlled way with the objective of restoring deterrence by inducing the aggressor to make the decision to terminate his aggression and withdraw. The role of TNF is not to compensate for any imbalance in conventional forces. The achievement of conventional parity could have very positive consequences for the Alliance's strategy of deterrence. But it would not, of itself, obviate the need for theatre nuclear forces.[18]

US strategic nuclear policy, together with NATO nuclear policy, were both mirrored by the policies of the Soviet Union. Although the United States tended to maintain a technical lead, especially in such crucial areas as missile accuracy, the Soviet Union established a massive nuclear weapons industry, producing numbers of nuclear warheads which, as became clear after the end of the Cold War, even exceeded the apparently inflated Western intelligence estimates of the Cold War years. Moreover, Soviet strategic weapons were often much more powerful than their US counterparts, somewhat compensating for US technical superiority.

Overall, there was a dynamic of two superpowers entrenched in a nuclear arms race where the first use of nuclear weapons was considered a rational part of military planning and where strategic nuclear developments were so destabilising that tactics such as launch-on-warning were considered necessary developments. Overall, there was a belief that a nuclear war could be fought and won.

Anti-nuclear campaigners, and a few conflict analysts, questioned such policies at the time, but they were roundly criticised as pro-Soviet defeatists, even when they pointed to the risks of nuclear accidents and crisis mismanagement. Since the ending of the Cold War, however, their views

have begun to resonate with those of some senior retired military and even a few former nuclear planners who are now able to recognise the extent of the dangers faced during the Cold War, dangers exemplified both by the experience of actual nuclear accidents and also of crises which now appear to have been far more dangerous than acknowledged in public at the time.

Nuclear accidents

During the Cold War years there were more than forty accidents involving nuclear weapons or military nuclear reactors, some of which resulted in radioactive contamination and others in the loss of nuclear weapons.[19] In addition, the United States, the Soviet Union and Britain all experienced major problems with their nuclear weapons industries. In Britain, for example, a serious fire occurred at the Windscale plant which produced plutonium for Britain's nuclear weapons programme. During routine maintenance at the Windscale Number One plutonium reactor, the reactor pile caught fire and burned for three days, releasing radioactive iodine and polonium into the atmosphere. Close to half a million gallons of milk from dairy farms in the area were withdrawn from consumption and poured into local rivers and the Irish Sea.

One of the early accidents involving nuclear weapons happened on 10 March 1956, when a B-47 medium-range bomber on a flight overseas, probably to a US base in Europe, failed to rendezvous with a tanker aircraft over the Mediterranean. The plane was carrying two nuclear capsules, probably containing plutonium, and neither the plane, its crew nor its weapons were found.

Four months later, another B-47 crashed into a nuclear weapons storage igloo at RAF Lakenheath in Suffolk, killing the four crew members. Although the plane was unarmed, the major fire that followed enveloped the store, which contained three B6 nuclear bombs. The high-explosive elements of the bombs did not explode although the bombs were burnt and damaged.

On 5 February 1958, yet another B-47 was in collision with an F-86 Sabre interceptor over Georgia and had to jettison its nuclear bomb before landing safely. The bomb, which is believed to have landed in the Atlantic, was never recovered. Nine months later, a B-47 caught fire on taking off from Dyess Air Force Base in Texas and crashed shortly afterwards, killing one of the crew. The high-explosive element of the nuclear bomb on board detonated, leaving a crater 35 feet across and 6 feet deep. 'Nuclear materials were recovered near the crash site' according to official records, but the nature and extent of radioactive contamination was not made known.

During the 1960s, the United States maintained a substantial force of B-52 strategic nuclear bombers, and these experienced a number of accidents, three of which were particularly serious. On 24 January 1963, a B-52 on airborne alert and carrying two nuclear weapons experienced catastrophic failure of the starboard wing and broke up in mid-air. One weapon fell free

and broke up on impact with the ground. Part of the weapon containing uranium was never found, even though the waterlogged farmland in the vicinity was excavated to a depth of 50 feet.

In 1966, within four days, there were two major accidents, one in Spain and the other in Greenland, both involving B-52 aircraft carrying four nuclear weapons. On 17 January, seven out of eleven crew died when a B-52 and a KC-135 tanker aircraft collided over Palomares in Spain. One of the four nuclear weapons was recovered soon afterwards on land and a second was recovered from the sea after a 15-week search. The high-explosive components of the other two nuclear weapons detonated, leading to substantial radioactive contamination. The subsequent decontamination operation involved the removal of 1,400 tons of soil and vegetation to a safe storage site in Texas.

Then, on 21 January, one crewman died when another B-52 crashed, this time while 7 miles out on approach to Thule Air Force Base in Greenland. All four nuclear weapons on board were destroyed in the fire which followed. The resultant decontamination operation involved the removal of over 1.5 million gallons of ice, water and snow to a safe storage site in the United States.

Much more recently, on 24 June 1995, a B-52 practising for an air show at Fairchild Air Force Base near Spokane, Washington crashed within 50 feet of a nuclear weapons storage bunker. Witnesses reported that the pilot appeared to throw the plane into a turn to avoid striking the weapons storage area. The pilot and the three other crew members were killed in the crash.[20]

The United States also experienced problems with tactical nuclear weapons. In one incident, on 5 December 1965, a US Navy A-4 Skyhawk strike aircraft loaded with one nuclear weapon rolled off the elevator of an aircraft carrier at an undisclosed location in the Pacific. Neither the pilot, the plane nor the nuclear weapon were recovered.

Both the United States and the Soviet Union suffered a series of nuclear-submarine accidents during the Cold War years. On 10 January 1970, the Italian cruise liner *Angelina Lauro* reported a collision with an unidentified object off Naples. Shortly afterwards, a Soviet *Foxtrot*-class submarine was observed with 25 feet of the bow section missing. The boat was subsequently repaired at a Soviet anchorage off the North African coast. This class of submarine was routinely equipped with a 15-kiloton yield nuclear-tipped torpedo, and some may have sunk with the bow section.

Three months later, in April 1970, a much more serious incident occurred involving a Soviet *November*-class twin-reactor submarine when a reactor fire resulted in the loss of the submarine about 170 miles Southwest of Land's End. This class of boat was also known to carry tactical nuclear weapons. Any Western attempts at salvage were hindered by a Soviet naval vessel, which took up station over the wreck for many months. Nearly three years later, there was a nuclear weapon accident on a nuclear-powered submarine off the North American coast, which resulted in the leak of

radioactive material from a nuclear-tipped torpedo. Most of the crew were affected by radiation sickness and several died.

There were several serious incidents involving submarine bases. In 1966, a radiation leak is reported to have occurred in a nuclear-powered submarine near Polyamy, close to the Northern Sea fleet submarine base. According to some reports, members of the repair team may have died of radiation sickness. Early in 1970, another incident took place when a very large explosion wrecked part of the Gorki submarine yards leading to radioactive contamination of the Volga River and its Black Sea estuary.

The Soviet Union also experienced problems with nuclear-powered surface ships. At some time in the late 1960s or early 1970s, the large 17,000-ton icebreaker, *Lenin*, is reported to have suffered a catastrophic reactor meltdown killing up to thirty people and injuring many more.

During the 1980s, the Soviet Union experienced a series of submarine accidents, the most serious being the loss of a *Yankee*-class ballistic missile submarine in the Atlantic in October 1986. The 8,000-ton submarine carried 16 SS-N-6 ballistic missiles, each probably equipped with two 500-kiloton nuclear warheads rather than the earlier 1 megaton single warheads which the first version of the missile carried. The submarine experienced a fire and explosion of the propellant of one of the missiles, killing three crew and blasting a hole through the side of the submarine's hull. The fire was eventually extinguished, two days after the explosion, and an attempt was made to take the submarine in tow. This failed, and the boat was lost with all its thirty-two nuclear warheads still on board.

Among the most serious of the US submarine accidents was the loss of the *USS Scorpion* with all her crew, 450 miles Southwest of the Azores on 21 May 1968. This followed an accident believed to have been caused by the explosion of an accidentally armed non-nuclear torpedo. The *Scorpion* is known also to have been armed with nuclear-tipped anti-submarine weapons, probably the UUM-44A SUBROC weapon which carried the W55 warhead with a 1–5 kiloton yield.

Perhaps the most remarkable nuclear weapon accident of the Cold War years took place on 19 September 1980, and involved a Titan II intercontinental ballistic missile. This was one of the earlier large US ICBMs, was liquid-fuelled and carried a massive 9-megaton W53 thermonuclear warhead in a Mark 6 re-entry vehicle. During routine maintenance of the missile, a mechanic dropped a wrench down the silo which hit the side of the missile and ruptured a fuel tank. Release of the propellant lead to a large explosion several hours later which killed two men. The force of the explosion ejected the re-entry vehicle with its nuclear warhead from the silo and threw it 200 feet. Although not reported in the press at the time, it was later confirmed that there had been contamination of the site.

A near-farcical event took place four years later, at a Minuteman III ICBM silo at Warren Air Force Base near Cheyenne, Wyoming, when a computer system appeared to indicate that the missile was about to launch

itself. Air force officials promptly parked an armoured car on top of the silo door, so that the missile would be irreparably damaged if it started to launch. Officials later insisted that there was no risk of an accidental launch but could not explain why it was thought necessary to take this unusual precaution.[21]

Although many of the nuclear accidents took place in locations far from immediate zones of tension, there were exceptions. One example, which did not specifically involve a nuclear weapon, is salient for other reasons. On 25 May 1982, an RAF Phantom interceptor in North Germany accidentally fired a Sidewinder air-to-air missile which locked on to an RAF nuclear-capable Jaguar strike aircraft which was within range. The missile severely damaged the aircraft which then crashed, although the pilot ejected safely. That such an accident could happen caused grave concern, the more so as it took place at a time of considerable tension. At the time, the UK was involved in a bitter war with Argentina over the control of the Falkland/Malvinas islands, a major crisis was developing between Israel, Lebanon and Syria, and East–West tensions were high because of the impending deployment of cruise and Pershing missiles in Western Europe.

The experience of Cold War crises

None of the numerous accidents with nuclear weapons during the Cold War caused the detonation of a nuclear weapon, and protagonists of nuclear strategy cite this as an indication of the extent of the safety measures in place. At the same time, it is likely that a number of the known incidents, and possibly some incidents that are still classified, may have been more dangerous than has so far become apparent. There are indications of this in the writings of some analysts who had access to classified material during the period. One of the leading strategists of the time, Fred Ikle, suggested this in a piece concerning the potential dangers of future nuclear proliferation:

> Despite the several accidents and mistakes that could have sparked a large-scale nuclear war (and whose horrid details are still largely shrouded in secrecy), the superpowers always stopped just short of the abyss. At each of these fateful moments, the world escaped nuclear holocaust – seemingly by accident.[22]

During the Cold War, there were several crises, the seriousness of which is now clear. The details of some remain very limited, including aspects of the Korean War and of the Sino-American confrontation over the offshore islands of Quemoy and Matsu in 1954–5. Others have become more clear, and three deserve particular attention, the Cuban Missile Crisis of 1962, aspects of the Yom Kippur/Ramadan War of 1973 and the NATO *Able Archer* incident in 1983.

In the summer and early autumn of 1962, the Soviet Union began to deploy medium-range ballistic missiles to Cuba, capable of reaching a wide range of targets in the United States. Part of the motive was to counter the US ability to hit Soviet targets with Thor and Jupiter missiles based in Western Europe and Turkey. When the United States became aware of the Soviet move in October 1962, it considered it to be a grave threat to US security, and a naval quarantine was ordered to prevent further Soviet shipments to Cuba.

As the crisis deepened, the US began to organise for a possible air assault against Cuba followed by an invasion that would involve 180,000 troops. US intelligence reported that there were only 10,000 Soviet troops in Cuba and that they did not have tactical nuclear weapons. In both respects the assessments were wrong – the Soviet Union had 43,000 troops on the island, alongside more than 250,000 Cuban troops. Furthermore, the Soviet Union already had 90 tactical nuclear warheads in Cuba and, as the crisis reached its peak, warheads were moved from storage sites to positions close to their delivery systems in anticipation of an invasion.

The US Secretary of Defense at the time, Robert McNamara, has reviewed these events:

> Clearly, there was a high risk that, in the face of a US attack – which many in the US government, military and civilian alike, were prepared to recommend to President Kennedy – the Soviet forces in Cuba would have decided to use their nuclear weapons rather than lose them. We need not speculate about what would have happened in that event. We can predict the results with certainty. Although a US invasion force would not have been equipped with tactical nuclear warheads – the President and I had specifically prohibited that – no one should believe that had American troops been attacked with such weapons, the US would have refrained from a nuclear response. And where would it have ended? In utter disaster, not just for the Soviet Union, Cuba and the United States but for all nations across the globe that would have suffered from the fall-out of the nuclear exchange.[23]

One of the most worrying aspects of the Cuban Missile Crisis concerns the behaviour of some sectors of the US military at the time. As the crisis developed, Strategic Air Command secretly placed nuclear warheads on nine of the ten test ICBMs being held at Vandenberg Air Force Base in California, and then launched the tenth (unarmed) missile on a scheduled test flight. This apparently took no account of the likely effect on Soviet intelligence if it had become aware of the arming of the other missiles.[24]

At one point in the crisis, the North American Air Defense Command system received data indicating that a missile had been launched from Cuba and was about to hit the city of Tampa in Florida. In reality, a test tape, simulating an attack, had been fed into the computer system.[25]

Perhaps the most remarkable event occurred at Malstrom Air Force Base in Montana at the height of the crisis, when officers broke the safety rules and succeeded in jury-rigging their Minuteman missiles so that they could launch them themselves without having to receive orders in the usual way.[26]

Eleven years after the Cuban Missile Crisis, the Yom Kippur/Ramadan war between Israel and Egypt and Syria was an occasion when both tactical and strategic nuclear forces could have become involved. By 1973, Israel had a small number of Jericho ramp-launched surface-to-surface missiles fitted with 20-kiloton nuclear warheads. Early in the conflict, when Israel was very hard pressed by the Egyptian attack through the Bar Lev line across the Suez Canal and the Syrian attack across the Golan heights, there was huge concern that Israel's own territory might be occupied by Arab forces.

In three days of urgent activity, Jericho missile warheads were prepared for possible use at the Dimona nuclear weapons plant near Beersheba. The United States learnt of this, obtaining confirmation by a reconnaissance flight of an SR-71 Blackbird spy-plane. There is also some evidence that the Soviet Union was prepared to provide Egypt with a balancing force of nuclear warheads for its Scud missiles – a freighter with such warheads aboard is reported to have left the Nikolaev Naval Base at Odessa on the Black Sea.[27]

In the event, Israel succeeded in holding the Egyptian and Syrian advances by means of conventional defences, and within two weeks of the start of the conflict was threatening the Egyptian Third Army with defeat. In these circumstances there were US fears that the Soviet Union would intervene in the conflict, precipitating a major regional war. As part of its response, the United States moved its nuclear forces to an unusually high state of alert around the world, from DefCon 5 (Defence Condition Five, normal peace-time operations) to DefCon 3. In doing so, the US neglected to inform its allies for several hours, including states such as Britain, which was a host to US nuclear forces.[28] Again, further escalation was avoided, not least as Washington put pressure on Israel to accept a ceasefire short of a potentially unstable victory against Egypt.

A more recent, and in many ways the most remarkable, crisis of the Cold War happened in Europe in the autumn of 1983 and did not enter the public domain until several years later.[29] From 1979 through to 1983, East–West relations deteriorated markedly. In part, this was in response to the Soviet invasion of Afghanistan, but it also related to the election of the hawkish Reagan and Thatcher governments in Washington and London, and the development of a range of new nuclear weapons systems including the US Trident and cruise missiles and the Soviet SS-20 and SS-24 missiles.

According to the Soviet defector, Oleg Gordievsky, the ageing Soviet leadership expected the incoming US President, Ronald Reagan, to emulate his Republican predecessor, Richard Nixon, and tone down his Cold War rhetoric once in office. In the event, the reverse happened as the US nuclear modernisation programme accelerated, bringing in more accurate ballistic missiles and discussions of countervailing (war-winning) strategies.

One Soviet response, code-named RYAN, was to require operatives in Western countries to watch out for possible preparations for war, a process started in November 1981 and still in progress two years later as the Soviet Union experienced a leadership crisis with the illness of President Andropov. Soviet concerns peaked with the development of the US Strategic Defence Initiative and the deployment of the highly accurate Pershing 2 missile in Germany in late 1983, and they were not eased by the vigorous Western anti-Soviet rhetoric, most notably Reagan's 'evil empire' speech.

Early in November 1983, NATO commenced a set of highly secret exercises to test the release plans for nuclear warheads, *Able Archer* being the first such exercise to follow deployment of the Pershing 2 system. Warsaw Pact surveillance systems monitored this process and NATO systems, in turn, monitored Warsaw Pact activity. According to one account, it quickly became apparent that NATO was listening in to a gathering crisis:

> Instead of the normal monitoring to be expected from across the Iron Curtain, a sharp increase was registered in both volume and urgency of the Eastern Bloc traffic. The incredible seemed to be happening, namely that the Warsaw Pact suspected it might really be facing nuclear attack at any moment.[30]

Documents released from Warsaw Pact military committees in East Germany confirm this view, 'On November 9, KGB stations in Europe were warned that American bases had been put on alert. The KGB suspected that a NATO exercise, *Able Archer 83*, could be a full-scale nuclear assault.'[31] As NATO officials became aware of the unexpected effect of Able Archer, significant changes were made to such exercises and the whole process of testing nuclear tactics was modified to avoid any such mis-interpretations happening again.

Lessons from the Cold War

A study of the Cold War nuclear confrontation leads to three broad conclusions. The first is that a clear distinction has to be drawn between the declaratory nuclear policies of, for example, the United States, and the actual targeting plans. The common perception that nuclear weapons were ultimate deterrents, solely for retaliatory use as a last resort, was a common but persistent myth. Much of the East–West strategic nuclear arms race was concerned with attempting to acquire a technical edge sufficient to be able to target the military forces of the opponent, especially the nuclear forces. This necessarily embraced issues of first use and damage limitation, a process which also incorporated ballistic missile defence programmes such as SDI. In particular, the existence of destabilising first strike strategic weapons greatly increased the risk of instability at a time of crisis, when the 'use them or lose them' mentality would become especially salient.

The concept of strategic nuclear war-fighting was paralleled by similar attitudes concerning tactical nuclear weapons. Both the Warsaw Pact and NATO maintained policies of the first use of tactical nuclear weapons, with NATO particularly concerned to develop appropriate weapons and postures during a period of intense East–West tension in the early 1980s.

During much of the Cold War, proponents of nuclear strategy were at pains to point out that there were numerous safeguards built into nuclear systems and that crisis management, too, was robust and stable. Here again, practical experience suggests otherwise. Information on nuclear accidents and crisis instability is far from complete, but there is ample evidence to suggest that there were numerous nuclear accidents, many of them serious, and that there were crises which came very close to the nuclear brink.

The dangers of the Cold War nuclear arms race have been put with unusual candour and forcefulness by retired US Air force General Lee Butler. General Butler was the former Head of US Strategic Command, responsible for the control of all of the US strategic nuclear forces, but now argues for rapid moves towards further massive disarmament of nuclear forces. Commenting on the role of deterrence with nuclear weapons, he argues:

> Appropriated from the lexicon of conventional warfare, this simple prescription for adequate military preparedness became in the nuclear age a formula for unmitigated catastrophe. It suspended rational thinking about the ultimate aim of national security: to ensure survival of the nation.[32]

Butler argues that nuclear deterrence failed as a guide to setting rational limits to nuclear forces as an arms race developed with each side determined to develop survivable nuclear forces, which were simply perceived by the other side as intended for use in a disarming first strike. This, in turn resulted in further weapons developments:

> I participated in the elaboration of [missile] basing schemes that bordered on the comical and force levels that in retrospect defied reason. I was responsible for war plans with more than 12,000 targets, many to be struck with repeated nuclear blows, some to the point of complete absurdity.[33]

Butler is one of a number of former senior military who now regard the Cold War period as one of particular danger and instability and who now support moves towards a nuclear-free world. If lessons are to be learnt from the Cold War nuclear arms race, then one of the most important is that the Cold War was not 'won' or 'lost' but that we survived more by luck than judgement.

2 Alternative military options in Europe (1989)

Introduction

Concern over the risk and effects of nuclear conflict developed in Western Europe in the late 1950s and lead to a significant movement of public protest, including the Campaign for Nuclear Disarmament (CND) in Britain. The campaigning was essentially oppositional in that the prime motive was opposition to nuclear weapons and strategy, with relatively little thought given to alternative ideas on security.

In the 1960s, with the advent of the Partial Test Ban Treaty (PTBT) and the early SALT) discussions under way, public concern over the nuclear issue declined rapidly. By the end of the decade and notwithstanding a continuing evolution in nuclear strategy and weapons, interest in nuclear disarmament and non-nuclear alternatives had virtually disappeared. This remained the case until the end of the 1970s and the development of the new Cold War, although there were a few exceptions.

In 1958 Commander Stephen King-Hall had published his *Defence in the Nuclear Age* and over the following 20 years a small group of researchers continued work on alternatives to nuclear strategies. The orientation of most of the work was non-military as well as non-nuclear, with civilian resistance serving as a major focus. Adam Roberts' *The Strategy of Civilian Defence* (1967), *War Without Weapons* (1974) by Anders Boserup and Andrew Mack, and a number of books by Gene Sharp represent the main fruits of this work.[1]

Towards the end of the 1970s, there was a reawakening of public interest in the nuclear issue, occasioned largely by the onset of a new phase of the Cold War. The Soviet intervention in Afghanistan, the coming of the more hawkish Reagan administration, the development of new weapons such as cruise, Pershing and the SS-20, and a general perception of an accelerating nuclear arms race, all served to rekindle interest in nuclear disarmament.

The counter argument is that as the prevailing paradigm is one of military inferiority and a potentially offensive and dangerous Warsaw Pact alliance, any proposals for non-offensive non-nuclear alternatives have much more chance of being taken seriously by the current political and military

establishments, if they are formulated on the basis of this view of East–West relations. In practice, most alternative defence proposals have tended to operate within the paradigm while frequently criticising it as being, at the least, outdated.

In the late 1980s, a new situation arose following the rapid changes in Soviet policies consequent on the advent of the Gorbachev administration and culminating in President Gorbachev's UN speech in December 1988. Soviet arms control policy was, in Western public perception, transformed. An entirely threatening military posture was seen to have given way to a new approach which sought a rapid improvement in East–West relations. The new Soviet approach included a much greater frequency of meetings with senior Western politicians, a much more positive approach to arms control, resulting in the INF (Intermediate-Range Nuclear Forces) treaty, and a much more open discussion of defence policy. Indeed there were signs of a Soviet move towards perceptibly less offensive military postures.

While this shift may be in its infancy, and may be related largely to a Soviet desire to redirect spending away from the military to the civil sectors of the economy, it has important implications for Western researchers into alternative defence policies. It should, in particular, make it possible to integrate non-offensive military postures into a wider arms control strategy encompassing a variety of negotiated changes in forces. Mutual and codified progress towards alternative non-offensive strategies may utilise many of the ideas developed under the different circumstances of a dangerous phase of the Cold War, but such bilateral or multilateral progress could be much more sustainable and could itself further aid an improvement in East–West relations.

Thus the aim here will be to review some of the more significant ideas on non-nuclear military alternatives, accepting that these have been developed in a different and more negative international context to that which may hopefully prevail in the early 1990s. The value of these ideas will then be assessed in terms of the changed climate, with particular reference to whether they can be used positively in the interests of common security.[2]

The single country approach

Researchers in a number of countries within the NATO alliance have looked at the potential for their countries to adopt non-nuclear and non-offensive defence policies. Studies of the West German situation have inevitably involved wider NATO issues, but, for countries such as Denmark and the UK, the work has frequently assumed the possibility of such countries adopting a non-aligned or even neutral stance in international relations.

In such cases, researchers have examined the defence policies of existing neutral and non-aligned states to see if their experience was relevant. Such states have tended to adopt one or more of three different strategies, frontier defence, defence in depth or protracted guerrilla warfare. In all

cases, the aim is to threaten to exact such a price following an invasion by a foreign power as to deter that power from engaging in such an attack. The three states most often examined are Sweden, Switzerland and Yugoslavia.[3]

Sweden has a policy of armed neutrality, which is not intended to deter a complete military occupation, but rather the taking of sites of major strategic importance, including ports and air bases, during a major East–West conflict. It has avoided war for over 160 years but maintains state-of-the-art military forces based largely on indigenous defence industries.

The navy is concerned essentially with coastal defence, and places greatest reliance on fast attack craft, mine laying and countermeasure vessels, coastal patrol craft and submarines. The navy lacks a capacity to land substantial forces on the territories of neighbouring countries, but could provide defence against such actions by others. The Swedish air force has invested heavily in modern high-performance interceptors that have a limited ground-attack capability. The air force posture is directed primarily towards air defence, with virtually no capacity to engage in offensive air attacks on other states. The aircraft are highly versatile and can operate away from air bases, using stretches of highway for take-off and landing. Appropriate logistical support for such operations is available.

The army was originally configured primarily for frontier defence but now concerns itself also with defence in depth. There is emphasis on anti-armour tactics and mobility, with provision for guerrilla action in the event of loss of territory. The army, more than the navy and air force, relies heavily on conscripts. Overall in the armed forces about 75 per cent of personnel are conscripts, with former conscripts retaining reserve commitments which include refresher courses. The peacetime establishment of around 65,000 can be enlarged to some 800,000 by a three-day mobilisation. Sweden also maintains civil and economic defence programmes, the latter including stockpiling of strategic materials, food and fuel.

Switzerland has a broadly similar political stance to Sweden. Being entirely landlocked it would appear, at first sight, to be intrinsically more vulnerable, but the terrain allows for much more effective defence in depth if not frontier defence. Switzerland has a tradition of the citizen army and relies less heavily on the most modern weapons. One in ten of the entire population can be mobilised within 48 hours to give an adult male army of some 600,000, dispersed throughout the country. This is backed up by an extensive civil defence programme and the stockpiling of strategic resources. A small air force is trained particularly to operate against attacking forces within the Swiss mountain environment.

Where Sweden stresses mobility over a large land area with a low population density, Switzerland stresses fixed defences throughout the much more densely populated country, albeit backed up by mobile forces. The aim is to extract an unacceptably high price of an attacking force by defence in depth. In the final analysis, resistance would be centred on high altitude defences, which would control major trans-European communications through the Alps.

If Sweden and Switzerland have defence policies resulting partly from their historical experience of successful war avoidance, that of Yugoslavia stems partly from its experience under German occupation during the Second World War and its fear of a Soviet invasion in the post-war years. While Sweden and Switzerland have focussed on the need for defence against the side effects of a European war, Yugoslavia has, at times, feared direct attack.

Its defence policy has been one of defence in depth followed by the provision for protracted guerrilla conflict. Some 60 per cent of the standing armed forces of around 250,000 are conscripts, and a reserve of 500,000 is maintained. In addition to this, though, there are parallel Territorial and Civil Defence Forces of 3 million and 2 million respectively. The air force is configured for air defence and short-range ground attack, and the navy is essentially a strong coastal protection force of fast attack aircraft, patrol craft, mine layers and mine hunters.

If attacked, the army would attempt to hold the frontiers pending mobilisation of reserves and the much larger Territorial Defence Force (TDF), the latter organised on a local basis. Facing a full-scale invasion, the army would eventually withdraw and link up with elements of the TDF to engage in a protracted campaign of in-depth resistance, this serving as the major deterrent to attack.

The common features of the Swedish, Swiss and Yugoslav defence postures are threefold. First, they do not depend on trying to achieve any kind of balance of military forces against those of a potential attacker. Second, they do not expect to be able to 'win' a war in the conventional sense of defeating the armed forces of the attacking power, and third, they seek war avoidance by threatening to extract an unacceptably high price of an attacker.

Applications to Britain

Studies in non-nuclear defence strategies for Britain can be based on two different assumptions. One is that the UK is not part of the NATO unified military command, and, if not non-aligned, is certainly pursuing a much more independent foreign policy. The other is that Britain remains fully integrated into NATO. Studies based on the latter assumption commonly form part of studies of the NATO–Warsaw Pact confrontation in Central Europe, whereas studies visualising a more independent Britain borrow heavily from the experience of neutral and non-aligned countries.

Within NATO, Britain adopts an atypical defence posture in that it maintains its own nuclear forces and still seeks to maintain a global role. Among the members of the NATO military command, only the US has a similar posture, albeit on a much larger scale. Britain's defence posture has five main components:

- nuclear forces capable of independent use but normally committed to NATO;

- the British Army on the Rhine, a 50,000 strong force forming part of NATO ground forces in West Germany, backed up by RAF Germany with ground attack and strike aircraft and interceptors;
- naval forces responsible for much of NATO's Northeast Atlantic, North Sea and Channel security;
- forces for the defence of the UK; and
- forces for out-of-area operations.

Out-of-area commitments are considerable and grew in the 1980s after declining in the previous decade. They include major forces in the Falklands and the Persian Gulf, and smaller permanent commitments in places such as Gibraltar, the West Indies, Ascension Island, Cyprus and Hong Kong. Global naval deployments are practised regularly, and in the late 1980s these have included an annual round-the-world exercise by a small carrier task group.

Proposals for a non-nuclear and non-offensive defence posture for Britain restrict these commitments essentially to the defence of the UK. In one assessment, the army would be around 80,000 with 50,000 reservists, barely half 1989 levels, and would operate almost entirely within the UK, with an emphasis on mobility.[4] The air force would be essentially an air defence force with a limited ground attack capability, and the navy would lose its carriers and most larger destroyer and frigate escorts, while maintaining a force of smaller escorts, patrol submarines and an increased force of fast attack and patrol craft. Assessments such as this typically involve a defence expenditure of 40–60 per cent of late 1980s levels, and would result in a defence posture not greatly dissimilar to that of Sweden, but with less reliance on reservists and more emphasis on enhancing the advantages of being an island. Nuclear forces, British Army of the Rhine (BAOR) and a major out-of-area capability would be cut out.

Such a view represents a middle line between those who advocate a much greater emphasis on civilian resistance and those who support continued membership of NATO's unified military command with some movement, within NATO, towards non-offensive defence. Essentially there is therefore a continuum from policy in the late 1980s through to an entirely non-violent security policy. Certainly, the Alternative Defence Commission recognised this and advocated that Britain's aim should be to keep at least one step ahead of what it hoped would become international trends. Britain would thus adopt a non-nuclear stance, concentrate on defensive forces and lead the way with conventional force reductions, all of this taking some years, with the role being that of a catalyst for the promotion not just of a non-nuclear but ultimately a largely demilitarised continent.

While such ideas may be of interest in Britain, particularly among peace campaigners, they may be of less direct importance for other NATO countries, who correctly regard Britain as less than entirely central to the alliance. Consequently, while alternative defence policies for Britain have been examined more closely than in most other countries, greater interest within

the NATO countries is aroused by research on more broad non-offensive defence policies applicable to the alliance as a whole, especially in relation to the inner German border near which so many of the ground and air forces are located.

Debates within NATO

In essence, NATO policy for responding to conflict in Central Europe has been to aim for strong forward defences allowing time for mobilisation, with provision for first-use of tactical nuclear weapons in the event of major incursions by Warsaw Pact forces. This was effectively the policy followed from the development of the flexible response nuclear first-use policy in 1967–8; however, the new Cold War of the early 1980s encouraged a mix of more offensive strategies to be developed.

These were primarily in relation to US policy and forces, although they were paralleled by a wider NATO debate, and they involved US forces other than those committed to NATO. Within Central Europe, the US Army's Air Land Battle ideas involved much greater mobility of forward-based ground forces and their integration with air power, the mobility extending to possible major incursions into Warsaw Pact territory early in a conflict. Related concepts included Follow-on Force Attack (FOFA), concerned with early air and missile strikes at second echelon Warsaw Pact forces well within Warsaw Pact territory, and the more general notion of Deep Strike, this being deep interdiction, again very early in a conflict, of many Warsaw Pact assets including air bases, missile bases, choke points and logistic support.

Outside of Europe, the United States was simultaneously engaged in a considerable enhancement of its force projection capabilities. During the 1980s this would include the assembling of two additional carrier battle groups to make fifteen in all, the return to service of four battleships, armed with their original heavy guns and also cruise missiles for anti-ship and land attack, major improvements in US Marine Corps equipment, the expansion of special forces and a comprehensive programme to improve logistic support for long distance force projection.

This was all part of the 're-arming America' policy of the early Reagan years, and included the establishment of an entirely new military command, US Central Command (CENTCOM) covering Southwest Asia and Northeast Africa, and the development of the US Navy's Maritime Strategy. Under Navy Secretary John Lehman, the Maritime Strategy included the idea of 'taking the war to the Soviets' in the very early stages of an East–West conflict. This would include aggressive operations against Soviet naval assets, including missile submarines, in the Northeast Atlantic and Northwest Pacific, and even the use of marines in operations to occupy some areas of Soviet territory in Northern Europe and East Asia.

Thus, in the early 1980s, a wide range of offensive postures was being adopted by US military forces, some of it affecting NATO within which the

US was the dominant member. Interestingly though, Britain was probably the only other major NATO member (excluding France, which was outside the unified military command) to be strong in support for such policies. Most member states were not even prepared to meet the commitment of a 3 per cent per annum increase in defence spending.

Within this context of a US-led move towards more offensive postures, there was a particularly significant nuclear element but, at the same time, pressure within some NATO circles mounted for a reappraisal of the potential for a more defensive orientation of conventional forces. The developments in NATO nuclear strategy comprised a firm commitment to early first use of nuclear weapons.

This arose because NATO had been under pressure for some years from West Germany to relate its nuclear first use policy to an immediate use of nuclear weapons against Soviet territory, rather than limiting nuclear use to short-range systems close to the Inner German Border. The advent of ground-launched cruise missiles and Pershing 2 ballistic missiles provided the weapons suited to such a posture. Countervailing pressures within NATO were concerned with improving conventional forces to enhance conventional deterrence and diminish the risk of resorting to nuclear war. There is an apparent contradiction here, in that one tendency, to improve conventional defences, appears to run counter to early first use of nuclear weapons which would not allow time for a purely conventional response to a Warsaw Pact attack. An early nuclear first use policy *might* be intended purely as a contribution to deterrence as a whole, but it involves detailed force planning, training, targeting and other activities; it thus provides a predisposition to nuclear escalation in practice, whatever the actual original purpose of the policy.

In practice, open literature studies of improving conventional deterrence such as the Report of the European Security Study (ESECS), *Strengthening Conventional Deterrence in Europe*,[5] retain a commitment to nuclear first use. The ESECS study, published in 1983, concentrated on a number of areas of deficiency in NATO's conventional forces. It called for improvements in target acquisition, counterbattery firepower, interdicting follow-on forces and airpower, improvements in NATO command, control and communications systems (C3) and the improvement in means of disrupting Warsaw Pact C3. While the ESECS work placed some emphasis on forward barriers to provide choke points, and use of light-weight anti-armour weapons, this formed a small part of a study, which included many recommendations for enhancing offensive forces.

Alternative approaches

During the 1980s, a number of studies were published on alternative defence postures for NATO forces west of the Inner German Border. They include the work of Afheldt, Unterseher, Boeker, Saperstein, Boserup, von Bulow and others.[6] There is considerable overlap in their views, with each giving

emphasis to particular aspects of what is commonly called non-provocative or non-offensive defence.

Most of the work has been concerned with ground forces, including gun and rocket artillery and helicopters, with less emphasis on air forces; and force dispositions, equipment and tactics tend to be determined with reference to three parameters. These are the degree of concern with frontier or forward defence, the concentration on defence in depth, and the size of standing armed forces relative to reserves.

West German concerns with avoiding a major land war on their soil accentuated NATO's commitment to forward defence, and some of the alternative studies effectively accepted this prerequisite. Frontier defences are enhanced in two ways. Actual fortifications are improved, although these may include buried pipes filled with slurry explosives to create armoured vehicle barriers when required. These barriers are used both to hold up attacking forces and concentrate them in narrow areas of penetration. In both cases, the forces are subject to a fire barrier in which a variety of munitions are delivered over distances of 1 to 100 miles by means which include artillery, mortars, surface to surface missiles, bombs and air-delivered stand-off weapons. There is an emphasis on a wide variety of means of detection and target acquisition, many of them pre-placed, with mobile reserves available to provide back-up in the event of a breach of forward defences.

The defences will place heavy reliance on highly mobile weapons systems which cannot penetrate deep into the opponent's territory. Thus helicopters, dedicated medium-range anti-armour aircraft like the A-10, and especially STOVL aircraft such as the Harrier, are particularly appropriate. The numbers of defending troops in the forward zone would be relatively small, with emphasis on automated detection and weapons systems. The aim of those studies which emphasise forward defence is not to provide a completely impenetrable barrier to attacking forces – all of the studies have a defence-in-depth back-up – but they do seek to extract a very high attrition rate of attacking forces. They are aided in this by an assumption that the adoption of such tactics, with less reliance on an offensive strategy, would allow NATO to redirect much of its personnel and military spending towards defensive systems. This would hugely enhance NATO's existing strengths, providing a powerful deterrent to an attacker.

Within the alternative defence field, other analysts consider that a concentration on forward defence is dangerous, in that if a breakthrough can be achieved, available defence-in-depth forces may not be adequate. They therefore put much more emphasis on defence over a depth of 30 to 60 miles. The defence-in-depth studies tend to emphasise large numbers of small but well-armed units, highly mobile but operating within a defined area to limit command, control, communications and intelligence (C3I) problems. The units are, at most, lightly armoured, but are equipped with anti-armour weapons. Some studies include tank forces, and others place reliance on artillery. All incorporate the use of close air support, with an emphasis

on NATO moving to robust and versatile anti-armour aircraft and helicopters, the former having S/VTOVL capabilities to avoid interdiction of bases.

Long-range interdiction of attacking forces is not sought on the grounds that this is overtly offensive and invites early pre-emption, but high reliance is placed on interceptors and surface-to-air missiles. Defence in depth utilises the fact that the attacker immediately faces problems of extended supply lines, with the defender's mobile self-contained anti-armour units able to operate well behind the forward edge of battle area (FEBA).

One version of defence in depth is known as attrition defence and is summarised by Saperstein:

> Thus, what is envisaged in an attrition defense is a large number of lightly armed men diffusely scattered over a familiar landscape, taking advantage of every previously known shelter, awaiting the attacking armoured column. Some will fire their precision-guided missiles at long range at the fronts of the attacking vehicles. Others will wait until they are by-passed and then fire at the much more vulnerable sides and rear of the aggressor. After expending their missiles, the defenders might be expected to retreat, rearm and engage again; they might be expected to surrender; or they might stay low and hidden until the immediate attackers have passed and then emerge to harass their rear, with light personal weapons, as organised units or guerrillas. The latter possibility should certainly enhance the deterrent aspects of the suggested attrition defense since no aggressor would want to occupy a territory filled with scattered, hidden, armed men and/or women.[7]

Such a posture clearly requires a very high level of motivation on the part of the forces engaged in this attrition defence. His version places reliance on what he terms latent forces, reserves who know an area very well, who may have served a period as regular troops, but are not professional soldiers. This brings in the third parameter, the ratio between regular and reserve forces. Some analysts argue that the more cost-effective ground force operating in Central Europe would be one with a relatively small regular force, certainly less than half the size of, for example, NATO forces in West Germany in the 1980s, but with an overall posture involving a much greater commitment to equipping and maintaining the expertise of a large number of reservists. This is thus borrowing from the Swiss model, the thinking being that the financial savings consequent on a smaller standing army would allow for a high level of training and equipping of reserves.

In essence, therefore, these models for alternative defence postures in Central Europe all seek, through enhanced conventional defence, to provide a deterrent to an attacker. There is no presumption that a war can be won in the sense that the attacker can be defeated and its own territory counterattacked and occupied. The aim, instead, is to make it unacceptably costly for an attacker to consider mounting an offensive.

Criticisms and NATO responses

There is now a fairly substantial body of work on alternative defence postures, but it is reasonable to say that there is little evidence of this affecting military thinking within NATO as a whole. In the armed forces of some countries, including Norway, Denmark and, most significantly, West Germany, there is evidence of a changing outlook, but this is not reflected in corporate NATO attitudes.

There are still major gaps in the work on alternative security. Most attention has been focused on ground forces, too little work has been done on countering offensive air forces, and there is little analysis of the naval balance. Furthermore, most of the work has been applied to Western Europe, with little or no attention paid to Southeast Europe or Western Asia. Nor has there been sufficient attention paid to NATO out-of-area activities, or the non-NATO aspects of the US Maritime Strategy and its continuing quest for maintaining and enhancing global naval supremacy.

Against this, where the detailed work is available, it is of sufficient depth to warrant a NATO response. The inertia within NATO is clearly substantial, and a response is not yet forthcoming. NATO as a whole appears to be in a serious predicament in its current response to the rapid changes in Soviet arms control policy, and to the early signs of changing ideas within the Soviet Union to its military posture.

NATO has remained within a remarkably stable paradigm of the Soviet threat for more than three decades. It simultaneously has had to face up to several different trends that encourage reappraisal. Within the West, alternative defence analysts have said that non-offensive postures could be adopted which are cheaper and aid stability. They further argue that the Soviet threat had been greatly exaggerated. At the same time, the policies being pursued by the Soviet Union make it far more difficult for NATO to argue the seriousness of the Soviet threat to its wider political constituency.

The response so far has been one of conservatism and caution. The common NATO approach was to give a guarded welcome to any arms control developments while arguing that NATO had to 'wait and see'. Since the Warsaw Pact were the 'bad guys', *they* must make all the running, whereas NATO had to be careful, suspicious and very slow to respond. The fact that this might limit the speed of Warsaw Pact initiatives was a necessary risk.

Non-offensive defence and arms control

If NATO adopted a much more positive attitude to recent Soviet changes, and to adopt some alternative defence ideas, what would be the most promising lines to pursue? Bilateral and unilateral initiatives should work in parallel, with the latter intended for bilateral codification. Progress should be sought in nuclear and conventional postures.

Bilateral nuclear agreements could commence with the so-called 'third zero' proposal, which extends the INF agreement to cover all short-range

surface-to-surface missiles. A unilateral freeze on airborne theatre nuclear weapons could be accompanied by an offer to develop a treaty involving total withdrawal of these systems. While the dual-capable nature of the delivery vehicles presents problems, the rapid progress in verification procedures agreed under the INF treaty suggest these are far less an obstacle than previously thought.

Unilateral withdrawal of all artillery-fired nuclear shells would be widely acceptable in Western Europe, especially West Germany, and could also be accompanied by proposals for a verified bilateral treaty. While progress on naval tactical nuclear weapons involves systems deployed outside of European waters, progress should be possible on verified agreements aiming to create nuclear-free zones, including the Baltic and eastern Mediterranean.

In relation to conventional military forces, declaratory policy and actual force postures should be altered in concert. Thus policies tending towards deep strike should be discarded in favour of non-offensive defence, and changes should be commenced in force structures.

In broad outline, the latter would include a number of changes in existing trends. There would be less emphasis on procurement of main battle tanks, self-propelled artillery and medium range interdictors, in favour of mobile lightly armoured anti-tank ground forces. Anti-tank helicopters would receive more emphasis, as would STOVL ground attack and interceptor aircraft, the latter at the expense of longer range conventional interdictors such as the Tornado, F-111 and F-15E.

At the same time, a number of moves would be made to accelerate progress in conventional arms control. The aim here would be twofold. One would be to seek overall reductions in conventional forces, some of these being asymmetric, though this would affect areas where NATO, as well as the Warsaw Pact, has larger forces. Bilateral agreements favouring non-offensive defence would be sought. One would concern setting progressively restrictive limits on the size, composition and frequency of military exercises, with emphasis on increasing restrictions on tanks and larger artillery pieces. Another would concern the establishment of zones of withdrawal of heavy armour, these being established initially either side of the inner German frontier, from an initial 30 mile depth through to 180 miles.

As agreements were achieved, some military spending, and especially the procurement of the more offensive systems, could be scaled down. The mixture of unilateral and bilateral actions would introduce a time of considerable change and a degree of uncertainty. It could be argued that acquiring larger forces of particular types, albeit of a non-offensive nature, would go against the larger aim of scaled down forces, but given present circumstances and alliance attitudes it may be a necessary prerequisite to larger progress, by increasing alliance confidence in defensive abilities. As bilateral progress was made, however, agreed decreases in offensive forces could be followed by across-the-board decreases in all forces.

These particular proposals are indicative rather than precise, and are modest in the sense that they do not entail massive unilateral steps. Such steps *could* be entertained by an individual country, such as the UK, and might stimulate a more positive commitment on the part of the NATO alliance as a whole. They are modest because of the recognition that NATO as an alliance appears remarkably reluctant to respond to the current opportunities offered by the Gorbachev administration, but they are sufficiently wide-ranging to catalyse, in concert with the opportunities now provided by Moscow, a decade or so of rapid progress away from the current offensive military stand-off which still characterises Europe at the end of the 1980s.

Part II

A jungle full of snakes

Introduction

By the early 1990s the Cold War era was already receding into the past as the Soviet Union and the Warsaw Pact disappeared and the short-lived Coalition of Independent States gave way to even more of a dissipation of the centrally planned economies of barely a decade earlier. Almost immediately after the demise of the Soviet Union, though, the Iraqi invasion of Kuwait in August 1990 and the subsequent Iraq War a few months later served as powerful reminders of the geopolitical importance of the Persian Gulf region.

As the United States emerged as the world's only superpower, two aspects of its military posture were becoming clear. One was the remarkable ability to project power, much of it stemming from a perceived requirement to be able to contain the Soviet Union during the Cold War years but now giving the United States a unique ability to use such power projection in pursuit of its foreign and security policies. This is covered in Chapter 3, written in 1991, and is followed by another chapter, also written in that year, looking at the other aspect of the post-Cold War US military posture, a major concern with the security of Persian Gulf oil supplies.

While this had been developing over several decades it had come to the fore in the early 1970s with the economic disruption to oil supplies that followed the Yom Kippur/Ramadan War of October 1973. This was to result in the establishment of the Joint Rapid Deployment Task Force, more simply known as the Rapid Deployment Force, and its later development into US Central Command, a new unified military command centred on the Middle East.

By the end of the 1990s, with the US position as the sole superpower now nearly a decade old, the military trends that had been apparent in the early 1990s were now thoroughly consolidated. Many of the military forces relevant to the Cold War confrontation had been scaled down, including much of the US Army's armoured forces, the US Navy's anti-submarine capabilities and the strategic and tactical nuclear forces. Other were being maintained and even enhanced, especially those forces suited to distant conflicts where US interests might be threatened. The evil dragon of the Soviet Union might have been slain but the United States now faced a jungle full of poisonous

snakes. The manner in which that jungle might be tamed is covered in Chapter 5, written in late 1998, just under a year before the 9/11 attacks in New York and Washington.

The final chapter in this part, also written at that time, adopts a radically different perspective, arguing that seeing the world as a jungle to be tamed is to fundamentally misjudge the nature of the security threats facing the United States and its elite allies in Western Europe. This chapter analyses the global trends towards greater socio-economic divisions, growing perceptions of marginalisation among the majority of humankind and the nature of the interaction of environmental constraints with socio-economic divisions.

It places particular emphasis on the likely consequences of a combination of increasing socio-economic disparities with improvements in education, literacy and communications across much of the world, making it more likely that the marginalised majority would more clearly recognise that very marginalisation. It also goes on, as in earlier contributions, to emphasise the growing importance of oil security.

Potential conflict over diminishing resources is recognised, especially in the Persian Gulf region, but the chapter places particular emphasis on the relationship between climate change and security. In this respect, the concern is not with the impact of climate change on northern industrialised countries, since these may have sufficient socio-economic resilience to be able to cope. Instead, it is argued that the real significance of climate change is the probability that world rainfall patterns will alter in one key aspect – less rainfall over the tropics and more over the oceans and the polar regions. The implications for food production in the croplands supporting the majority of the world's population are massive, primarily in terms of the risk of profound social and political upheaval.

The chapter argues that one of the likely trends will be the rise of radical social movements that might have a capacity to engage in violent actions against elite societies. It points to Sendero Luminoso and other radical movements as indicators of this trend but also suggests that the volatility of responses to marginalisation is such that it will prove difficult to predict when, where and how particular movements will arise and develop.

3   Military force projection and the new world order (1992)

Send a gunboat

The mercantile empires of Western Europe were essentially based upon the ability to project military power. The colonisation of Latin America by Spain and Portugal, of South and Southeast Asia by the British, French and Dutch, and of Africa by many European powers, all depended, at root, on naval power. Frequently this was used to compete against other colonising powers, and local militias were often adequate to impose and maintain colonial order; but the ultimate power was military, and the means of deploying it was almost invariably naval.

In the latter part of the colonial period, especially in the late nineteenth century, 'gunboat diplomacy' was widely practised, and it was not just the province of the European powers. Japan was to deploy military power in the early part of the twentieth century, leading eventually to the plans for the 'Greater East-Asia Co-Prosperity Sphere' in the 1920s and 1930s, one of the more interesting euphemisms for colonial conquest.

Even earlier, the United States was able to demonstrate that the absence of direct colonies (excepting a few territories such as the Philippines) was no reason to avoid the use of military force in the pursuit of economic power. As the influence of Spain and Portugal in Latin America declined, so the United States moved in. Under the Monroe Doctrine, from 1823, the United States considered that future interference by European powers in the economic and political structures of the emerging Latin American countries would be contrary to US interests.

US expansionism of the mid-nineteenth century resulted in the eviction of Mexico from nearly half its territory – California, Texas and New Mexico – and by the end of the century US economic power was becoming dominant in Central America, backed up by the frequent use of military force. The main instrument of force projection was the US Marine Corps, and the first 40 years of the twentieth century saw interventions in Cuba, Honduras, Panama, Nicaragua, Haiti, the Dominican Republic and El Salvador.

This process was best described by General Smedley Butler of the Marine Corps, who was involved in many of these actions. Writing in 1935, he recalled:

I spent thirty-three years and four months in active service as a member of our country's most agile military force – the Marine Corps. I served in all commissioned ranks from a second Lieutenant to Major-General. And during that time I spent most of my time being a high-class muscle man for Big Business for Wall Street and for the bankers. In short, I was a racketeer for capitalism . . . Thus I helped make Mexico and especially Tampico safe for American oil interests in 1914. I helped make Haiti and Cuba a decent place for the National City Bank to collect revenues in . . . I helped purify Nicaragua for the international banking house of Brown Brothers in 1909–1912. I brought light to the Dominican Republic for American sugar interests in 1916. I helped make Honduras 'right' for American fruit companies in 1903.[1]

The Monroe Doctrine and its consequent projection of US power in Latin America continued through the inter-war isolationist years, but it was the experience of the Second World War that changed US force-projection capabilities from a regional to a global potential.

Projecting global power

During the Second World War, US involvement in the European theatre was massive, but operated from European and North African bases, especially from Britain. In the Pacific, though, the conflict with Japan was fought over thousands of miles of oceans and hundreds of islands, large and small. During more than three years of intense conflict, the war industries of the United States were used to create a capability to project maritime force in a manner never before achieved by any state. Aircraft carriers, troop-carriers and especially the assault ships assigned to the Marine Corps collectively produced a capability for force projection which progressively turned the tide of the war against Japan.

By the end of the Second World War, the US Navy was the world's foremost maritime force. Although Britain, France and the lesser European colonial powers conducted wars against insurgents in their colonies, these were small-scale and essentially wars of retreat. Meanwhile, the United States, in its rise to globalism, was being transformed into the world's strongest military power, with the greatest capability to project force in pursuit of foreign policy objectives.

The Korean War and, in a sense, the Berlin Airlift, were early examples of this, but for most of the 1950s and early 1960s the primary policy was one of containment – surrounding the perceived communist axis of the Warsaw Pact and China, principally with ground and air forces in Europe and maritime forces in the Mediterranean and the Pacific.

The continuing threat from communism was seen to take two main forms. One was the control of Eastern Europe, met by NATO and the deployment

of substantial US forces in Western Europe; the second was Soviet and, to a lesser extent, Chinese influence in the third world. This took the form not so much of direct military force projection but arms transfers, training schemes and the use of military advisers. The US response was in kind, but extended to a worldwide network of bases, including key facilities in such places as Panama, South Korea, Guam, the Philippines and Diego Garcia, together with force-projection potential based principally on aircraft-carriers and amphibious assault ships.

The policy of containment went badly wrong during the Vietnam War and a consequence of this was a certain reluctance to project military power during much of the 1970s. The decade of the 1970s was a period of relative detente and even of negotiations on arms control, although it was also a period in which the United States maintained forces and overseas bases throughout the world, with training missions, arms transfers and the use of special forces all having their role. While Vietnam had an effect, it did not greatly limit US deployments worldwide, only the political will to use them. Thus the United States had, by the mid-1970s, effectively taken over most global military roles from Britain and France.

With the coming of the Reagan era, the start of the new Cold War and the re-arming of America, US military force projection capabilities received a huge boost. This was, in practice, the second and less well understood aspect of Reagan's 're-arming of America'. While most attention was focused on the escalation of the nuclear arms race with the Soviet Union, an expansion of conventional force-projection capabilities was under way which was, in its own way, almost as significant. Indeed, in the long term, it may have left the United States with a much more useable form of military power for the post-Cold War era.

Reagan, resurgence and resources

The rise of US force-projection capabilities in the 1980s was complicated by two different motives which interacted in a complex manner, one of which survives the ending of the Cold War. These factors were concern over resource supplies and the policy of containing Soviet expansionism.

Even during the early 1970s, the first factor was rising up the political agenda, helped in particular by the oil crisis of 1973–4 and the huge price increases, which followed the action of Arab members of the Organisation of Petroleum Exporting Countries (OPEC) during the Yom Kippur/Ramadan War of October 1973. Their action involved a cut in production, an embargo on exports to the US and a substantial increase of over 70 per cent in crude oil prices. The disruption to Gulf oil supplies occasioned by the Arab action had a traumatic and long-lasting effect on US perceptions of security.

During the 1973–4 oil crisis, the use of military force to secure Western oil supplies was considered, but it became apparent that, even if such a move

were politically feasible, it would be militarily impossible. The central problem was that the Western nations in general, and the United States in particular, did not have forces at their disposal that could be deployed sufficiently quickly and effectively to make the takeover of key Middle East oilfields a viable proposition. The time necessary to achieve such an objective was far greater than the time required to render the oilfields inoperable by sabotage, and the several months required for reinstatement would have been catastrophic for oil supplies to the West.

Although the oil crisis was instigated by Arab oil producers, a second effect of the crisis was to reinforce the view that the Soviet Union could threaten Middle East oil supplies and thereby greatly damage the Western economies in time of East–West crisis or conflict.

An immediate outcome of the oil crisis was a reassessment of military strategy towards resource supplies and this became part of a much larger process of analysis which placed issues of world resource supplies in the context of East–West competition. Furthermore, this occurred in the context of an increasing recognition of the steady shift in 'resource balance' in favour of the non-industrialised countries.

Europe had experienced such a shift long ago. In the early nineteenth century, for example, Britain had been a major producer of metals such as copper, lead and tin from its own mineral reserves. These had long since come close to depletion and by the early twentieth century Britain, like most of Western Europe, was dependent on overseas supplies. Indeed, one of the driving forces of European colonial expansion had been the huge requirements for raw materials fuelled by the process of industrialisation spreading across Europe.

For the initially resource-rich United States, however, large-scale importing of raw materials was a much more recent phenomenon and was only recognised as important by military and foreign policy analysts after 1974. Consequently, within a few years, maintenance of the resource base of the United States came to be considered a major objective of military strategy. This was expressed forcibly in the Pentagon's *Military Posture Statement* for Fiscal Year 1982, the first statement of the Reagan administration's period in office:

> The dependency of the United States on foreign sources of non-fuels, minerals and metals has increased sharply over the last two decades. Taking a list of the top 25 such imported commodities, in 1960 our dependency averaged 54 per cent. In fact, our dependency is 75 per cent or more on foreign countries where war could, in the foreseeable future, deny us our supplies of bauxite, chromite, cobalt, columbium, manganese, nickel and tantalum. These metals and minerals figure in the manufacture of aircraft, motor vehicles, appliances, high-strength or stainless steels, magnets, jet engine parts, cryogenic devices, gyroscopes, superconductors,

capacitors, vacuum tubes, electro-optics, printed circuits, contacts, connectors, armour plate and instrumentation, among other things.[2]

The *Posture Statement* went on to give a detailed account of the importance of Middle East oil supplies, before stressing the Soviet position of near self-sufficiency of resource supplies in comparison with US vulnerability.

The comparison here is interesting. Western European states and Japan are relatively poorly endowed with fuel and mineral resources – even North Sea oil deposits are small by global standards. Consequently, they import most raw materials from overseas, a natural consequence of the West European colonial expansion and the more recent Japanese economic expansion into much of Eastern Asia and the Pacific. The expansion of the Russian Empire into Siberia and the consolidation of more than a dozen states into the Soviet Union provided the USSR with a wealth of natural resources. Though the exploitation of these was frequently inefficient, it left the Soviet Union with little need to import from elsewhere.

Initially, the United States was in a similar position to the Soviet Union, the mineral wealth of the country and the oil resources of Texas, Oklahoma, Louisiana and California providing the raw materials for the immense industrial expansion of early and mid-twentieth century America. The resource shift worked against the United States 50–100 years after it had worked against Western Europe and, by the 1970s, depletion of domestic reserves was rapidly altering the resource security of the country.

It was the contrast with the Soviet Union, and its potential for destabilising third world sources of US resource supplies which so concerned the Pentagon in the early Reagan years. As the 1982 *Military Posture Statement* put it:

> The Soviet Union's self-sufficiency in fossil fuels – oil, natural gas and coal – is mirrored by virtual self-sufficiency in other minerals. The Soviet Union must import only six minerals critical to its defence industry, and only two of these are brought in for as much as 50 per cent of its requirements. In contrast, the United States relies on foreign sources to supply amounts in excess of 50 per cent of its needs for some 32 minerals essential for our military and industrial base. Particularly important mineral imports (for example, diamonds, cobalt, platinum, chromium and manganese) come from southern Africa, where the Soviet Union and its surrogates have established substantial influence, and where US access, given the inherent instabilities within the region, is by no means assured.[3]

Thus, an emphasis on the security of resource supplies developed during the early years of the Reagan administration and, while primarily concerned with third world resources, it was clearly set in an East–West context. The Soviet Union and its perceived surrogates were seen as constituting the ultimate problem for US interests.

Development of the maritime strategy

During the early years of the Reagan administration, the Pentagon developed a strategy which could be applied to safeguarding US economic interests worldwide and also winning a war with the Soviet Union, a war which was confidently expected by hawkish analysts in the tense Cold War environment of the early 1980s.

While the US Army concentrated principally on preparing for conventional (and nuclear) war in Europe, and the US Air Force expended most of its efforts on strategic nuclear programmes, the US Navy and Marine Corps sought to develop a 'Maritime Strategy', a doctrine concerned simultaneously with constraining the Soviets, safeguarding resources and other US interests in the Third World and, in the final analysis, contributing to victory in a global conflict with the Soviet Union.[4] The strategy was developed in the early 1980s and made public early in 1986.

In the worst-case scenario, war with the Soviet Union, it was assumed that if deterrence broke down, there would be three broad stages of confrontation short of nuclear exchange: *transition to war*, comprising mobilisation and forward deployment of forces; *seizing the initiative*, including initial attacks on Soviet strategic ballistic missile submarines, 'bottling up' the Soviet naval forces, and preservation of the lines of communication; and *carrying the war to the enemy* or favourable war execution and termination.

This final phase was described succinctly by the then Chief of Naval Operations, Admiral James D. Watkins, writing in a supplement to the *Proceedings of the US Naval Institute* on the Maritime Strategy, published in January 1986:

> The tasks in this phase are similar to those in earlier phases, but must be more aggressively applied as we seek war termination on terms favourable to the United States and its allies. Our goal would be to complete the destruction of all the Soviet fleets begun in Phase II. This destruction allows us to threaten the bases and support structures of the Soviet navy in all theatres with both air and amphibious power. Such threats are quite credible to the Soviets. At the same tune, anti-submarine warfare forces would continue to destroy Soviet submarines, including ballistic missile submarines, thus reducing the attractiveness of nuclear escalation by changing the nuclear balance in our favour. During this final phase, the US and its allies would press home the initiative worldwide, while continuing to support air and land campaigns, maintaining sealift, and keeping sea lines of communication open. Amphibious forces, up to the size of a full Marine Amphibious Force, would be used to regain territory. In addition, the full weight of the carrier battle forces could continue to 'roll up' the Soviets on the flanks, contribute to the battle on the Central Front, or carry the war to the Soviets. These tough operations, close to the Soviet motherland, could even come earlier than the last phase.[5]

Keeping the violent peace

The expansion of US conventional forces in the early 1980s may have been primarily to execute the new Maritime Strategy against the Soviet Union, but it led to a worldwide enhancement of military readiness. As Admiral Watkins remarked in 1986:

> We now maintain a continual presence in the Indian Ocean, Persian Gulf and Caribbean, as well as our more traditional forward deployments to the Mediterranean and Western Pacific. Although we are not at war today, our operating tempo has been about 20 per cent higher than during the Vietnam War.

This military readiness could just as easily be applied to other conflicts and proxy conflicts with perceived Soviet surrogates or other forces which were considered to threaten US security interests. This second aspect of the Maritime Strategy was termed 'keeping the violent peace' in the third world, and naval forces such as aircraft-carrier battle groups and amphibious warfare ships were essential for such a strategy. According to two US navy commanders, Robinson and Benkert, it differed from the requirements for global war with the Soviet Union in three broad ways. First, a wartime strategy, in their view, concentrates on countering overt Soviet aggression while: 'peacetime strategy objectives are more diffuse and perhaps best characterised as furthering an ill-defined set of interests of which countering the Soviets is only part, although a very important part'. Second, a violent peace strategy is inherently less structured and clear-cut in its objectives and processes. Finally, political and diplomatic considerations may dominate or circumscribe military considerations, at least in the early stages of a particular crisis. Within this context, the major aims of a violent peace strategy are:

- protecting sea lines of communication and transit rights;
- allowing the United States continued access to resources and markets; and
- demonstrating US interests overseas.

Throughout the early 1980s, the build-up of US force projection capabilities went hand-in-hand with an increasingly aggressive maritime strategy and a belief by the Reagan administration that US interests, especially in Southwest Asia and the Caribbean, were directly at risk.

The US force projection expansion

There were six main areas of interest in the expansion of force projection capabilities: carrier battle groups, battleships, amphibious forces, logistic support, rapid deployment forces and special forces. Each will be described

briefly in terms of the forces deployed by the mid-1980s, and the capabilities being developed for the 1990s will then be assessed.

Carrier battle groups

By 1986, the United States had fourteen operational aircraft-carriers, and several in reserve. Each operational carrier could be deployed in a carrier battle group (CBG) along with escorts of cruisers, destroyers, frigates and submarines, together with supply ships. No other country had forces which were remotely comparable. Indeed, just three US carrier battle groups could deploy more fixed-wing aircraft than all the carrier-borne forces of the remaining countries of the world.

Each CBG provides a mobile strike capability comprising interceptors, strike aircraft, electronic warfare and maritime reconnaissance aircraft, and airborne early-warning planes. A protective screen of 800 km radius is possible around the CBG, and the strike aircraft can operate out to an even wider combat radius and are nuclear capable. CBGs are routinely equipped with a range of tactical nuclear weapons, including land attack ordnance and anti-submarine depth bombs.

Battleship surface action groups

Apart from the use of a battleship for a short period during the Vietnam War, the United States did not maintain operational battleships for a quarter of a century after the mid-1950s. This was changed with the 1981 decision to reactivate and modernise the four *Iowa*-class battleships then in reserve as dedicated land-attack platforms. Three were deployed by 1987 and the fourth a year later.

The ships retained their massive 16-inch main armament, but eight of the twenty secondary 5-inch guns were replaced with thirty-two Tomahawk land-attack cruise missiles and sixteen Harpoon anti-ship missiles. The main armament enables a ship to fire nine 1-ton high explosive shells over a 15-mile range simultaneously. The *New Jersey* used its guns in this manner against shore targets in Lebanon on several occasions in December 1984.

Because of the very heavy armour of this class of battleship, it would require multiple mine strikes or torpedo hits or intensive aerial bombing to destroy such a ship. The armour would, for example, offer virtually complete protection against anti-ship missiles such as the Exocet or Otomat. It is therefore extremely well suited for operations against relatively weak countries, which cannot mount sustained large-scale anti-ship attacks, and would survive a threat environment which a frigate, destroyer or even cruiser could not. No other nation possesses the naval bombardment potential of the *Iowa*-class battleship or anything remotely approaching it. It was thus quickly recognised that the battleship reactivation programme greatly strengthened potential fire support for marine amphibious landings.

Amphibious forces

With 190,000 personnel, the US Marine Corps is far larger than the entire British Army and around an order of magnitude larger than its Soviet equivalent of 20,000. It has some 40 amphibious warfare ships of above 10,000 tons displacement, compared with seven for all other countries. The Corps maintains its own integral air support and a wide range of specialised equipment including tactical nuclear weapons, and is deployed for combat at one of three levels – unit, brigade or force.

The basic marine component, the Marine Amphibious Unit, is fully equipped with tanks, armoured personnel carriers and artillery and up to 25 medium- and heavy-lift helicopters. Moreover, the larger ships such as the *Tarawa*-class amphibious assault ships are specifically designed to allow battalion-sized troop groups to remain on board for long periods in some comfort.

While the Marine Corps was not being enlarged to any great extent during the mid-1980s, important qualitative improvements were made. These included the deployment of over 300 advanced AV-8B Harrier jump-jets, all nuclear-capable, the purchase of Piranha light-attack vehicles and the development of an entirely new class of large amphibious assault ships, the *Wasp*-class, which entered service by the end of the decade. In the early 1990s, the deployment of large numbers of armed air-cushion vehicles will greatly extend the ability of the Corps to conduct amphibious assaults, increasing the proportion of coastlines over which assaults can be conducted at least three-fold. Table 3.1 indicates the make-up of the three levels of Marine Corps organisation. The intention, by the early 1990s, is for the Corps to be able to field a complete Marine Amphibious Force and a Marine Amphibious Brigade simultaneously in time of war.

More important in the context of force projection and keeping the violent peace, however, is the development of permanent basing backed up by logistical pre-positioning. By the mid-1980s this involved two MAUs in the West Pacific and Indian Ocean and one in the Mediterranean, but such routine force levels were being upgraded substantially by the development of logistical pre-positioning and of integrated rapid deployment forces involving army as well as marine units, with much of the emphasis on Southwest Asia and the Eastern Mediterranean.

Table 3.1 US Marine Corps air-ground task forces

Structure	Marine personnel	Navy personnel	Amphibious shipping
Marine Amphibious Unit (MAU)	2,350	156	4–6
Marine Amphibious Brigade (MAB)	15,000	670	21–26
Marine Amphibious Force (MAF)	48,200	2,400	*c.*50

Logistic support

Unless army or marine forces are fully supplied with food, fuel, munitions and other stores, their capabilities in combat decline rapidly. US military strategy under the Reagan build-up called for the capacity to act with force virtually anywhere in the world, often many thousands of miles from US territory or even from standing deployments of US forces in, for example, Europe and Southeast Asia.

The primary service providing such support is Military Sealift Command and, during the 1980s, it invested heavily in improving its capabilities. Eight large container ships were converted into Fast Sealift Support ships. These were, for example, capable of transporting most of the equipment for a complete armoured division to the Gulf via the Suez Canal in two weeks.

The technique of pre-positioning supplies was also developed, the aim being to be able to ship supplies to a crisis area, not from the continental United States but from a regional centre, the supplies then being married up with the troops who would be flown in from the US or Europe. As an interim measure, a force of seventeen ships was established, known as the Near Term Pre-positioning Force. These were hastily adapted commercial vessels rather than custom-built and many were based either in the Mediterranean or at the Indian Ocean island of Diego Garcia. This force was able to maintain a complete Marine Amphibious Brigade of 12,000 troops and its supporting personnel, over 15,000 in all, for 30 days without resupply.

The Near Term Pre-positioning Force was a temporary measure established during the early 1980s and was progressively replaced by the permanent Maritime Pre-positioning Force (MPF) of thirteen ships of up to 46,000 tons laden weight. Eight were converted merchant vessels and five were custom-built for the MPF. All were in service by 1986 with most based at Diego Garcia or at Guam, the latter base being regarded as in a 'swing-zone', able to support deployments throughout the West Pacific, southern Asia and the Middle East.

While not widely recognised, this revolution in logistic support was probably more significant in terms of increased force-projection capabilities than the expansion of the carrier battle groups or the reactivation of battleships. The developing logistic policy of the 1980s was tailored largely, though not entirely, to Southwest Asia, including the Middle East, but could be used elsewhere. The island of Diego Garcia, a British possession in the Indian Ocean from which the Ilois inhabitants had been evicted to Mauritius, was leased to the United States and was an essential component of this strategy, giving the US a capability for intervention in the Middle East that was notably absent during the oil crisis of the early 1970s.

The Rapid Deployment Force and CENTCOM

After the traumas of the mid-1970s, one of President Carter's early actions on security was to order a study on force projection. Presidential Directive

18 in 1977 ordered the Department of Defense to identify existing forces that might be tasked for operations in remote areas. After a considerable amount of service in-fighting, the Joint Chiefs of Staff responded in 1979 with a plan for a pool of forces from the four branches of the armed services, based in the continental United States but trained, equipped and provided with transport for action worldwide. This became the Joint Rapid Deployment Task Force (JRDTF), created in 1980 and known more popularly as the Rapid Deployment Force.

Although it was theoretically available for deployment anywhere in the world, from the start the JRDTF concentrated on Southwest Asia and the Middle East, and its planning and training formed part of the substantial build-up of force projection capabilities of the early Reagan years. Indeed, in 1983 the JRDTF was elevated to the status of an entirely new unified military command, to be known as USCENTCOM. Just as Pacific Command was responsible for US security interests in the Pacific, and Southern Command 'looked after' Latin America, so CENTCOM had a particular zone of responsibility. This was the maintenance of US interests in Northeast Africa and Southwest Asia, comprising nineteen countries stretching in an arc from Kenya through the Middle East to Pakistan.

By late 1984, the forces available to CENTCOM included four army divisions and one brigade and a marine division and a brigade, together with comprehensive air and sea support. A key concept was rapid deployment, with elements of the army's 82nd Airborne Division being kept at a high state of readiness. Thus a complete army brigade of over 4,000 troops with comprehensive air-mobile artillery and air defences was available for air transport at 20 hours' notice.

By the late 1980s CENTCOM had been further expanded and had some 300,000 personnel from all four services assigned to it. It comprised the Third Army, the Ninth Air Force, three carrier battle groups and a marine amphibious force together with elements of Strategic Air Command and substantial intelligence, reconnaissance and special forces units. While most of the forces and the HQ of CENTCOM were located in the United States, the forces were trained and equipped for rapid movement to, and deployment in, the Middle East and surrounding areas. The logistical pre-positioning already described was integral to this strategy. At the end of the 1980s, the head of CENTCOM was a General Norman Schwarzkopf of the US Army.

Special forces and tactics

One of the areas of most rapid expansion in the early Reagan years was that of special forces. A Unified Command for Special Forces was set up, covering units such as the Green Berets, Navy SEAL (Sea-Air-Land) forces, Air Force Special Operations Squadrons, Rangers and Delta Force. All were particularly concerned with low-intensity operations and most of their experience in recent years has been in the third world. Special Operations

Force (SOF) active duty personnel increased by 30 per cent, from 1981 to 1985, to 14,000 and, together with reserves, totalled about 32,000 with further expansion coming in the latter part of the decade. A wide range of new weaponry and tactics were developed, including a threefold increase in USAF (US Air Force) specialised aircraft to support SOF activities, as well as greatly improved communications equipment.

New technology for long-range intervention

Even with this expansion in numbers and improvements in weapons, a major drawback in third world intervention is the risk of casualties and the political consequences in terms of domestic opinion. Although the US armed forces no longer operate a draft, one legacy of Vietnam has been a reluctance to risk American lives in small wars in far-off places. This has provided a motive in the development of some weapon systems which avoid this risk, even though the main motive for their development may have been potential conflict with the Soviet Union.

One example is the application of 'stealth' radar-avoidance technology to strike aircraft such as the F-117A. Though developed to avoid concentrated Soviet air defences, the secondary value of such planes is their ability to fly through less well developed third world air defence systems almost at will.

A second, widely deployed, system is the long-range 'smart' land-attack missile launched from ships or submarines at sea. The main example is the land-attack version of the Tomahawk sea-launched cruise missile, progressively being deployed in some 200 ships and submarines and produced throughout the mid- and late-1980s at the rate of some 400 missiles per year. Some 2,600 such missiles will eventually be deployed, with a range of up to 700 miles, carrying either a single high-explosive warhead or a package of area-impact sub-munitions.

The use of inertial and 'scene-matching' guidance systems gives such missiles an accuracy of under 100 feet. Thus, a submarine patrolling 100 miles off a third world country can fire a salvo of missiles at targets 600 miles inland, using these missiles to destroy barracks, airfields, guerrilla concentrations and similar targets. Such attacks are possible with no risk to US combatants.

Force projection – recent use

In summary, the expansion of US force projection capabilities during the early and mid-1980s was a second string to the bow of US military power. It received far less attention from analysts or, indeed, from the media, than the nuclear expansion, yet may well have much greater long-term significance in the post-Cold War world.

US capabilities are hugely greater than those of any other country. Although, at the height of the Cold War, the Soviet Navy was a powerful force, its prime capability was the defence of the Soviet homeland rather than long-

range power projection. Lacking sophisticated carrier air capability, power projection was critically dependent on land-based air power. Although some major overseas bases were expanded briefly in the 1980s, Cam Ranh Bay in Vietnam being the most notable example, the Soviet Navy lacked the logistic support forces necessary to maintain power projection away from bases. The policy was essentially defence against US containment rather than taking a war to the enemy.

Britain and France have limited force-projection capabilities, as both countries have some carrier air power and assault ships, but these are tiny in comparison to US forces. The Falklands War strained British naval forces to the limit, whereas the United States could have mounted a task force at least five times the size of Britain's.

During the Reagan years, force projection was used increasingly as an instrument of foreign policy, not always with the expected results. The use of special forces, the mining of harbours and deploying a battleship in a show of strength all failed to ensure the overthrow of the Sandinista government of Nicaragua. The Marines' deployment in Lebanon resulted in over 200 soldiers dying in a suicide car-bomb attack, and the shore bombardment by a battleship surface action group killed many civilians and led to an increase in anti-American tensions.

In Grenada, though, the overthrow of the left-wing government, ostensibly to protect American medical students, was judged a great success by the administration, as were actions against Libya which culminated in the bombing of targets in Tripoli and Benghazi in 1986. On a much larger scale was the intervention in Panama at the end of 1989 which resulted in the capture of General Noriega, sometime CIA employee and close ally of the US, who had come to be regarded as unfit to rule and a threat to US security in Central America.

By far the largest example of force projection to date has been Central Command's involvement in the Gulf. This initially took the form of protecting 're-flagged' US shipping against Iranian action but amounted to considerable military support for Iraq in its war with Iran. Later, paradoxically, it was Iraq that became the threat to US interests and the target for the much larger military operations of Desert Shield and Desert Storm.

Force projection – future potential

The future potential of US military force-projection capabilities is complicated by two separate factors, the easing of Cold War tensions and the experience of the Gulf War. A major effect of improved East–West relations has already been a series of cuts in the defence budget, and there is no doubt that these cuts will be applied to force-projection capabilities as well as to other areas.

Thus, it is highly unlikely that the target of fifteen operational aircraft-carriers will be reached; the four battleships are being put back into reserve although an improved naval gunfire programme has been started; fewer of

the Wasp-class amphibious warfare ships will be ordered; the Clark Field air base in the Philippines will be closed and there will be cuts in personnel in many areas.

At the same time, proportionately the greatest area of cuts is likely to be in the US armed forces in Europe, especially the US Army, and, in relative terms, CENTCOM and similar forces will remain largely intact. Yet the purpose of military force-projection was always twofold – to contain the Soviet Union in the Middle East and elsewhere, and to safeguard US interests throughout the world. Given the collapse of the Soviet threat, this actually leaves a much greater capability to counter non-Soviet security threats elsewhere in the world.

Furthermore, throughout the defence community in the United States, the tendency is to accentuate conventional power projection. Thus the US Navy and Marine Corps point to the operations in Libya, Grenada and the Gulf as evidence of a need for their continued role in the post-Cold War world. The US Army, similarly, argues that the Gulf War demonstrated the need, in the final analysis, to be able to commit armoured ground troops in a conflict overseas. The US Air Force, in particular, has concentrated on conventional air power as an essential means of maintaining security throughout the world. It even sees the prohibitively expensive B-2 'stealth' bomber as acquiring a new saliency in conventional air-power projection rather than as a strategic nuclear bomber.

What *is* clear is that the expansion of US force projection in the 1980s leaves the United States with a very powerful legacy that stretches far beyond the end of the Cold War. If the world really is moving towards a period of North–South tensions, based at least in part on the North's increasing need of the South's resources, force projection provides the military answer to the problem of securing those supplies. Nowhere is this demonstrated more clearly than in the case of the oil resources of the Persian Gulf.

4   Oil and US security (1992)

As relations between the United States and the Soviet Union improved towards the end of the 1980s, so some analysts began to suggest that a new, and more peaceful, world order might be created. The easing of Cold War tensions made it seem highly unlikely that a major war would be fought by either of the superpowers. However, in early 1991 the Gulf War shattered that optimistic view. During the six weeks of the war, over 100,000 people were killed, two countries were physically crippled and two more were badly damaged economically.

The crisis originated on 2 August 1990, when armed forces of Iraq invaded and overran the state of Kuwait. Following strong international condemnation of this action, a coalition of UN member states, led by the United States, built up massive military forces in the neighbouring Gulf states and also sought to use diplomatic measures and economic sanctions to force Iraq to withdraw.

In early November, the UN Security Council set the Iraqi government a deadline of 15 January 1991 to withdraw from Kuwait. Over the following two months, the diplomatic and economic pressures continued while very large military forces were built up, dominated by the forces of US CENTCOM. Following the expiry of the deadline, military operations commenced against Iraq, initially by means of a series of massive air strikes at targets throughout the country. After five weeks of air assault, a four-day ground war ensued as Iraqi forces tried to withdraw from Kuwait.

A temporary ceasefire was later made permanent but the end result was far from restoring peace and security to the region. In Iraq, an uprising against the regime, by Kurds in the north and Shi'ite rebels in the south, was put down by the Iraqi government with great severity, leading to a mass exodus of refugees into neighbouring countries, especially in the north. This culminated in Coalition troops occupying a part of northern Iraq for four months to protect the refugees.

Following the war, there was considerable disorder in Kuwait, where the ruling Al-Sabah family had great difficulty in providing leadership and restoring order. Kuwait's difficult situation was compounded by Iraq's sabotage and firing of most of Kuwait's oil wells, a process resulting in serious environmental and economic damage.

Operation Desert Storm, as the US-led military operation was called, was hailed as a great victory in the United States, an example of how US leadership and military strength could counter the actions of a brutal dictatorial regime. In Europe, though, there were misgivings, and in much of the third world the conflict was seen as demonstrating US dominance of a new world order, especially when Western economic interests were under threat.

The United States and its allies also regarded the Gulf War as an example of effective action by the UN, in that the Coalition forces, while not directly under UN command, were acting in support of UN Security Council resolutions. This view was not shared by many UN member states, and the action was widely regarded, in many parts of the third world in particular, as an abuse of the UN system.

Thus, there is a marked dichotomy of views on this, the first major multinational military operation since the Korean War. Western ethnocentrism causes most Western analysts to see the war as a large-scale and fully legitimate policing action, but this is far from the prevailing view elsewhere. More generally, the Gulf War is already seen as a marked extension of US force projection activities, 'keeping the violent peace' on a massive scale.

It can be argued that it was also significant for two other major reasons. It was a remarkable example of a conflict which, at root, was concerned with control of global resources – in this case, oil. It also demonstrated the effects of using the new generations of area-impact munitions that had been under development for two decades. Far from being a precise 'war against real estate', it demonstrated the effectiveness of area-impact munitions at a level of intensity not seen since the Second World War.

There are, therefore, four good reasons for examining the context and consequences of the Gulf War in a book concerning future global security. The war itself was fought, to a considerable extent, because Iraq's actions threatened a key Western resource. While it was viewed by leading Western states as a successful use of the UN system in resolving conflict, this was decidedly not the view in most of the world. It was, instead, seen as an extension of US force projection activities. Finally, it demonstrated new forms of warfare, which are already proliferating across much of the world and indicated that, if we are indeed moving into an era of potential North-South conflict, such conflict could be immensely costly to the human community.

The context of the war

This chapter will examine the historical context to the development of the crisis[1] and will also discuss the strategic significance of Middle East oil. Following the defeat of the Ottoman Empire of Turkey in the First World War, a number of Middle East states that had formerly been under Turkish rule were administered by Britain and France under mandates from the League of Nations. Britain assumed responsibility for Iraq, Transjordan and Palestine, and France for Lebanon and Syria. The mandates comprised quasi-colonial

administrations but the territories concerned were not regarded as strategically or economically important. Oil-prospecting was on a small scale and gave little indication of the huge reserves to be discovered later.

Iraq was a disparate country with 80 per cent Arabic speakers, 15 per cent Kurds and the remainder Turkomans and Persian speakers. Some 90 per cent of the total population was Muslim, of which about 60 per cent were Shi'ite and 40 per cent Sunni. British policy in Iraq involved progressive devolution of administrative responsibility to a locally established government, formalised in the Anglo-Iraqi Treaty of 1922 but involving continuing British control of foreign and defence policy. Iraq gained independence in 1932.

After the First World War, Kuwait was one of a number of small city states on the Persian Gulf. The town itself had a population of just 35,000 in 1920 and the principal income was from pearling and fishing. Kuwait, along with most other Gulf sheikhdoms and emirates, had treaty obligations with Britain dating from the nineteenth century, but these were seen by Britain as constituting de facto protectorates, maintaining British influence in Gulf waters while involving little cost or interference in internal affairs. This began to change with the exploitation of oil reserves in Bahrain from 1934, but only in the late 1940s did Kuwait become a significant oil producer.

The oil potential of Saudi Arabia became apparent rather earlier, but here British influence was overshadowed by the US presence during the Second World War, consolidated after the war into a large-scale US commercial presence. East of the Gulf, Iran was already clearly set to become a major oil-rich state. It was also a much more heavily populated country than the western Gulf states and was strategically important in the new Cold War context because of its common borders with the Soviet Union, Afghanistan and Pakistan. Under the Shah it was seen, first by Britain and later by the United States, as a crucial bulwark of Western security interests in the region.

Until the early 1950s, Britain had considerable commercial control over the production of oil in Iran, Iraq, Kuwait and Bahrain, but this diminished as American companies moved in to exploit newly discovered reserves. This coincided with a more general loss of British influence in the Middle East, due in part to increasing Arab antagonism to British bases in the area, especially in Egypt and Iraq, but also to an increasing US interest in the strategic importance of the Middle East, exemplified by an increasingly close alliance with Iran from 1954.

Pre-war fears in the US that European powers would monopolise the newly significant Middle East oil reserves had resulted in acquisition of oil concessions by US companies, the most significant being those in Saudi Arabia, later developed by ARAMCO, a consortium of five large US oil companies. During the 1950s, US government policy towards the Gulf states changed slowly from merely a desire to keep the Soviet Union out, to a commitment to be the major strategic power in the region. This change was greatly boosted by the failure of British and French foreign policy in the Middle East during the Suez crisis in 1956 and led to the issue of the Eisenhower Doctrine on

9 March 1957, which involved a US commitment to economic and military assistance for any Middle East state threatened by communism.

Britain retained significant political influence over the small Gulf states until the 1960s, during which decade most of the states gained independence. Kuwait was the first, in 1961, but independence was immediately followed by threats from Iraq, based on disputed claims that Kuwait was, in the Iraqi view, merely a province of Iraq. Britain deployed troops to deter Iraqi military action and Iraq subsequently backed down, recognising Kuwait's independent status in 1963. Over the next decade and a half, Kuwait and the other Gulf states developed rapidly as major oil producers.

Iraq, to the north, had been ruled by a Hashemite monarchy until the coup of July 1958. There followed a period of ten years during which the political power of major landowners declined, a degree of land reform was introduced and a state-centred bureaucracy acquired power. There was considerable political disturbance, with a number of coups and coup-attempts, but the period was also characterised by the slow increase in power of the Ba'ath Party, which combined a degree of social and economic reform with nationalism and a firmly defined power structure.

The Ba'ath Party finally acquired power in Iraq in July 1968, and during the 1970s oversaw its rapid development as a result of the exploitation of oil reserves in the north and Southeast of the country. Over the same period, the Ba'ath Party successively curbed the political power of the Iraqi armed forces and developed its own system of rigorous, even brutal, social and political control through internal security forces.

The core of the party was provided by people from Tikrit, a town on the Tigris River, 100 miles north of Baghdad. Hasan al-Bakr, from Tikrit, was leader of Iraq until 1979, but the much younger Saddam Hussein, his deputy in the Ba'ath Party and also from Tikrit, was primarily responsible for the Ba'athist consolidation of power in the 1970s. He also ensured that power within the party was concentrated in his own hands and those of his Tikrit clan. Saddam Hussein took power in Iraq in 1979 when al-Bakr stepped down.

The Iran–Iraq War

In 1975, Iran and Iraq settled historic differences over the control of the strategically important Shatt al'Arab waterway, the confluence of the Tigris and Euphrates rivers entering the Gulf. The agreement also curbed Iranian support for Iraqi Kurds, but did not involve settlement of some minor territorial differences.

After the overthrow of the Shah of Iran in the revolution of 1979, Iran's new theocracy under Ayatollah Khomeini developed a bitter opposition to the Iraqi regime, such an essentially secular regime ruling over many millions of Shi'ite Muslims being anathema to Iranian Shi'ites. Following a rapid increase in tension, Iraq renounced previous agreements and invaded Iran

on 20 September 1980, hoping to use its superior military power to defeat an Iranian army seriously weakened by revolutionary disruption. After initial gains, Iraqi forces became bogged down and built comprehensive fortifications which were maintained until 1982.

After a rapid process of rearmament and mobilisation, Iran took the offensive and regained lost territory from the Iraqis but its forces, in turn, were halted by Iraqi defensive positions on their own borders. For four years the ground war remained largely static, despite massive offensives and bombardments and the loss of tens of thousands of lives.

Iraq was seen by the Gulf states as providing a protection against militant Iran and much of its war was funded by Kuwait and Saudi Arabia. Although the United States and Britain remained technically neutral in the war, they too regarded Iraq as a buffer, protecting their Western Gulf oil interests from Iranian excesses.

For the United States, the Iranian regime was particularly reviled because of its seizure of US diplomats as hostages, early in the revolution.

The US and Britain maintained an official arms embargo against both countries but, apart from the Irangate anomaly, it was Iraq that received the greatest unofficial help. Iraq armed itself primarily with Soviet and French equipment, but used many other sources of supply, including Egypt and Brazil, and its more general industrial development was greatly aided by technical assistance from many Western countries. Israel, on the other hand, regarded Iraq as a potential threat to its security and gave aid to Iran.

Sporadic attempts, by both sides, to disrupt oil exports from the Gulf escalated into the 'tanker war' of the mid-1980s, with the United States and other Western countries becoming heavily involved in protecting shipping. Although Iraq instigated most of the attacks, US naval efforts were directed almost entirely against Iran, a clear 'tilt' in favour of the Iraqi regime. This policy of support for Iraq involved major attacks on Iranian warships and offshore oil installations being used as military facilities during 1987–8, culminating in a major naval action in April 1988, when US warships and planes sank an Iranian frigate, a corvette and several patrol craft and crippled a second frigate, with the loss of around 200 Iranians. Coupled with renewed ground offensives by Iraq early in 1988, this turned the tide of the war against Iran, which eventually accepted a UN Security Council resolution dating from July 1987 calling for a ceasefire. This took effect, under UN supervision, on 20 August 1988.

In the later phases of the ground war, Iraq used chemical weapons on the battlefield, both mustard gas and nerve agents. They made relatively little difference to the course of the war, but were also used in the suppression of Kurdish revolts within Iraq, the most notable example being an attack on the town of Halabjah early in 1988, when some 5,000 inhabitants were killed.

After the war, Iran steadily moderated its policies and, after the death of Ayatollah Khomeini, the more pragmatic government of President Rafsanjani concentrated its efforts on post-war economic reconstruction and development.

Iraq, by contrast, commenced a major rearmament programme, involving the acquisition of advanced aircraft and tanks, primarily from French and Soviet sources. Although the United States and Britain maintained an official embargo on arms sales to Iraq, relations were good and there was considerable involvement in the economic development of the country.

Thus, a regime which was denounced by human rights activists as brutal, repressive and capable of using chemical warfare on a large scale against its own population, was regarded as an ally by Western countries. In part this was due to the enormous potential of the country, given its large oil reserves, but it was also seen as a continuing counter to the potential power of Iran, even after the damage it had sustained during the eight-year war. In both senses, though, Middle East oil resources lay at the heart of Western policy towards the region.

Strategic significance of Middle East oil

OPEC was founded at a meeting in Baghdad in September 1960. Founder members were Venezuela, Iran, Iraq, Saudi Arabia and Kuwait. Further states joined the organisation during the 1960s, including Algeria, Nigeria, Libya and Indonesia, so that even as early as 1970 OPEC member states controlled some 60 per cent of world crude oil reserves.

OPEC grew in power partly because it maintained unity on the matter of oil policy, but also because oil increased hugely in importance to the industrial economies of the West. By the early 1970s, all the major Western industrial powers, even the United States, were importing substantial quantities of oil from OPEC states. In turn, individual member states of OPEC and, to an extent, the organisation as a whole, were starting to use their conomic power to bargain with major oil consumers. This reached a peak in Gaddafi's takeover of Western oil interests in Libya in September 1973, but was followed, a month later, by an even more spectacular action by the Arab members of OPEC acting together.

Dismayed by the lack of progress of the Egyptian–Syrian offensive in the Yom Kippur/Ramadan War, the members of OAPEC (Organisation of Arab Petroleum Exporting Countries) decided on 17 October 1973, in the middle of the war, to use oil as a weapon against Israel and its main backer, the United States. Oil production by OAPEC members was cut by 15 per cent to engineer a scarcity, all oil exports to the United States and the Netherlands (location of the key Rotterdam oil market) were embargoed, and the price of oil was increased by an average 71 per cent. Subsequent action from October 1973 to May 1974 led to a quadrupling of world oil prices, setting in motion the most fundamental shake-up in Western economies since the 1930s, exacerbating the 1974 world food crisis and leading ultimately to the third world debt crisis of the 1980s.

Apart from the major impact on US security perceptions, the 1973–4 oil price increases led to a massive search for alternative oil supplies, especially

outside of OPEC member states. During the late 1970s and early 1980s, major oilfields in Alaska, Mexico and the North Sea were discovered and exploited. Against expectations, though, the largest new oil reserves were actually found in the Middle East, especially in the Gulf states, and by 1989 this was the dominant region for world oil reserves, a position made even more significant by the slow but steady depletion of oil reserves in the United States, Canada, the Soviet Union and Northwest Europe.

The pattern established by the end of the 1970s was of world oil *production* predominantly outside the Middle East but *reserves* located primarily within that region. Thus, Table 4.1 shows world oil production for 1989 with the Soviet Union as the largest producer, followed by the United States and with the United Kingdom and Canada also in the top ten.

A very different picture emerges when this is compared with the distribution of oil reserves. Table 4.2 shows world oil reserves for early 1990, with the Soviet Union and the United States numbers 7 and 9 respectively, and the table dominated by Gulf states. On these figures, the oil reserves of Iraq and

Table 4.1 World oil production – top ten countries
(1989 – million barrels per day)

1	Soviet Union	12.475
2	United States	9.175
3	Saudi Arabia	5.260
4	Mexico	2.875
5	Iran	2.865
6	Iraq	2.825
7	China	2.790
8	Venezuela	1.980
9	United Kingdom	1.905
10	Canada	1.725

Source: Adapted from *Middle East and North Africa Yearbook*, 1991. Europa Press, London.

Table 4.2 World oil reserves – top ten countries
(January 1, 1990 – billion barrels)

1	Saudi Arabia	255.0	⎫
2	Iraq	100.0	⎬ –449.5
3	Kuwait	94.5	⎭
4	Iran	92.9	
5	UAE – Abu Dhabi	92.2	
6	Venezuela	58.5	
7	Soviet Union	58.4	
8	Mexico	56.4	
9	United States	34.1	
10	China	24.0	

Source: Adapted from *Middle East and North Africa Yearbook*, 1991. Europa Press, London.

Kuwait combined were nearly six times as great as those of the entire United States including the Alaskan deposits. Iraq, Kuwait and Saudi Arabia together controlled 449.5 billion barrels of proven oil reserves, representing almost 45 per cent of the world total reserves of 1,011 billion barrels.

The pattern was therefore established of countries such as the Soviet Union, the United States, Canada and Britain producing oil heavily from a relatively low reserve base, but with oil strategically located primarily in the Gulf states. Furthermore, the United States was becoming increasingly dependent on imported oil.

The strategic significance of this was recognised by the United States in the late 1970s and led to the establishment of the Joint Rapid Deployment Task Force, the prime function of which was to safeguard Middle East oil in the event of any future security threat.[2] The Task Force was, in turn, developed in the 1980s into a unified military command, USCENTCOM with responsibility for securing US strategic interests in an arc of nineteen countries stretching from Kenya in East Africa throughout the Middle East to Pakistan in Southwest Asia. (Chapter 3)

CENTCOM had already seen considerable military action in the Gulf prior to 1990, especially in its destruction of Iranian warships in 1988. As the Kuwait crisis developed in mid-1990, CENTCOM's very existence, and the forces available to it, gave the United States a remarkable instrument of foreign policy with which to respond to Iraq's aggression. That response had little to do with the illegal and brutal invasion of a smaller state, even though the international community was rightly appalled at the Iraqi action. The US action was much more concerned with the takeover of Kuwait's oil reserves and the threat to the even larger reserves located on Saudi territory to the immediate south of Kuwait.

Iraq under Saddam Hussein may have been a highly acceptable counter to militant Iran during the Gulf War, but the prospect of the Iraqi regime controlling one-fifth of the world's oil reserves and threatening another quarter was totally unacceptable. Some analysts have regarded this factor as of limited importance, pointing to the relatively small role of Gulf oil production in world oil markets. This is to miss the point. The strategic value of Gulf oil lies in its utter dominance of world oil reserves – 65 per cent of total world reserves coming from Iraq, Iran and the Gulf states. From being an ally of the West, a buffer against the perceived threat from a militant Iran, Iraq was transformed rapidly into a real threat to Middle East oil supplies and, therefore, to Western economic security.

5   Taming the jungle (2000)

Shortly after the end of the Cold War, Clinton was elected to the US Presidency in place of Bush. Clinton proposed James Woolsey as the new Director of the CIA, and Woolsey was then questioned in Senate hearings on the changing threat environment facing the United States. He characterised it by saying that the US had slain the dragon (of the old Soviet Union) but now faced a jungle full of poisonous snakes.[1] Although this comment was made in 1993, it remains an effective characterisation of US security attitudes, the near-universal view in security circles being that the United States is clearly the sole superpower, but its worldwide economic and political interests will be subject to diverse and unpredictable threats, not from a single superpower as in the Cold War era, but from a variety of states and sub-state actors, or to put it somewhat more crudely, rogue states and terrorists.

This chapter is concerned with military perceptions of the nature of conflict over the period to 2020. It concentrates primarily on the United States, not least because it is the dominant military force in the world but also because its technological capabilities are so far advanced over most other states that they give a solid indication of more longer-term trends. At the same time, some attention will be given to NATO allies, not least because of potential tensions between a US-dominated NATO and the possible development of some kind of European defence identity.

In looking ahead, the nuclear context needs to be recognised. All of the declared nuclear powers, including the newcomers of India and Pakistan, are clear in their determination to maintain a nuclear capability. There is abundant evidence that Russia is actually increasing its nuclear commitments, primarily because of the desperate need to maintain a semblance of great power status, coupled with the decay of its conventional forces. The United States is maintaining a formidable nuclear arsenal, and has already begun the process of developing nuclear weapons appropriate to a volatile world in which weapons of mass destruction, especially biological weapons, are proliferating.

The decade since the end of the Cold War has been characterised by the evolution of a world view within US security circles that is now reasonably clear-cut and is likely to remain relatively stable, at least on present trends,

until 2010 and beyond. In this view, there are numerous areas of potential or actual conflict that may impinge on US security interests but are not central to them, there are two regions of enduring instability and there are two states that might conceivably threaten US ascendancy. Overlying all of these are two trends – the spread of ballistic missiles and weapons of mass destruction and the threat from international terrorism, with or without weapons of mass destruction. In addition, and less easy to analyse, are trends in illicit drug production and distribution and other aspects of transnational criminal behaviour.[2]

Among the areas of sporadic conflict are the Balkans, parts of East and West Africa, isolated parts of the Caribbean and some areas within Southeast Asia, notably Indonesia. The US may intervene directly or may be part of an intervening coalition in some of these cases, especially where there may be a direct domestic interest, as with Haiti, or where US interests may be at risk.

Eastern Asia is seen as a source of potential conflict, primarily because North Korea remains independent and antagonistic, a veritable rogue state that develops and exports missile technology to unacceptable regimes, and has a long-standing interest in weapons of mass destruction. Southwest Asia is the second region of danger, partly because Iraq and Iran are both viewed as rogue states, intent on regional hegemony, and partly because of continued US support for Israel. Behind the concern over stability in the Middle East lies a recognition of the singular importance of Persian Gulf oil and of the substantial US business interests in the region. Iraq, Iran, Libya and, to an extent, Syria, are also seen as states that seek to acquire missiles and weapons of mass destruction.

Two major states are seen as potential security problems for quite different reasons. Russia retains substantial nuclear forces even as its conventional forces wither almost to the point of collapse. The proliferation of armaments and the transfer of military technology from Russia is recognised as one of the few ways in which Russia can gain export earnings. This causes concern, but this is overshadowed by the unofficial export of knowledge in the fields of missile propulsion and guidance and the development of nuclear, chemical and especially biological weapons, as scientists and technologists seek work outside a collapsing Russian defence sector.[3]

In addition to instability and conflict in the Caucasus and parts of Central Asia, there is a longer-term fear that Russia may rebuild its military capabilities, perhaps under a strongly nationalist regime. Such a fear rarely recognises the significance of a near endemic Russian perception that NATO expansion and US commercial interests in the Caspian Basin are part of a strategic encroachment into Russia's historic sphere of influence.

China is recognised as a state that could have substantial potential to develop from a regionally significant power to a potential superpower, albeit only beginning to match the superpowers of the Cold War era after some decades. Even so, the potential for China to play a leadership role from

within the third world, presenting a possible focus of power to challenge US politico-economic superiority is recognised in some US military circles, with or without a continuing problem over Taiwan.

Suffusing these national and regional trends is a persistent concern with missile proliferation and with sub-state political violence directed at the US or its overseas interests. In part this comes from the experience of the Scud attacks in the Gulf War, in part from the Nairobi and Dar es Salaam embassy bombings in 1998 and other attacks on US interests.

The overall international security paradigm is thus reasonably clear-cut. The United States is the world's pre-eminent military power, it is not threatened by any state of even remotely similar power, yet does face diverse threats to its own security and its wider economic and political interests. Even so, it has the capability to adapt its military forces to meet the new threats, and, in the final analysis, should be able, along with its allies, to maintain international security in such a way as to protect its interests and preserve its inherent power.

Within this overall security context, there are some significant features and nuances, and it is fair to say that some analysts take a more global view. There are two factors that are likely to have an effect on many of these potential security problems. The first is a remarkable determination by the US military to do almost anything to minimise casualties in foreign military operations. The 'body bag' syndrome has, in the 1990s and especially since the Somalia disaster, been taken to extraordinary lengths, not least in Kosovo and Serbia in the early months of 1999 when offensive operations were restricted to an altitude above 15,000 feet for most of the war.

The second feature is a recognition of the extent to which economic globalisation increases vulnerability to particular forms of political violence. As a report of the US Commission on National Security in the twenty-first century put it:

> Many of the threats emerging in our future will differ significantly from those of the past, not only in their physical, but also in their psychological effects. Threats may inhere in assaults against an increasingly integrated and complex, but highly vulnerable, international economic infrastructure, whose operation lies beyond the control of any single body.[4]

Actions might involve elements of cyberwar – disruption of communications or computer systems controlling regional stock exchanges through hacking and viral infections, through to direct acts of violence against nodes of economic control.

Just occasionally, military analysts write from a more global standpoint, less concerned with narrow US perceptions of the manner in which world order may be controlled, more concerned with global trends. An example was an analysis by a former US submarine commander, Roger W. Barnett, that included most of the potential threats listed above but went on to mention:

- widening economic differentials between the economic 'North' and 'South';
- inequitable distribution of world food supplies, and the dislocation of millions of people because of famine, war and natural disasters;
- impact of high technology weapons and weapons of mass destruction on the ability – and thus the willingness – of the weak to take up arms against the strong.[5]

Although Barnett's analysis extended beyond the usual areas, his study was essentially concerned with promoting the value of the US Navy in being the most effective answer to regional problems affecting US security.

Even with these nuances to the security paradigm, the central problematic remains – tailoring military forces for uncertain decades ahead. In their different ways, the main branches of the armed forces of the United States are all going about the business of being able to respond to unpredictable threats. The manner in which they, and some of their allies, are doing so, provides a remarkably good indication of the future of international security as seen from the West.

Air power anywhere

At the start of the Iraq War in January 1991, the US Air Force staged an intercontinental raid on Iraq from the United States using B-52 strategic bombers deployed with conventionally armed cruise missiles (known as 'Secret Squirrels' after a cartoon character) that had been modified from nuclear armed cruise missiles deployed during the Cold War era. That air raid on Iraq was a striking indication of the transition away from the air force's Cold War outlook. During that era, the USAF contributed numerous missiles and strategic bombers to Strategic Air Command, maintained continental air defences and tactical air forces overseas and a capacity to undertake strategic conventional bombing, as demonstrated in Vietnam. There was an underlying belief, often disputed by analysts, that strategic air power could win wars. Although such an analysis was called into question by the Vietnam War, air force planners persisted with this view, and many claimed vindication through the Gulf War of 1991.

The air force was relatively quick to adapt to the post Cold War era, although it experienced severe cuts in personnel and equipment, dropping from 579,000 to 361,000 during the 1990s. Even so, it sought to maintain a full range of aircraft, seeking upgrades to existing types and new interceptors and strike aircraft, with an emphasis on stealthy features and precision-guided stand-off weapons.

During the early 1990s, and following on directly from the Gulf War, the air force embraced the concept of global reach, seeking to establish a capability to attack targets anywhere in the world from the continental United States. This represented a considerable change from the Cold War years where there

were bases run by or available to the air force around most of the periphery of the Soviet Union. For the future, such overseas basing could not be guaranteed, especially in the light of the Libyan experience in 1986, although a more recent experience has been even more traumatic.

Towards the end of 1998, one of the periodic crises with Iraq developed, leading eventually to an intense four-day bombing campaign, Operation Desert Fox, conducted mainly by the United States but with British involvement. A key aim of Desert Fox was to damage Iraqi air defences, command and control systems and weapons production facilities. For several years previously, air force pilots had trained extensively for such operations, with many of the personnel, planes and equipment located in large and well-equipped bases in Saudi Arabia.

In the immediate run-up to Desert Fox, and to the consternation of the US authorities, the Saudi government refused to allow the air force to use the bases for any offensive bombing of Iraq. To make matters worse, the Saudis even refused to allow the air force to move the units to other bases in neighbouring countries from which they could operate. As a result, much of the Desert Fox operation involved cruise missiles and aircraft launched from navy ships. While not widely advertised at the time, this event went further in convincing the air force that it had to maintain global reach.

In practice, this had already been developed over much of the decade, and in the middle of the 1990s, a series of operations was mounted to demonstrate this capacity. In 1993, there was a crisis in relations between the United States and North Korea over the latter's presumed nuclear weapons programme. The Pentagon determined on a show of force, described graphically, if not a little triumphantly in *Air Force Magazine*:

> The Air Force did something unusual with its B-1s last March. It sent a pair of bombers from Ellsworth AFB, South Dakota, via Guam, to the Republic of Korea, where they set down on an American air base within easy striking distance of a hostile neighbouring nation.
>
> The faraway, in-your-face deployment of the B-1s was part of an exercise Team Spirit, a muscular US/ROK combined-arms military exercise involving airforce units from Pacific Air Force (PACAF) and Air Combat Command (ACC). Among other things, it demonstrated to North Korea, now likely a nuclear threat, just how diverse and deadly US air power has become.
>
> By using B-1s in the exercise, including a third bomber out of Guam, the Air Force underlined the message delivered with a bang in the Persian Gulf War – that bombers armed with non-nuclear bombs and based in the continental United States are now the big guns in US global power.[6]

A Rand Corporation study released shortly after this episode supported this view of global air power:

In future major regional conflicts, national and military leaders are likely to place a premium on US forces that can deploy rapidly over long distances, swiftly destroy invading armed forces as well as fixed assets, and engage the enemy effectively while placing minimal numbers of American service personnel in harm's way.[7]

A further demonstration of global reach was given the following year, following a pattern that has been repeated with variations, on other occasions. In this case, two B-52 bombers, each carrying over fifty bombs, flew out of Barksdale AFB in Louisiana, the same base used in the CALCM attack on Iraq in 1991. The bombs were dropped on a bombing range in Kuwait, and the planes then flew eastwards over the Indian Ocean, Southeast Asia and the Pacific and back to their base, an exercise lasting nearly two days and supported by five air-to-air refuellings. A year later, B-1Bs did a similar operation, dropping practice bombs on ranges in Italy and Japan along the way.

By the end of the 1990s, the US Air Force had focused on two forms of global reach. One was the ability to use very long-range bombers, supported by tanker aircraft, to fly anywhere from the US.[8] The other was to reorganise the air force into ten Air Expeditionary Wings, each comprising about 15,000 people with up to 200 aircraft including strike aircraft, interceptors, tankers, transports, reconnaissance and electronic countermeasures aircraft.[9] Two of these Wings are to be on deployment readiness at any one time, able to move rapidly to overseas bases when available. Thus, at the core of the air force will be an ability either to conduct long-range strikes or to move entire forces to regional bases in response to crises.

Together with this basic structure come new generations of weapons and capabilities, some of these used against Iraq and Serbia. A range of stand-off missiles, including the original air-launched cruise missiles is available,[10] together with laser-guided bombs and earth-penetrating warheads, the latter intended for command bunkers, chemical and biological weapons stores and similar heavily protected 'high value' targets.[11] A substantial range of area-impact munitions, including cluster bombs and fuel-air explosives will be available for large targets, together with a new generation of highly specialised munitions. One such weapon, used in Serbia in 1999, dispersed large numbers of carbon fibre filaments to short-circuit electricity-switching stations and transformers. A variant of this, distributed by a new 'bomb' called the wind corrected munitions dispenser (WCMD) disperses thousands of microscopic fibres that form an almost invisible cloud that will get into a wide range of electronic and electrical devices, even including personal computers, and short-circuit them.[12]

Such weapons, provided there is appropriate targeting, can be used alongside conventional munitions to do massive damage to the economy of a target state. In the air war against Serbia in the early months of 1999, it proved extremely difficult to detect and destroy Serbian military facilities, partly

because of poor weather but mainly because of a restriction on operating below 15,000 feet, to protect aircrew, together with the Serb tactics of dispersal, camouflage and protection of their forces. During the course of the war, the US forces and their NATO allies moved progressively to target the Serbian economy as a whole. By attacking power plants, refineries, factories, transmission lines, roads, railways, bridges, tunnels and other aspects of the economy, the NATO forces did some $60 billion of damage to the Serb economy, reducing the already weakened state to the poorest country in Europe.[13]

From its current base in the early 1990s of being able to deploy world-ide, to field a range of stand-off weapons and to use both precision-guided and area-impact munitions, the air force believes it is the lead contender in the competition to ensure US ascendancy. In the coming decades, it sees four further trends. One is the further development of stealthy aircraft that are typically a generation ahead of any other aircraft available to potential opponents, as well as being resistant to air defences. A second is the further development of many different kinds of munitions, including small nuclear weapons, that can target all kinds of activities of states or paramilitary groups. Third is the development of many kinds of unmanned aerial vehicles (UAVs) for reconnaissance and combat, and finally is the requirement to integrate all these forces, together with space-based surveillance, into an offensive capability available for any occasion.

Sea power

Serbia during the Kosovo War was the fifth state to be targeted by cruise missiles during the mid- and late-1990s, most of them being sea-launched Tomahawks. Others were Iraq, Afghanistan, Sudan and Bosnia, but the sea-launched cruise missiles represent just one part of an adaptation by the US Navy to the new era, an adaptation that has been made easier by many historic aspects of the development of US naval power.

Much of the modern US Navy and Marine Corps developed as a result of the Pacific War against Japan, with carrier-based air power and amphibious forces being central to the conflict. The navy and the marines developed many substantial Cold War roles, with the navy maintaining a significant part of the US strategic nuclear arsenals as well as extensive anti-submarine forces. The Maritime Strategy of the 1980s was essentially an aggressive posture directed against the Soviet Union that would use naval and marine corps forces to take a war to much of the Soviet periphery. As such, it was a major exercise in global reach, with carrier battle groups and marine expeditionary forces forming core aspects of the strategy.

A sub-set of aggressive containment was the pre-positioning of military supplies and the construction and development of bases in strategic localities. With the United States effectively dominant in NATO, two other areas were crucial, the East Asia/West Pacific region and Southwest Asia and the Middle

East. For the latter, the Persian Gulf and its oil supplies were of fundamental importance, especially as the US had become a substantial net importer of oil from the mid-1970s.

To counter an expanded Soviet aggression towards the oilfields, the US first established the Joint Rapid Deployment Task Force at the end of the 1970s, and then elevated this into a full integrated military command, Central Command or CENTCOM, in the early 1980s. As CENTCOM developed, major basing facilities were developed in Saudi Arabia and a large air and naval base was constructed on the Indian Ocean island of Diego Garcia, a British possession leased to the United States, after the Ilois inhabitants had been removed to Mauritius and largely abandoned. Although CENTCOM was developed as a regional aspect of the Cold War, its facilities were readily available for use against Iraq, forming the basis for the coalition assembled to evict Iraq from Kuwait in 1991.[14]

During the rest of the 1990s, the navy and Marine Corps underwent some interesting changes as they embarked on the process of contributing to taming the jungle. Essentially, the process was one of divesting of excess Cold War baggage while preserving and enhancing those forces likely to be of greatest value in controlling the new world disorder. Between 1989 and 1999, the navy decreased in size from 584,000 to 370,000. With the decrease went many warships but the emphasis was primarily on cutting back anti-submarine forces. In 1989 there were fourteen aircraft carriers, five of them nuclear powered, yet by 1999, there were still twelve, nine of which were nuclear powered. Similarly, there were very few cuts in large amphibious ships. In other words, the navy's capacity to project power was only slightly diminished, even though the principal focus of that power during the Cold War era had been reduced to a pale shadow of its former self. The developments in the US Marine Corps were even more marked. Both the air force and the navy lost well over a third of their total personnel, whereas the decrease in the Marine Corps, from 195,000 to 171,000 was barely a tenth.[15]

Both the navy and the marines see their roles in the future in terms of the need to protect US interests in regional conflicts wherever they occur. In doing so, they are able to deploy forces that are very much greater than any other state. A single US aircraft carrier battle group is more powerful in its military capability than the aircraft carriers of Britain and France combined. The US Marine Corps is far larger than the entire British Army and Royal Navy combined.

Of the greatest significance in the context of US ascendancy over the next two decades or more is the manner in which the global reach of the navy and marines has been maintained, if not enhanced, at a time of cutbacks throughout the US armed forces. The various components – carrier battle groups, sea-launched cruise missiles, amphibious forces, overseas basing and pre-positioning – all contribute to a potential for 'keeping the violent peace' that is unmatched.

In many respects, this is nothing new, as it was a persistent feature of the Cold War posture. For the marines, it goes much further, and has strong echoes of the manner in which the marines were used to maintain US interests in Central America in the early years of the twentieth century, described memorably by General Smedley Butler (see p. 48 in Chapter 3 of this volume).

Butler's candour recalls an era when US business interests were expanding in Central America and required, in extreme circumstances, the use of military force to ensure their security, either against local regimes or against rebellions. The global picture in the early twenty-first century is far more complex and has more business actors. In the early twentieth century, European powers had massive influence in most of Asia, Africa and much of South America. In relative terms, the United States is far more powerful and, moreover, has business activities that frequently interlock with interests in Europe and East Asia. What is dominant, though, is the US capacity to project force, a capacity on a global scale that bears comparison with the use of the Marine Corps, in one particular region, at the beginning of the twentieth century.

Special operations, counter-insurgency and counter-terrorism

Of the four branches of the US armed forces, the army has faced the greatest problems since the end of the Cold War, experiencing the most substantial cuts in losing 300,000 people or 40 per cent of its strength. Even so, the make-up of the army has been changed to preserve rapid reaction and long-range strike. Thus in the ten years after 1989, the army disbanded two of its four armoured divisions but retained its two air assault and airborne divisions. In many ways, this parallels the changes in the navy, with both forces cutting back vigorously on 'Cold War' capabilities, while preserving others. The navy's anti-submarine forces have been cut but force projection is maintained. Similarly, gone are the days of massive tank armies facing the Warsaw Pact in Central Europe, but efforts are made to maintain rapid reaction and deep strike capabilities.

The army is particularly affected by the 'body bag' syndrome, and a feature of army operations overseas is to put a premium on protecting its troops, to the extent of their living in fortified compounds even when engaged in peacekeeping operations. In the 1990s it has been fighting something of a rearguard action to preserve as much of its combat capability as possible, and two of the main features have been acquiring weapons for long-range strike, and putting an increased emphasis on special operations forces, particularly geared to counter-insurgency, both seen as crucial elements in the army's posture in the coming decades.

Apart from helicopter gunships, the core weapon for deep strike against targets in regional conflicts is the Army Tactical Missile System (ATACMS), a surface-to-surface ballistic missile that can carry up to 1,000 anti-personnel grenades over a distance of 150 miles. In an intensive re-equipment programme

during the 1990s, the army has acquired over 800 launchers capable of firing this missile. One report, soon after it was first deployed, couched it in terms of competition with the air force in that it:

> Gives the service 'a significant leg-up' over the Air Force, which relies on piloted aircraft that react more slowly. The ATACMS can be used to destroy a target at long range while Air Force pilots are still en route. . . .[16]

Use of ATACMS in regional conflicts is one of the few force projection systems available to the army, but it is working hard to maintain its status in one other area – special operations forces. As with the marines, the army special operations forces act principally in low intensity conflicts, working with the navy and air force in US Special Operations Command (USSOCOM), based at Fort Bragg in North Carolina. Although this is relatively small, with less than 50,000 people, it is still nearly half the size of the British Army and operates a wide range of aircraft, helicopters and ships. It expects to increase its spheres of operations in an era of diverse conflicts and security interests in the South, and has a major re-equipment programme under way. This includes a series of upgradings to support aircraft and helicopters, new long-range support craft with an open-ocean range of over 1,000 miles and the provision of newly modified submarines for secret delivery of forces into hostile areas. There has even been an acknowledged expansion in some of the forces, with the US Navy's SEALs (sea/air/land) nearly doubling in size in the early 1990s.[17]

Another indication of changing priorities is the increase in training available to friendly regimes, especially in Latin America. From the 1950s to the 1980s, US forces were involved in many internal conflicts, most commonly aiding conservative governments fighting left-wing rebels. Many of the conflicts were part of the Cold War confrontation, with rebels aided on occasions from Cuba and Eastern Europe, and many of the activities, not least of the School of the Americas, were seen as controversial, not least because of human rights abuses.

With the Cold War ten years distant, the training of foreign armies, especially that involving US special operations forces, expanded. Much of it appears at first sight to be directed at anti-narcotics action, but it all too commonly involves counter-insurgency training in support of local elites. In 1998, some 2,700 special operations troops were involved with training the armed forces of every one of the nineteen Latin American states and nine Caribbean states, including armies in Guatemala, Colombia and Suriname that have been widely criticised for human rights abuses.[18]

NATO and European allies

Although European members of NATO are collectively larger than the United States, the capacity of these countries to project military power is limited,

certainly in comparison with the United States. Few European NATO members specialise to any great extent, so all attempt to provide a wide range of forces, with individual capabilities being a fraction of those of the United States. Overriding all of this is the vexed question of the future of NATO. As an alliance it is popular in Eastern Europe, not least as former Warsaw Pact states see it as providing security against a resurgent or unstable Russia. For Russia, though, any increase in NATO capabilities or any spreading of its influence is seen as a dangerous and entirely unwarranted extension into Russia's sphere of influence. This adds to the near-paranoia over Western commercial involvement in the former Soviet republics of the Caucasus and Central Asia.

NATO has two other stresses built into its evolution. One is that European NATO, with its numerous small armies, is wholly unable to engage in large-scale military action without the United States, a reality demonstrated by the Kosovo War in 1999. This led to stresses at two levels. One is that the US itself wants its European allies to share more of the burden, a view complicated by the fact that one or two European countries, not least Britain, feel that they are carrying too much of a commitment themselves.

The second aspect is that some circles of influence in Europe want an increased European role in security issues, not so much in support of the United States, but more as providing another centre of power and influence. This view, particularly strong in France, seeks a strong European defence identity, allied to the development of the European Union's foreign and security policy. At first sight, there would seem to be an area of overlap, with the 'pro-Europe' orientation also serving to reduce the European security burden currently taken on by the United States. In practice, it is not so simple.

Essentially, the ideal position for the United States in the coming decades would be for Europe to develop integrated military forces that can operate primarily within Europe, but preferably with some US involvement. Outside of Europe, though, the key player would be the United States, with its formidable global power projection capabilities. There might be occasions when it would operate with NATO, or with individual NATO states, but these would be essentially subservient. The end result would be that the US would not have to worry excessively about security in Europe, and would be able to devote its military capabilities to the wider global security threats.

The 'pro-Europe' view, though, is that Europe should not only develop a defence identity that counterbalances US power and influence within Europe, but that it should also have some capability to operate 'out of area', with a degree of military power that enables it to curtail or at least limit US control of major military operations.

This underlying tension is likely to persist well into the new century, but, meanwhile, the larger European states have progressively adapted their armed forces in much the same way as the United States, but at much lower levels. Britain, for example, still persists in overreaching itself with its residual great power pretensions, but its armed forces have moved towards rapid

deployment, maintaining an amphibious capability and carrier-based air power, even as armoured forces and anti-submarine forces have been cut back.[19] France, too, persists with pretensions at global reach, though most are directed towards Africa.[20] Together with Spain and Italy, much of the reorientation of military postures in the 1990s was away from the East and towards the South. In other words, as the Soviet 'threat' receded, so a perception of threat from a violent and disorderly North Africa has resulted in the maintenance if not strengthening of naval forces and projection capabilities in the Mediterranean.

Among the more powerful military states of NATO Europe, a perception of a volatile unstable world with diverse threats to international security is shared with that of the United States. There is little pretence that individual countries can begin to match the security control that can be exercised by the US, and an unanswered question concerns NATO's role. The talk is of 'outreach', an unspoken desire to 'balance' US military power, but how NATO is going to be able to have a piece of the action without being beholden to the US remains entirely uncertain.[21]

Missile defence and the control of space

In preparing to ensure international security, the United States seeks a range of new technologies and force postures. Many of these relate to force projection and long-range strike, but one of the principal areas of concern, and one that is proving difficult to counter by existing military technologies, is defence against attacks with ballistic missiles. This concern has resulted in a considerable impetus towards developing missile defences, many of them using technologies and systems originally envisaged as part of the Strategic Defence Initiative (SDI) or 'Star Wars' programme during the closing stages of the Cold War in the mid-1980s. In one particular area, that of directed energy weapons, intensive research and development is beginning to lead to forms of technology that may amount to a revolution in warfare. At the centre of this are two weapons programmes, one medium-term and one long-term and both experimental – the airborne laser and the space-based laser respectively. (See Chapter 7 of this volume.)

More generally, US Space Command has developed a *Long Range Plan* for the period through to the year 2020 that is based on the view that it is essential for the United States to have clear and unequivocal control of space. This must include what is termed 'worldwide situational awareness', an ability to defend against ballistic and cruise missiles from space as well as an ability to hit ground targets. It also means being able to defend satellites and other space-based vehicles from attack as well as an ability to destroy any other state's space-based systems.[22]

The wider view that it is essential for the United States to be the world's dominant space power has strong support throughout the US defence community, and the role of directed energy weapons in this process will probably

be central to this task. Their other function – extending the ability to destroy missiles to the ability to attack a wide range of targets on the ground is of particular interest to many military planners. It is possible, at present, for the US to target virtually anywhere on earth with a conventionally armed cruise missile. This is regarded as a major step forward in force projection, not least because it does not put American lives at risk. Even so, cruise missiles take time to reach their targets, they must be launched from ships or aircraft that are within range and they are of little use against mobile targets.

By contrast, a space-based directed energy weapon could be used with impunity and almost instantaneously, operating anywhere in the world, even hitting moving targets. In short, it is a very seductive idea, one that appeals to political and military opinion formers and could potentially yield a funding bonanza to the military-industrial-academic complex.

Keeping the violent peace

This chapter has concentrated mainly on the United States, seeking to assess the changes in its defence posture since the ending of the Cold War, and likely developments in the early part of the twenty-first century. Some attention has been paid to other states, but it is the US that is dominant, both in terms of military power and economic leadership. The view from the security community is that the Cold War was won, that there is no one state that can challenge US dominance, but that there will be many smaller security problems to face.

In this paradigm, Russia is in disarray and could be a source of instability or, just possibly, a resurgence, and China is growing in power and could eventually pose a threat to US leadership. There are distinct threats to regional interests, primarily in Eastern Asia and the Middle East, and there is a deep concern with 'rogue states', a small and disparate collection of states that seek, in different ways, to challenge the US and the West. Overlying all of this are concerns about the proliferation of nuclear, chemical and especially biological weapons and ballistic missiles, and a belief that there will be a particular vulnerability to paramilitary action and terrorism.

This 'jungle full of snakes' will present many problems of control, most of them regional and distant from the United States itself, but US military forces have already undergone a transition from their Cold War posture and are involved in two processes of potential military control, with a further major development no more than a decade away.

In the near future, US forces will maintain and enhance the ability to project force anywhere in the world by a variety of means. The air force will have global reach using its strategic bombers, and will be capable of rapid regional build-ups using its air expeditionary wings. Use of cruise missiles and other stand-off weapons, stealth bombers, unmanned aerial vehicles and air- and space-based surveillance and reconnaissance will all make it possible to fight wars 'at a distance' and with little risk to American lives.

The navy will continue to maintain carrier-based power and further generations of cruise missiles, and the marine corps will suffer little in the way of cuts as it preserves and enhances its abilities in amphibious warfare. The army loses out most, but hangs on to power projection, and puts particular emphasis on special operations and counter-insurgency training. By all these means, the US maintains the power to intervene at times and places that are considered necessary to protect its interests. It may operate in coalition with allies, especially in Europe, but it will remain the lead player in global terms while content to let the Europeans take a rather more significant, and expensive, defence role in their own limited region.

Countering weapons of mass destruction will be a priority, with a continuing reliance on modernised nuclear forces if that should prove necessary, and defence against missiles, whether in distant regions or for protecting the United States, will be a major issue. Control of space will be a prerequisite for continued global military power. In the longer term, but by 2020, there is a promise of entirely new forms of military power, especially directed energy weapons, that could well greatly enhance US military capabilities and prove almost impossible to counter by conventional military means.

In short, the first three decades of the twenty-first century will present challenges to US global power, but these will not be excessive and can be readily met. There are many uncertainties and the world is likely to prove volatile, with diverse threats to the US in particular and Western-orientated political power in general. Even so, there is essentially a Westernised world system now taking hold in a unipolar world in which one state, the US, is dominant. It will be possible 'to keep the violent peace'. It is a comforting view but it is wrong.

6 The new security paradigm (2000)

A local rebellion in a global context

On 1 January 1994, a rebellion broke out in the southern Mexican province of Chiapas. It was timed to coincide with the coming into force of the North American Free Trade Area (NAFTA), an agreement between the United States, Canada and Mexico that was seen by the rebels as another example of the free market trends that would further marginalise the majority of the people of Chiapas into greater poverty.

A rebel source gave the reasons for the revolt:

> We have nothing, absolutely nothing – not decent shelter, nor land, nor work, nor health, nor food, for education. We do not have the right to choose freely and democratically our education. We have neither peace nor justice for ourselves and our children. But today we say enough![1]

The rebels called themselves the Zapatista National Liberation Army (ZNLA), after Emiliano Zapatista, a leader of the 1910–17 rebellion in Mexico that resulted in the break-up of many of the major landholdings and some measure of land redistribution to poorer people. In several days of violence, over 150 people were killed as the Mexican Army moved in to put down the rebellion. Although mainly confined to Chiapas Province, there were car bombs in Mexico City and Acapulco and an attack on electricity supplies. In Chiapas itself, the rebels took control of a number of towns and villages.[2]

Harsh measures were used in initial efforts to suppress the rebellion, but these were followed by attempts at negotiation. Although the rebellion subsided from its original intensity, the issues that lay behind it remained largely unresolved and the activities of the ZNLA continued for the rest of the decade, aimed at those elites and their sources of power that control the economy of the country as a whole and of Chiapas in particular. Two features of the rebellion have been the persistent attempts of rebel leaders to communicate their motives to a wider audience, not least through the internet, and their insistence that the Zapatista rebellion must be seen in the context of a much broader division of global wealth and poverty.

This linking of the rebellion with the workings of the global economy has caused consternation in government circles in Mexico and the United States, running directly counter to received wisdom. The almost universal view in such circles is that NAFTA is an important regional contribution to an era of free trade that is, in turn, a necessary precondition to the effective working of a global liberal market economy. Any contrary view is considered to be retrograde if not luddite, and the idea that a peasant rebellion could be couched in terms of a revolt against free trade can only be comprehended if the rebels can be considered illiterate or at least misguided in the extreme, not an easy matter when their leaders use the internet with such skill and sophistication.

The Zapatista rebellion is an indicator of a much more broad global trend that constitutes the security paradigm that is now evolving, a paradigm that is quite different to the Cold War era. At the heart of this paradigm are three factors or 'drivers', the widening wealth-poverty divide, environmental constraints on development, and the vulnerability of elite societies to paramilitary action. The paradigm is not new – it has been evolving largely unnoticed for at least a couple of decades, and there have already been numerous indicators.

One way of recognising this is to visualise conflicts since the Second World War either as 'epilogue' or 'prologue' wars. The epilogue wars are those that are mainly indicative of past trends. There are many examples, notably the numerous wars of decolonisation or liberation that were prevalent in the 1950s and 1960s and persisted in some parts of Africa through the 1970s. Examples are Indo-China, Indonesia, Malaya, Kenya, Cyprus, Aden and Algeria in the 1950s. Other epilogue wars are the numerous 'proxy' wars of the Cold War era, some of them immensely costly in human terms. The Korean War, with three million people killed, stands out, as does Vietnam and, more recently Afghanistan, but many of the conflicts in sub-Saharan Africa and Latin America had strong Cold War elements.

The Zapatista revolt and the Gulf War of 1991 are both prologue wars, but there are many others, not least Peru in the 1980s and Algeria and South Lebanon in the 1990s. Both the Zapatista rebellion and the Gulf War illustrate components of the trend in international insecurity that together amount to a paradigm shift. The Zapatista revolt is an example of an anti-elite rebellion exacerbated by the growing wealth-poverty divide, and the Gulf War was essentially a resource war, fought over the control of Persian Gulf oil between an autocratic leader with regional ambitions and a powerful coalition of oil-importing states.

The impact of environmental constraints on an economically divided world has been recognised since the 1970s, although its security implications have only recently become apparent. It was, for example, put succinctly by Palmer Newbould at the time of the UN Conference on the Human Environment in Stockholm, right back in 1972:

> My own view is that however successful population policies are, the world population is likely to treble before it reaches stability. If the

expectation of this increased population were, for example, to emulate the present lifestyle and resource use of the USA, the demand on world resources would be increased approximately 15-fold; pollution and other forms of environmental degradation might increase similarly and global ecological carrying capacity would then be seriously exceeded. There are therefore global constraints on development set by resources and environment and these cannot be avoided. They will require a reduction in the per caput resource use and environmental abuse of developed nations to accompany the increased resource use of the developing nations, a levelling down as well as up. This conflict cannot be avoided.[3]

Unless there was a change in political and economic behaviour, the end result of the growing pressures of human demand would, according to Edwin Brooks writing at the same time, result in a: 'crowded, glowering planet of massive inequalities of wealth buttressed by stark force yet endlessly threatened by desperate people in the global ghettos of the underprivileged'.[4] At the root of this prognosis lie the two themes of socio-economic polarisation and environmental constraints.

The wealth–poverty divide

Although the centrally planned economies of the former Soviet Union and Eastern Europe represented a significant part of the population of the industrialised world for more than fifty years, their role in the world economy was relatively small. In the twentieth century, most of the world's people have experienced a mixed economy with an emphasis on the capitalist model.

Until the early post-war years, most of the global economy was under the direct or indirect control of a small number of often competing states. Africa and most of Asia were under colonial control, and the key sectors of the economies of most of Latin America were closely linked to Western business interests, especially in the United States and Britain. The decolonisation process of the post-war years resulted in the transfer of varying degrees of political power, although it often involved a transfer from colonial elites to local elites. In the last twenty years of the twentieth century, there was an acceleration in market and trade liberalisation and a decrease in state activity, a process that was accelerated by the collapse of most elements of the centrally planned alternative in the former Soviet Union and Eastern Europe.

The world economy is now a largely unimodal liberal market system, as distinct from the more bimodal system of the Cold War years. Both during and since the Cold War, this liberal market system has delivered economic growth, although with variable success, but has been persistently unsuccessful at delivering social justice. Put simply, the end result has been the success of the few at the expense of the many. The 'few' may number over a billion, but the 'many' are over four times that number. Socio-economic disparities

are growing and extreme poverty is experienced by a substantial proportion of the world's population. The actual numbers are massive – between 1 and 2 billion – and show little sign of any decrease; they may even be increasing as the world's population continues to grow by over 80 million each year. Along with them are 3 billion more people who are substantially marginalised as the world's elite surge ahead.

The liberal market system is not delivering economic justice and there is a decline in welfare across much of the system, a process exacerbated by the erosion of publicly funded welfare provision. During the Cold War, there were powerful motives in the liberal market economies to ensure the maintenance of social stability, not least through welfare provision. This was particularly obvious in Western Europe in the immediate post-war era, but was a feature of Western policies in many countries across the world. With the ending of the Cold War, and the perhaps temporary ascendancy of a single economic system, these motives have declined, and so has public welfare provision, not least as a result of structural adjustment and similar programmes encouraged by multilateral bodies such as the International Monetary Fund.

Roots of the divide

International wealth transfers since the Second World War have persistently gone from the poor to the rich. The main engine of this inequality has been the post-colonial trading system and its endemic imbalances, expressed especially in the deteriorating terms of trade borne by most ex-colonial states in the 1950s and 1960s, but continuing through to the 1990s with the brief exception of a two-year commodity price boom in the early 1970s. More recently this situation has been exacerbated by two factors. One is the debt crisis which, though it peaked in the 1980s and is now subject to some modest relief, is still a huge hindrance to the development potential of most Southern states. The other is the process of corporate globalisation, especially in the exploitation of labour markets, where corporations can search persistently for the cheapest sources of labour.

The three successive 'drivers' of international wealth divisions are all inextricably linked to the liberal market. The first relates to trading patterns that date from the early post-colonial era but evolved from the colonial experience itself. The majority of world trade, then as now, was between the wealthy industrialised states, but an important sub-set was the pattern of North–South trade where former colonies traded a wide variety of primary commodities, from copper, tin and bauxite to coffee, cocoa and tea, with industrial consumers, in return for manufactured products. Inefficient import substitution had some impact, but the fundamental problem was the decline in terms of trade as primary commodity prices declined relative to manu-factured imports. The problem was put bluntly by Tanzania's Julius Nyerere in 1971:

> When we were preparing our first Five Year Plan, the price of our sisal
> was 148 British old pounds before devaluation – 148 pounds per ton.
> We felt this price was not likely to continue so we planned on the basis
> that we might average 95 pounds per ton. It dropped down to less than
> 70. We can't win. In 1963, we needed to produce 5 tons of sisal to buy
> a tractor. In 1970, we had to produce 10 tons of sisal to buy that same
> tractor.[5]

A small number of oil-producing states were partly insulated from this
trend, and some East Asian countries such as South Korea and Taiwan got
huge economic aid from the West because they were considered to be front-
line states in the Cold War. These were exceptions – overall, non-oil-producing
third world states experienced a 32 per cent increase in import prices from
the mid-1950s to 1972, compared with just an 11 per cent increase in export
prices. According to the UN Conference on Trade and Development
(UNCTAD), in 1972 the deterioration in terms of trade for third world
countries over this period was:

> Equivalent to a loss, in 1972, of about $10,000 million, or rather more
> than 20% of these countries' aggregate exports, and considerably
> exceeding the total of official development assistance from developed
> market economy countries to developing countries in Africa, Asia and
> Latin America (some $8,450 million in 1972). In other words, there was,
> in effect, a net transfer of real resources, over this period, from developing
> to developed countries, the flow of aid being more than offset by the
> adverse terms of trade of the developing countries.[6]

The figures given are at 1972 prices, before the inflation of the mid-1970s
set in – if put in 1999 prices, the loss of terms of trade would be closer to
$80,000 million each year. Furthermore, UNCTAD contrasts the loss of terms
of trade with official development assistance. But such assistance was,
and is, commonly in the form of loans requiring repayment, or 'tied' to the
buying of goods and services from the 'donor' country. Even ignoring these,
there was a net wealth flow from the poor South to the rich North. If they
are included, the extraction of wealth from poor to rich was little short of
remarkable.

During the 1960s, efforts were made to reform world trade to favour third
world states, most notably in the first UNCTAD blueprint, *Towards a Trade
Policy for Development* in 1964, known more popularly as the Prebsich Plan
after UNCTAD's first Secretary-General, the Argentinian economist Raul
Prebsich. The Prebisch Plan embraced commodity agreements, compensatory
finance, tariff preferences, control of invisibles, regional industrialisation
and substantial improvements in the quantity and quality of aid to produce
an integrated programme to foster rapid development. It formed the basis
for UNCTAD bargaining for almost a decade but made little progress against

the substantial economic interests of the North, especially those of the major primary commodity importers, the UK, France, West Germany, Japan and the United States.[7]

With few exceptions, third world commodity producers failed to achieve the unity required to enforce price increases for their exports. There was an extraordinary irony in the fact that the one group that succeeded, OPEC, achieved substantial if temporary benefits for its own members but set up the conditions for a debt crises stretching over two decades.[8]

Between October 1973 and May 1974, OPEC acted effectively as a cartel and presided over an increase in crude oil prices of over 400 per cent. The prices held for more than two years, declined somewhat and then increased massively in 1979/80 because of regional oil supply disruptions consequent on the Iranian Revolution and the outbreak of the Iran–Iraq War. While the economies of many industrialised oil-importing states were hindered, those of third world states came close to being crippled, resulting in heavy borrowings on international money markets leading to massive problems of debt within a decade.

For a very brief period, from 1973 to 1975, the oil price increases coincided with a generalised commodities boom.[9] This put some pressure on industrialised countries to negotiate a reformed international commodity trading system, and a special session of the UN General Assembly early in 1974 advocated a New International Economic Order embracing many of the features of the Prebsich Plan of a decade earlier. By early 1975, though, the 'stagflation' affecting many industrialised states resulted in a collapse of commodity prices and an immediate loss of interested in trade reform. The New International Economic Order, involving fair trade for the South, was lost.

Furthermore, by the mid-1990s the effects of the debt crisis were to be an extraordinary handicap on development prospects. For many third world states, servicing the external debt, let alone repaying the debt capital, was absorbing a significant proportion of total export earnings. Even by the late 1990s, debt servicing still accounted for a quarter or more of export earnings for countries right across the South, including Algeria, Bolivia, Chile, Colombia, Ethiopia, Ghana, Indonesia, the Ivory Coast, Kenya, Mexico, Morocco, Mozambique, Pakistan, Peru and Zambia. Sub-Saharan Africa was particularly badly affected by debt. In 1997 it owed creditors $234 billion and had already paid out $170 billion in debt servicing, with this costing around four times the health and education budgets each year.[10]

During the course of the decade, some attention was paid by the G7 states to this core handicap on development, but most of the responses amounted to a rescheduling or, at best, some limited direct relief. Even some more systematic responses in 1999 accounted for only a minority of the overall debt problem of Southern states. Taking the continuing problem of terms of trade together with indebtedness, the poor South continued to see wealth transferred to the rich North right through into the new millennium.

Furthermore, a further factor was becoming more significant. From the early 1980s, the rapid spread of the free market paradigm led to the partial retreat of the state from welfare and social support in many parts of the world. While it took root with greatest fervour in the United States and the UK, it had a profound influence on multilateral finance organisations such as the International Monetary Fund (IMF) and the World Bank, with structural adjustment of third world economies towards an unfettered market often being a condition for aid.

A frequent casualty has been labour rights, reversing a trend stretching back three-quarters of a century. The founding of the International Labour Organisation (ILO) in 1919, in the aftermath of the First World War and the Russian Revolution, led on to the ILO Convention stipulating minimum working conditions such as the 48-hour week and 8-hour day. While many of the more wealthy countries moved progressively towards such norms over the following half century, often 'encouraged' by strong trades unions, these labour rights were rarely observed in the majority world of the South, where the informal sector of the economy flourished without regulation.

Since the mid-1970s, enhanced by the increased availability of a trained but underemployed workforce and by ease of movement of capital and production, it has been possible for production of a wide range of consumer goods to be transferred to Southern states. These have typically been controlled, either directly or indirectly, by transnational business interests that have sufficient flexibility and purchasing power to be able to seek out the cheapest labour markets, whatever the conditions of the workers. This is made easier by chronic underemployment in many regions. In sub-Saharan Africa, for example, some 75 per cent of the workforce works on the margins of the formal economy and there are 16 million child labourers aged between 10 and 14.[11]

In the churchyard of the town of Kirkheaton near Huddersfield in West Yorkshire there is a monument to eighteen girls, the youngest aged 9, burnt to death in a mill fire in 1818. Ten miles away, another monument outside Silkstone Parish Church near Barnsley records a flood in a local coal mine in 1838 in which sixteen boys and ten girls died, most aged under 12 years and the youngest only 7. If such disasters were to occur in present-day Britain, or indeed in any other Western country, there would be outrage. But they do happen, frequently, the only difference being that they have been 'exported' to countries of the South.

The widening of the rich–poor divide

At the start of the twenty-first century there is endemic deep poverty affecting over a billion people. There is also a steadily widening gap between a rich minority of the world's population, located primarily, but not solely, in North America, Western Europe and Japan, and most of the rest. One of the crudest measures is that the 300 or so dollar billionaires in the world are

collectively as wealthy as the poorest 2.4 billion people. In 1960, the richest 20 per cent of the world's people had 70 per cent of the income; by 1991 their share had risen to 85 per cent while the share of the poorest 20 per cent had declined from 2.3 per cent to 1.7 per cent. Put another way, the ratio of global inequality had nearly doubled.[12]

It is also notable that the rich–poor gap widened at a faster rate in the 1980s, as free market liberalisation increased. There are early indications that there has been a further widening in the late 1990s, a consequence of the severe economic problems affecting first Southeast Asia and then South Asia, Africa and Latin America.

This widening rich-poor divide contrasts markedly with an implicit assumption of most current economic thinking that economic growth is part of the worldwide phenomenon of globalisation that is delivering economic growth for all. This is not so. As John Cavanagh remarked:

> More then three-quarters of the new investment into the developing world goes into China and nine other rapidly growing countries. A new global apartheid of 24 richer countries, a dozen rapidly developing countries and 140 that are growing slowly or not at all becomes one of the major new threats to global security.[13]

The global divisions are even repeated in some apparently successful Southern states. After Mexico became a member of NAFTA in 1994 and experienced the peso crisis of that year, there was an expectation of rapid economic growth. Overall there have been many developments, but:

> The gap between rich and poor in Mexico is enormous, and it has widened since the peso devaluation. But just as large is the gap in the country's economic recovery, which seems to have taken hold at only the highest income levels and skipped the all-but-forgotten places.[14]

What is happening in individual countries of the South, and much more harshly across the world, is an increasing rich-poor divide. All the indications are that this will continue until about 2030, and may even accelerate, with the development of a trans-state global elite surging ahead of the rest. This elite, of rather more than one billion people, a sixth of the world's population, lives mainly in the countries of the North Atlantic community, Australasia and parts of East Asia.[15]

The distribution in these regions is not uniform, and there are substantial problems of poverty in a number of advanced industrialised states such as the United States.[16] Nor are the poorer states of the South uniformly poor. In some countries, the rich elites represent a tiny minority of the population, but others such as Brazil have quite substantial middle and upper classes, living apart from the majority poor and ever-conscious of their own security vulnerabilities.

Southern elites frequently work very closely with the business interests of major transnational corporations based primarily in the North, and these, too, put a premium on the security of their expatriate personnel and local associates. In the case of energy and mining companies, this will commonly extend to maintaining their own security forces, private armies that ensure the safety of their operations while providing lucrative and welcome employment for recently retired members of special operations forces and others from the armies of the North.

There is a further key factor in the global socio-economic polarisation. Since the 1960s, there has been substantial progress in some aspects of development in the South, often achieved against the odds and in a global economic environment that works more in the interests of the states of the North. Progress has been particularly marked in the field of education and literacy and there is progress in communications. An effect of this is that an increasing number of marginalised people in the South are aware of their very marginalisation and of the rich–poor gap.

Revolts from the margins

Such a circumstance, the combination of a widening rich-poor gap with an increasingly knowledgeable poor, is leading to a 'revolution of unfulfilled expectations', a prominent feature of many insurgencies and instability in Latin America, North Africa and the Middle East. The Zapatista rebellion is a clear recent example. Another is the far more radical Sendero Luminoso (Shining Path) movement in Peru, developing from the teachings of Abimael Guzman in the 1970s. Sendero may be in retreat, but its tough and often brutal quasi-Maoist ideology took root among the poor both of the high Andes and in the urban shanty towns of Lima and other cities, resulting in a long and bitter conflict with the Peruvian Army that saw some 25,000 people die.[17]

A similar revolt from the margins is evident in other countries, with much of the attraction of organisations such as Hamas coming from their ability to offer a way out of exclusion. Hamas has been prominent in its social agenda, a programme of social welfare and education running it parallel with radical insurgency action against the Israelis. Hamas is marginalised as a straightforward terrorist organisation bent on the destruction of the Israeli state, with little attempt made to study the reasons for its development. But Hamas cannot be understood without recognising the position of tens of thousands of young Palestinians growing up in the 50-year-old refugee camps of the Gaza strip.

Of concern in France, if less widely recognised in the rest of Europe, is the bitter civil war in Algeria that has claimed 100,000 lives in less than a decade. It has been a war fought between a repressive government and radical (and often extreme) fundamentalist groups who gather support from among the millions of marginalised people, especially unemployed young men, who are largely excluded from the Algerian economy.

A combination of incompetent and corrupt government and a severe economic downturn in the late 1980s lead in 1988 to riots, disturbances, repression by the armed forces and a state of emergency. A cautious move towards elections enabled the Islamic Salvation Front (FIS) to gain much public support in the early 1990s, winning an overwhelming majority of seats in the first round of elections in December 1991. Before the second round, the military intervened to prevent the FIS taking power, setting in motion a bitter and protracted conflict lasting the rest of the decade.[18] The conflict in Algeria, with its violent effects felt in France, may well be a prototype conflict for the next several decades.

One of the most spectacular examples of a revolt from the margins was the uprising in many parts of Indonesia in 1998, with incidents in Djakarta described vividly by one journalist as the dispossessed rising out of the shanty towns to loot the shopping malls of the rich.

Environmental limits to growth

The violent effects of increasing socio-economic polarisation are already apparent, with a likely trend towards further instability and conflict. On its own, this is, at the very least, a matter of real concern. It might therefore be argued that such a trend will be recognised, and that sufficient economic reforms might be put in place to curb an excess of insecurity. There are few signs of this happening and it would, in any case, have little effect unless it was part of a recognition of the second global trend, the growing impact of environmental constraints on human activity.

In essence, the limitations of the global ecosystem now look likely to make it very difficult if not impossible for human well-being to be continually improved by current forms of economic growth. This is certainly not a new prognosis, and formed a central part of the frequently derided 'limits to growth' ideas of the early 1970s. Those ideas stemmed from some of the early experiences of human–environment interaction, notably the problems of pesticide toxicity, land dereliction and air pollution, all initially significant problems in industrialised countries.

The earliest indications came in the 1950s with severe problems of air pollution affecting many industrial cities, most notably a disastrous smog episode in London in 1952, responsible for the death of some 4,000 mostly bronchitic and elderly people. A decade later came the recognition of the effects of organophosphorus pesticides on wildlife, a process greatly stimulated by a single book, Rachel Carson's *Silent Spring*. Later in the 1960s there were environmental disasters in Europe including a massive fish kill in the Rhine, the wrecking of the *Torrey Canyon* oil tanker near the Scilly Isles and the killing of over 140 people, mostly children, when a coal mining waste tip engulfed a school in the village of Aberfan in Wales.

By the early 1970s, environmental concern was sufficient to stimulate the first UN Conference on the Human Environment in Stockholm. Although

initially likely to be concerned with the environmental problems of industrialised states, the Stockholm meeting was substantially influenced by an early systems study of global environmental trends, *Limits to Growth,* published a few months earlier.[19] While widely criticised as a somewhat crude simulation study of the global system, *Limits to Growth* was seminal in introducing the idea that the global ecosystem might not be able to absorb the overall effects of human activity, especially those stemming from the highly resource-consumptive and polluting lifestyles of the richer states of the industrialised North.

The early signs of environmental problems were joined by much more significant changes in the past two decades. Air pollution became recognised as a regional phenomenon through the experience of acid rain, and a global problem, the depletion of the ozone layer, began to be recognised as serious in the 1980s. Ozone depletion has a significance as being the first major global effect of human activity. It resulted from the effects of a range of specific pollutants, chlorofluorocarbons (CFCs) and related chemicals, on the thin layer of ozone in the upper atmosphere that normally shields the earth's surface against excessive amounts of UV radiation.

While the potential for an ozone depletion problem was recognised in the 1970s, concern was hugely boosted by the discovery in the early 1980s of an annual 'ozone hole' over the Antarctic each spring. The problem was brought under some degree of control by international agreements, specifically the Vienna Convention in 1985 and the Montreal Protocol two years later, but still had a large effect on environmental thinking – this was a human activity that was having a discernible and potentially devastating impact on the entire global ecosystem.

Other problems developing on a global scale also rose to prominence. They included desertification and deforestation, the latter having an immediate effect in terms of soil erosion and flooding, and the salinisation of soils, especially in semi-arid areas. Other forms of resource depletion became evident, most notably the decline in the resources of some of the world's richest fishing grounds, not least in the continental shelf fishing grounds of North America and Western Europe.

Problems of water shortages and water quality are already severe in many parts of the world. Around half of the population of Southern Asia and Africa does not have access to safe drinking water, and 80 per cent of diseases in these areas stem from unsafe water.

At a more general level, there have been tensions between states over the status and use of major river systems. The 1959 agreement between Egypt and Sudan resulted in joint control over the mid-Nile waters, but Ethiopia controls 85 per cent of the sources of the Nile, with Sudan and Egypt having the prime dependencies. Similarly, the Ganges and Brahmaputra rivers are essential to Bangladesh, with its rapidly growing population. Schemes for joint utilisation exist with India and Nepal, but Bangladeshi requirements and Himalayan deforestation remain twin pressures.

A more specific source of potential conflict is the substantial Turkish programme of dams, hydroelectric and irrigation programmes on the upper waters of the Tigris and Euphrates rivers in Southeast Anatolia, rivers which are subsequently essential to the economic well-being of Syria and Iraq. Also in the Middle East, a much smaller-scale problem that forms a largely hidden part of Israeli–Palestinian negotiations is found in the West Bank. Winter rainfall on the West Bank hills provides water not just for the West Bank, but also for much of Israel in the form of underground aquifers flowing westwards towards the Mediterranean. Any long-term settlement will require a fair sharing of the water resources that will be very difficult to achieve given the already heavy use of water by Israel and the increasing water demands in both Israel and the West Bank.

In some parts of the world a persistent failure to come to terms with human environmental impacts produced near-catastrophic results. Nowhere was this more clear than in many parts of the former-Soviet Union, where a drying-out of the Aral Sea, massive problems of pesticide pollution and the radioactive contamination of Arctic environments are the most obvious examples.

Individual problems of pressures on land, water, fisheries and other resources are likely to increase, notwithstanding some successful cross-border agreements, as population growth and increases in per capita resource consumption combine in their effects. Even so, two much more broad global phenomena will have a more profound impact on global security, the 'resource shift' and climate change.

The resource shift and resource conflict

The resource shift is a centuries-old phenomenon that stems from the original industrial revolutions of Europe and North America feeding initially on domestically available raw materials, whether coal, iron ore, copper, tin, lead and other non-renewable resources. In the nineteenth century, European industrial growth was based largely on such resources mined within Europe, and the much more resource-rich United States could continue to be largely self-sufficient until the latter half of the twentieth century.

In the twentieth century, the industrialised North became progressively more dependent on physical resources from the South, as its own deposits of key ore, coal, oil and gas became progressively more costly to extract. This resource shift has meant that certain physical resources have acquired a strategic significance that, in a number of cases, already results in actual or potential conflict.

Zaire, for example, has had much of its politics in the 40 years since independence dominated by competition for the control of Shaba Province, formerly Katanga. This has included outright violence during the civil war after independence in 1960, and rebellions in Shaba in 1977 and 1978 that were helped by Eastern bloc aid from neighbouring Angola and were controlled

by Franco-Belgian military interventions with logistic support from NATO. At the root of these conflicts have been the formidable mineral deposits of Shaba. Of these, the best known may be copper and industrial diamonds, but of at least as great significance are the cobalt mines around Kolwezi and Mutshatsha, these deposits representing about half of known world reserves in the late 1970s. With cobalt a key component of ferro-cobalt alloys used in ballistic missile motors, jet engines and other defence-related products, preventing the control of the Shaba deposits falling into the hands of leftist rebels was a priority.[20]

The protracted and bitter 25-year conflict for the control of Western Sahara between Morocco and the independence-seeking Polisario Front has complex causes, but a central factor is the massive reserves of rock phosphates at Boucraa in the north of the country. Rock phosphates form the basis of phosphate fertilisers, in turn an essential components of compound fertilisers used throughout world agriculture. On its own, Morocco is the world's main exporter of rock phosphate, but with the Western Sahara reserves it achieves near dominance.[21]

Elsewhere in Africa, illicit trading in diamonds has fuelled conflicts in Sierra Leone[22] and Angola, much of the Western support for South Africa during the apartheid years was a consequence of South Africa's dominance of gold and platinum markets, and Russian determination to maintain control of parts of the Caucasus is due, in part, to access to Caspian Basin oil.

Even so, transcending all of these is the geo-strategic significance of the oil reserves of the Persian Gulf region, reserves that are both remarkably plentiful and cheap to extract. At the end of the twentieth century, some two-thirds of all the world's proved reserves of oil were located in Persian Gulf states with production costs typically around $3 a barrel compared with up to $12 a barrel for oil from more difficult fields such as the North Sea or Alaska.

When the Iraqi army occupied Kuwait in August 1990, the Saddam Hussein regime added Kuwait's oilfields to its own even larger deposits, gaining control of 19.5 per cent of all of the world's known oil reserves. Saudi support for the subsequent coalition military build-up stemmed, to a large degree, from a fear that the Iraqis would go on to seek control of the massive Saudi oilfields close to Kuwait. With Saudi oil then representing over a quarter of all known world oil reserves, the Western coalition perceived the Iraqi regime as threatening to control 45 per cent of the world's oil, an entirely unacceptable prognosis demanding reversal.

The exploitation of world oil reserves is a remarkable example of the resource shift in that the world's largest consumer of oil, the United States, was until the early 1970s self-sufficient, but is now a massive oil importer. During the 1990s, in particular, the United States progressively ran down its own reserves of easily extracted oil, while new reserves proved elsewhere in the world typically increased the holdings of many countries. To be specific, the US had reserves totalling 34 billion barrels in 1990; these decreased by

more than a third during the decade, whereas the proven reserves of Saudi Arabia, Iraq, Kuwait and the United Arab Emirates, all much larger than those of the US, actually increased. Thus, in all of these states, the discovery of new reserves exceeded production. By the year 2000, all the major industrialised states of the world, except Russia but including China, were becoming progressively more dependent on Persian Gulf oil, even allowing for the deposits of the Caspian Basin.

Overall, and throughout the twentieth century, the industrialised states of the North became progressively more dependent on the physical resources of the South, a trend set to continue well into the twenty-first century. As a potential source of conflict it is a core feature of the global economy.

Climate change

Of the many environmental impacts now being witnessed, one stands out above all the others – the development of the phenomenon of climate change as a result of the release of so-called greenhouse gases, especially carbon dioxide and methane. One of the most fundamental of modern human activities, the combustion of fossil fuels, is demonstrably affecting the global climate. Among the many effects already apparent and likely to accelerate are changes in temperature and rainfall patterns and in the intensity of storms.

The greenhouse effect caused by increases in gases such as carbon dioxide in the atmosphere has been recognised for some decades, and it was initially expected to have its most notable impact in terms of increases in atmospheric temperature – hence the use of the term global warming. During the 1980s and 1990s this has become recognised as a pronounced oversimplification of much more complex changes in the world's climate, including considerable regional variations. It has also been more widely recognised that there are substantial natural climatic cycles, some of which, such as the El Nino effect in the Pacific, may also be affected by human activity. Furthermore, other forms of atmospheric pollution resulting from human activity might even counter the effect of the greenhouse gases.

A further complexity is that it has been generally believed that the more pronounced effects of climate change would happen in temperate regions, with tropical latitudes largely buffered against substantial change, a belief based on some historical evidence that the tropics had been least affected by earlier natural climatic cycles. The expectation has been that there would be substantial effects on north and south temperate latitudes and on polar regions. The former might variably involve changes in rainfall distribution, increases in temperature and increased severity of storms. There would be gainers and losers but the major effects of global climate change would be felt, by and large, by richer countries that would best be able to cope. Some commentators saw it as ironic that those countries that had contributed most to greenhouse gas production would be the countries most affected by climate change.

Not all the effects of climate change would impact on temperate latitudes, and two effects have long been expected to cause substantial problems for poorer countries. One is the likelihood of more severe storms, especially cyclones. While rich industrialised countries may be able to cope, albeit at a cost, the changes affecting poor countries will be well beyond their capabilities to handle. There are examples of this across the world, and it is sometimes possible to contrast the impact of such disasters on rich and poor countries. In 1992, Hurricane Andrew hit parts of the United States, killing fifty-two people and causing damage estimated at $22 billion, over 70 per cent of it covered by insurance. Six years later, Hurricane Mitch hit Honduras and Nicaragua. The death toll was 11,000, and less than 3 per cent of the $7 billion damages were insured.[23]

The other effect is the risk of sea level rises, stemming partly from an expansion of the oceans consequent on increases in temperature and partly from a progressive if slow melting of polar icecaps. Effects of both of these trends would be severe on a number of poorer countries, partly because some of the heaviest concentrations of population are in low-lying river deltas, but more particularly because of the lack of resources to construct adequate sea defences.

Such problems have been recognised for some time, but more recent analysis of climate change, since the mid-1990s, suggests another pattern of effects that are likely to have much more fundamental global consequences. Although predictions are tentative, evidence has accumulated that the anticipated buffering of climate change in tropical regions may not happen, or at least may be far less pronounced. In particular, there are likely to be substantial changes in rainfall distribution patterns across the tropics, with the overall effect being far less rain falling over land and more falling over the oceans and the polar regions. With the exception of parts of equatorial Africa, almost all the other tropical and sub-tropical regions of the world are likely to experience a 'drying out'.[24]

The impact of this is likely to be fundamental in terms of human well-being and security. Across the world as a whole, the great majority of people live in these regions, most of the countries are poor, and most produce their own food, primarily from staple crops dependent on adequate rainfall or irrigation. Much of the food is still produced by subsistence agriculture. Most of the heavily populated areas are the major river valleys and fertile deltas, including the Nile, Indus, Ganges, Brahmaputra, Mekong and Chanjiang (Yangtze) and areas of high natural rainfall across Latin America, sub-Saharan Africa and Southeast Asia.

A substantial drying-out across the tropics will have a hugely greater effect than any likely impact on temperate latitudes for two reasons. One is that the basic ecological carrying-capacity of the land – its ability to support given human populations – will decline, and the second is that poor countries will have massive difficulties in trying to adapt their agricultural systems to limit the loss in food production.

Uncertainties and insecurity

Some of the most substantial crises of the last half century have happened with little warning. Perhaps the most serious crisis of the Cold War, over the Cuban missiles in 1962, came virtually out of the blue. The oil price rises of the early 1970s were almost entirely unexpected, the anticipation throughout the West being of an era of cheap and plentiful oil. The Iraqi invasion of Kuwait in 1990 erupted out of nowhere in a matter of weeks. These are examples of political crises, albeit two of them with resource overtones, but it is also the case that assessing environmental trends, especially at the global level, is frequently difficult – pesticide toxicity in the 1960s, acid rain in the 1970s and the sudden intensity of ozone depletion in the 1980s being among a number of examples.

There has been considerable progress in the study of the global ecosystem since the 1950s, especially in terms of the knowledge of the mechanisms of biogeochemical cycles, oceanic systems and the global climate, but all of these are, at the very best, imperfectly understood. As a consequence, there is every possibility that many expectations concerning human environmental impacts may be incorrect. It is possible that some of the warnings now being made, including those discussed above, may turn out to be excessive as natural control mechanisms come into play and moderate the effects of the impacts.

This might be considered reassuring, but there are several reasons for thinking that such optimism is unwarranted. The first is that many of the expected effects are likely to prove costly and politically unwelcome. As a result, where significant environmental research is undertaken in publicly-funded centres, whether government laboratories or universities, there is a tendency for researchers to be cautious in their conclusions. If the implications of your research results are unpalatable, you tend to be very careful in ensuring that you are as certain as you can be with the evidence.

The second is that there is growing evidence from various long-term fossil and other evidence, that the global ecosystem, especially its climate, has been much more volatile than was previously thought. In other words, natural 'buffering' systems may not have coped with induced change in the past. Finally, the timescales of human interaction are much more immediate in terms of 'ecosystem time' than anything short of rare natural cataclysms such as a massive meteor or comet striking the earth, one explanation for the extinction of the dinosaurs.

Humans evolved over several million years, but only spread right across the world 20,000 years ago, numbering perhaps 5 million before they learnt to farm 10,000 years ago. Cities and empires have developed in the past 5,000 years but environmental impacts were limited in extent and confined to a few locations until the start of the industrial revolution just over 200 years ago. Only since then have there been major regional impacts and only in the past 100 years can these be said to have 'gone global', with most of

that effect coming in the closing decades of the twentieth century. In other words, a global ecosystem evolving over several billion years was hardly affected by its most intelligent species until the most recent century, but that one species is engaging in activities that do just that. In such circumstances, it is probably wise to err on the side of caution and expect the unexpected to be a cause of further problems rather than a solution to them.

Forms of conflict

To summarise the argument so far, the current economic system is not delivering economic justice, and there are now firm indications that it is not environmentally sustainable. This combination of wealth disparities and limits to current forms of economic growth is likely to lead to a crisis of unsatisfied expectations within an increasingly informed global majority of the disempowered.

Such a crisis, as seen from the elites of the North, is a threatening future. As Wolfgang Sachs puts it:

> The North now glowers at the South from behind fortress walls. It no longer talks of the South as a cluster of young nations with a bright future, but views it with suspicion as a breeding ground for crises.
>
> At first, developed nations saw the South as a colonial area, then as developing nations. Now they are viewed as risk-prone zones suffering from epidemics, violence, desertification, over-population and corruption.
>
> The North has unified its vision of these diverse nations by cramming them into a category called 'risk'. It has moved from the idea of hegemony for progress to hegemony for stability.[25]

In Sach's view, the North has utilised the resources of the South for generations but has now come up against environmental limits to growth:

> Having enjoyed the fruits of development, that same small portion of the world is now trying to contain the explosion of demands on the global environment. To manage the planet has become a matter of security to the North.[26]

Managing the planet means, in the final analysis, controlling conflict, and within the framework of the development/environment interaction, several issues are likely to come to the fore, stemming from migratory pressures, environmental conflict and anti-elite violence. None of these is new and there are recent examples of all.

Potential sources of conflict stem from a greater likelihood of increased human migration arising from economic, social and especially environmental desperation. This movement will focus on regions of relative wealth and is already leading to shifts in the political spectrum in recipient regions, including

the increased prevalence of nationalist attitudes and cultural conflict. Such tendencies are often most pronounced in the most vulnerable and disempowered populations within the recipient regions, with extremist political leaders and sections of the popular media ready to play on fears of unemployment. This trend is seen clearly in Western Europe, especially in countries such as France and Austria, where antagonism towards migrants from neighbouring regions such as North Africa and Eastern Europe has increased markedly. It also figures in the defence postures of a number of countries, with several southern European states reconfiguring their armed forces towards a 'threat from the South' across the Mediterranean.

There are already some 30 to 40 million people displaced either across state boundaries or within states, and this figure is expected to rise dramatically as the consequences of global climate change begin to have an effect. The pressures are likely to be particularly intense from Central into North America, Africa and Western Asia into Europe and Southeast Asia towards Australia. The most probable response will be a 'close the castle gates' approach to security, leading in turn to much suffering and not a little 'militant migration' as marginalised migrants are radicalised.

The second area of conflict concerns environmental factors, especially the control of physical resources. Locally, over issues such as land and water, it may be restricted primarily to Southern states, though even this could have an impact on Western interests by exacerbating socio-economic marginalisation with concomitant pressure on migration and insurgency. In other respects, however, it is likely to have a more global impact.

These stem from the effect of the resource shift, especially the remarkable concentration of oil and also gas reserves in the Persian Gulf region. The stability and control of this region is recognised across Western military circles as essential for Western security, and local 'threats' will be countered by whatever means are necessary.

While oil is by far the top-ranking strategic resource, there are others of significance. These include minerals yielding ferro-alloy metals such as cobalt and tungsten, catalytic metals such as platinum and anticorrosion metals, together with certain non-metallic minerals such as rock phosphate and industrial diamonds. Here again, resources are increasingly located outside the industrialised countries, even including the United States, Canada and Russia.

Perhaps least easy to assess is the manner in which an economically polarised and increasingly constrained global system will result in competitive and violent responses by the disempowered, both within and between states. There are already many examples of such actions, whether the Zapatista revolt in Mexico, or movements stemming from the disempowered in North Africa, the Middle East and Southern and Southeast Asia.

At an individual and local level, much of the response from the margins takes the form of criminality, usually by young adult males and directed not just against wealthier sectors of society but often against the poor and

unprotected. For middle-class elites in many Southern states, though, security is an everyday fact of life, with people moving from secure work places through travel in private cars to gated communities and leisure facilities with 24-hour protection. For the richest sectors of society, security extends to armed bodyguards and stringent anti-kidnapping precautions, with a host of specialist companies offering their services.

This is the environment that is already the norm throughout most countries of the South, and the widening rich–poor gap suggests it will get worse. But the more difficult and potentially more important problem stems from substantial new social movements directed, often with violence, against the elites. Predictions are difficult but four features are relevant.

The first is that anti-elite movements may have recourse to political, religious, nationalist or ethnic justifications, with these frequently being fundamentalist, simplistic and radical. Many recent analyses focus on the belief systems themselves, with much emphasis placed by Western writers on religious fundamentalisms, especially within the Islamic world. While such religious movements are significant, they are far from being alone in serving as a motivation against marginalisation and for empowerment, with ethnic, nationalist and political ideologies, cultures or beliefs also being of great significance. At times, it is as if the Islamic threat is being erected to replace the Soviet threat of the Cold War years, an attractive yet thoroughly dangerous simplification of a much more complex set of processes.

The second feature is that anti-elite movements may be more prevalent in the poorer states and regions of the world, and they may therefore be considered of little concern to the relatively small number of wealthy states that dominate the world economy. But in an era of globalisation, instability in some part of the majority world can have a considerable effect on financial markets throughout the world, making the security of local elites of real concern to the West. Wealthy states are dependent on resources from the South, on cheap labour supplies and on the development of new markets for their advanced industrial products. Fifty years ago, a civil disturbance in a country of the South might have its effect in the North within weeks. Now, it can be within minutes.

Third, there is a perception across much of the majority world that a powerful and firmly rooted Western hegemony is now in place and a very widespread response is one of real antagonism to this control of the world economy. It is easy to assume, from a Western ethnocentric position, that antagonisms are most likely to be directed from the margins at local elites. This is not necessarily the case. There is, instead, every chance that it is the Western economic dominance that will be blamed for marginalisation, not the activities of local elites.

Finally, there is sufficient evidence from economic and environmental trends to indicate that marginalisation of the majority of the world's people is continuing and increasing, and that it is extremely difficult to predict how and when different forms of anti-elite action may develop. It was not

predictable that Guzman's teachings in Peru would lead to a movement of the intensity and human impact of Sendero Luminoso, nor was the Zapatista rebellion in Mexico anticipated. When the Algerian armed forces curtailed elections in 1991 for fear that they would bring a rigorous Islamic party to power, few predicted a bloody conflict that would claim many tens of thousands of lives.

What should be expected is that new social movements will develop that are essentially anti-elite in nature and draw their support from people, especially men, on the margins. In different contexts and circumstances they may have their roots in political ideologies, religious beliefs, ethnic, nationalist or cultural identities, or a complex combination of several of these. They may be focused on individuals or groups but the most common feature is an opposition to existing centres of power. They may be sub-state groups directed at the elites in their own state or foreign interests, or they may hold power in states in the South, and will no doubt be labelled as rogue states as they direct their responses towards the North. What can be said is that, on present trends, anti-elite action will be a core feature of the next 30 years – not so much a clash of civilisations, more an age of insurgencies.[27]

Revolt of the middle kingdoms

States that may be lead by radical anti-Western regimes or dictatorships can readily be regarded as rogue states, a catch-all term increasingly applied to smaller states considered to threaten regional Western interests. But beyond them are much more powerful states that may have their own entrenched elites yet are unwilling to accept a global polity dominated by a Western military, political and economic alliance. China, India and Iran are all examples of states who, in many ways, seek to challenge a Western hegemony, and many of their attitudes and outlooks are shared by numerous other states of the South.

There are many examples of these divergent views and outlooks. Opposition to the further development of trade reforms through the World Trade Organisation is widespread in the South, with such reforms seen primarily to benefit powerful Western market economies and transnational corporations (TNCs). There remains resentment at the attempts to force through a Multilateral Agreement on Investments (MAI) with its 'small print' likely to disadvantage weaker Southern states in their dealings with TNCs.

There is a deep and persistent bitterness at the entrenched attitudes of Northern states towards problems of the global environment. Across much of the South, it is believed, with not a little passion, that Northern states have been primarily responsible for the development of global environmental problems yet are deeply reluctant to accept responsibility or to take remedial action. In particular, as the changes in the climate take effect due primarily to pollution from the industrialised world, poorer countries will be far less able to cope with the changes, yet are expected to curb or limit their industrial

development while the North pays little more than lip-service to the critical need to curb its polluting profligacy.

The perception of hypocrisy extends to many other areas. In the arena of weapons proliferation and arms control, numerous third world states see Western attitudes to controlling nuclear proliferation as a classic case of 'do as we say, not as we do', a view taking on an added dimension with the United States failing to ratify the Comprehensive Test Ban Treaty. The 1990 Iraqi invasion of Kuwait was roundly condemned across the world, yet the subsequent Gulf War was widely seen as a Western military action, mounted immediately the necessary forces had been assembled, that had far more to do with maintaining control of Gulf oil than correcting a wrong, and sidelined the UN into the bargain.

Even the NATO bombing of Serbia in 1999 was seen as a 'remote control' example of economic targeting – causing $60 billion of damage to the Serbian economy by an alliance deeply unwilling to take risks with its own military, and once again readily bypassing the UN. For public opinion in much of the West, the Serbia–Kosovo War was a just war against an aggressive regime. In much of the rest of the world, it was a selective war using selective force against an objectionable regime, yet one that was no worse than many that continue to maintain friendly relations with the West.

Many of the new parameters of insecurity may operate at sub-state level, and will be directed at local elites and their collaborative Western interests, but they will operate within the context of a broader 'axis of disagreement' between Western governments and many states of the South. While this may not deteriorate into conflict, it could further encourage a perception of 'the civilised West versus the rest'. Moreover, 'the rest' may include powerful countries capable of aiding sub-state groups and vulnerable states in many ways, not least through export of military technologies and associated expertise. During the Cold War, the West saw the Soviet bloc as the ever-dangerous ideological giant, encroaching on and threatening the free world. It will be all to easy for Western attitudes to a new world disorder to coalesce into a perception of 'them and us', a combination of insurgencies and competitive Southern states threatening the peace, security and economic well-being of the West, the new barbarians versus the self-styled custodians of civilised values.

Part III

Force and counterforce

Introduction

As the chapters in Part II sought to demonstrate, the post-Cold War period of the early 1990s saw major changes in the US military posture, changes that were paralleled on a smaller scale by other countries such as Britain and France. For the United States, the overall trend was towards more versatile and mobile forces that could be deployed with some speed to regions of the world where US interests were considered to be at risk, and there was a particular emphasis on the Middle East, especially the Persian Gulf with its increasingly important oil reserves.

Beyond this, though, a number of military technologies were receiving considerable investment, the context being the need for the United States to maintain a marked technological superiority in all major fields. Given that the Soviet Union and its Warsaw Pact associates no longer presented a threat, the belief in Washington was that there now existed a remarkable opportunity for the United States to maintain its status as the world's only superpower for an indefinite period. The key to this was remaining a generation ahead in key technologies such as 'stealthy' aircraft and missile defence.

The issue of missile defence was particularly salient given the difficulties experienced in the 1991 Iraq War when crude Iraqi Scud missiles had caused considerable problems for coalition forces and, on one occasion, had come close to causing a major catastrophe. It was recognised that a highly attractive form of missile defence would be boost-phase interception, in which weapons would be able to destroy surface-to-surface missiles in their boost phase, early in their trajectory. This would be while they were over the territory of the attacking state and would also be before any sub-munitions packages could be dispersed.

One of the main technologies being explored for this purpose was the directed energy weapon, and the latter 1990s saw a considerable expansion of work on an airborne anti-missile laser system, with early investigations being put in process to consider a much more powerful space-based system. In one sense, a directed energy weapon could also be seen as a revolutionary technology, given its potential for accuracy and near-speed of light performance. It could even be seen as approaching the idea of an 'ideal weapon',

with potential stretching well beyond missile defence, possibly even leading to a transformation of warfare.

The mid-1990s also saw a very different development, this time in the area of asymmetric warfare – the ability of relatively weak groups to use techniques that can cause substantial problems for powerful military forces. During the course of the decade, paramilitary movements in France, Sri Lanka and the United States, and a remarkable religious cult in Japan all demonstrated the ability to have an effect on societies that seemed out of proportion to their size. Most were notable for a handful of incidents, but the Provisional IRA in Britain was able to conduct a long programme of attacks on economic targets in Britain that had a substantial political impact. Between 1992 and 1997, it detonated bombs in the financial districts of London, in other city centres and on road and rail routes, and attempts were made to disrupt air traffic and energy supplies.

The active service units of the Provisional IRA were operating in an adverse security environment in Britain, some of the attempts failed and PIRA members were, on occasions, killed or detained. Even so, the campaign was notable for its economic impact and its consequent effect on the politics of the Northern Ireland conflict, having a significance that goes well beyond the United Kingdom in its implications for asymmetric warfare.

The two essays reproduced here might be said to represent two sides of a coin. Both were written before the 9/11 attacks in 2001 but both might be seen to have long-term implications for the post 9/11 environment. The first examines a major example of a technology designed to enable a superpower to maintain military superiority. The second is a powerful reminder of how much simpler technologies employed by sub-state groups can have profound economic and political impacts.

While primarily concerned with examining the PIRA campaign of the early and mid-1990s, the second essay suggests that: 'Future campaigns by other paramilitary groups in other circumstances may have far greater human as well as economic costs' and that it was 'a pointer to the vulnerability of modern urban-industrial states to asymmetric warfare in the early twenty-first century', a vulnerability demonstrated on an extraordinary scale just a few months after this was written.

7 Directed energy weapons and the control of rogue states (2001)

Introduction

Although the United States and the Soviet Union worked intensively on ballistic missile defences (BMD) throughout the 1960s and 1970s, the acceleration of US research and development can be dated to the 'Star Wars' speech of President Ronald Reagan on 23 March 1983. This marked the start of a hugely expanded BMD programme, the Strategic Defence Initiative, the basis of which was the belief that it would prove technically possible to provide a comprehensive defence for the United States against long-range nuclear-armed ballistic missiles. A substantial element in the programme was the development of directed energy weapons, principally those based on lasers and particle beams.

During the mid-1980s, the primary focus of the SDI was the substantial force of ICBMs and SLBMs being developed and deployed by the Soviet Union, with particular concern over the new generations of accurate multiple warhead missiles such as the later versions of the SS-18 and SS-19 ICBMs. In the event, these worries receded as rapid political and strategic developments towards the end of the 1980s served to decrease the perceived need for strategic anti-missile defences. The collapse of the Warsaw Pact, democratisation in Eastern Europe and the dismemberment of the Soviet Union all contributed to the ending of the East–West confrontation, and this was accompanied by some progress in strategic nuclear arms control with the negotiation of the START 1 and START 2 agreements. As a result, funding for the SDI was substantially curtailed and many of the remaining programmes within the initiative were eventually handed over to a smaller Ballistic Missile Defence Organisation in 1993.[1]

Even as this was happening, though, the overall concept of ballistic missile defence was getting a new lease of life, partly because of the Scud/Al Hussein missile attacks by Iraq against Israel and Saudi Arabia during the 1991 Gulf War, and partly through the proliferation of ballistic missiles to a number of states in Asia and the Middle East.

The experience of missile attacks during the Gulf War for the United States was significant in two respects. First, the attacks on Israel and Saudi

Arabia made it necessary for coalition forces to divert considerable resources to locating and destroying missile launchers in Iraq. Second, US forces themselves suffered losses as a result on missile attacks. The largest loss of life experienced by US forces during the entire war was caused by a missile hitting a storage and billeting building in Dhahran, Saudi Arabia, on 25 February 1991, killing 28 people.[2]

A few days earlier, on 16 February, another missile narrowly missed a large pier complex at the Saudi port of Al Jubayl. The missile landed in the sea, some 300 feet from the US Navy's aviation support ship *Wright*, close to the large amphibious warfare ship *Tarawa,* both of which were moored alongside a pier complex that included a large ammunition storage area and a petrol tanker parking area.[3]

As a result of the Gulf War experience and of the possible impact of ballistic missile proliferation, there has, since 1995, been a revitalisation of ballistic missile defence programmes in the United States directed primarily at short- and medium-range missiles, with many of the technologies being descendants of research and development programmes having their origins in the SDI.

One of the most significant of these technologies is that embodied in the Airborne Laser (ABL), a system now being developed to destroy ballistic missiles while still in their boost phase of flight. The ABL is planned for initial deployment by 2006. The techonologies would also form a core element in the development of a much more powerful Space-Based Laser (SBL), planned for deployment by 2020. Boost Phase Interception (BPI) is attracting military attention because it enables a defender to destroy missiles before they can disperse sub-munition warheads, and it is therefore seen as a potentially cost-effective and assured form of missile defence.

It can be argued, though, that the new high-power laser systems now being developed could represent the start of a new generation of directed energy weapons that might have rather more fundamental implications for warfare. They could represent the early development of a form of military technology that would enable a possessor to undertake a range of actions with a remarkable degree of impunity.

This chapter examines the military and political implications of the airborne and space-based laser, placing them in the context of the original strategic defence initiative which, it has been argued, could itself have led to a potential revolution in warfare had it been carried through to completion. Although they are initially envisaged as components of a ballistic missile defence programme, there is already evidence that they are being seen as capable of conducting long-range military strikes against a much wider range of targets, giving the country possessing them a major capability against diverse threats to its security.

This chapter suggests that such arguments could well be used increasingly as a justification for directed energy research and development, and that the ABL and SBL systems could indeed represent initial examples of a new

class of military technologies. It further argues that these technologies may give an appearance of considerable military advantage but that they may, in turn, lead to counter-measures, especially in the field of asymmetric warfare, making them less effective than they might at first sight appear.

'Ideal' weapons and the original strategic defence initiative

In order to discuss the original military implications of the SDI, and its follow-through to the airborne laser and space-based laser, it is first appropriate briefly to touch on aspects of the nature of weapons and their evolution.

In essence, a weapon is a device that is intended to direct energy from a source to a target, with the aim of destroying or incapacitating that target, whether the target is a physical object or a human being. With a few exceptions, this is broadly true of the simplest through to the most advanced of weapons. At the most basic level, a fist delivers energy to overcome the victim, and a club, sword or pike extends this capability, which is extended still further by the use of a spear, or bow and arrow.

War was transformed with the development of chemical energy, such as gunpowder, to deliver projectiles, initially by cannon and muskets, and a further step was explosive and fused projectiles such as grenades, artillery shells and bombs. With the exception of chemical and biological weapons, most weapon systems have still maintained the characteristic of directing energy to the target. More recent developments of precision-guided munitions, area-impact munitions and even nuclear weapons are all variants of the basic function of a weapon, which is to deliver energy to a target, and all are subject to a variety of defensive countermeasures.

In theory, an 'ideal' weapon should be able to deliver sufficient destructive energy to the intended target, and that alone, even if the target is moving. It should have complete accuracy, unlimited range and maximum speed, i.e. the speed of light. It should be capable of repeated use and should not be susceptible to interception or pre-emption.

While no weapon even approximates to these properties, a substantial part of the SDI program was concerned with developing weapons, which would have had many of these characteristics, to an extent that was far greater than other weapons at the time. Thus, the aim was to be able to destroy very fast incoming missile warheads with remarkable accuracy and at great speed. As such, numerous R&D programmes were organised, including many involving directed energy systems based on lasers and particle beams. Some also investigated the feasibility of third generation nuclear weapons in which nuclear detonations might involve the directing of the energy of fission and fusion along a narrow path. Although such work was in its early stages, some initial experiments were in an advanced state of planning before the programme was curtailed at the end of the 1980s.[4]

Although SDI and its Soviet counterpart included the development of sophisticated variants of existing technologies such as highly accurate

hypervelocity interceptor missiles, the space-based directed energy pro-
grammes were of the greatest long-term significance. In an analysis published
in the late 1980s, it was suggested that SDI, if it developed its planned poten-
tial, might eventually have substantial implications for the conduct of war:

> The technical problem for SDI is to be able to deliver energy with great
> precision over great distances in order to destroy ballistic missiles or
> their re-entry vehicles. Any move in that direction has much wider
> implications, as such a delivery system can be developed for quite different
> purposes, to destroy not ballistic missiles but any other target relevant
> to the war-aims of a belligerent.
>   A spaced-based directed energy weapon can be developed as an
> offensive system. It could be used with great precision against military
> targets such as barracks or naval bases. It could be directed at a chemical
> manufacturing plant, an oil refinery, a defence ministry or a center of
> population.[5]

The greatest value would lie with offensive action against relatively weak
states that could not offer any direct military counter to such space-based
systems, and the analysis concluded:

> If a weapon is a device for transmitting energy to disrupt a target, any
> heavy investment in the research and development of technologies
> designed to enhance that ability may have major long-term significance.
> The Strategic Defence Initiative and its Soviet counterpart may be seen
> simply as defensive systems. In reality they are concerned with tech-
> nologies which can be markedly offensive and which could approach
> the concept of an ideal weapon more effectively than previous exercises
> in military technology.[6]

Twelve years later, SDI and the Soviet 'Red Shield' are a receding memory,
but one of the offshoots of SDI, the Airborne Laser, is just beginning to
realise some of those 'ideal weapon' characteristics, with a possible follow-
on system, the Space-Based Laser having further potential. These two
programmes are, respectively, nearly one and two decades in the future, and
there is no guarantee that either will eventually be deployed. Even so, there
is already evidence that powerful directed energy weapons such as these are
being seen to involve a military potential that could have considerable military
and political significance in the longer term.

Ballistic missile proliferation, boost phase interception and the origins of the airborne laser

The transition from the SDI Organisation concerned with countering long-
range Soviet missiles to the Ballistic Missile Defence Organisation overseeing

programmes to counter short- and medium-range missiles took around four years after 1990 and was heavily influenced by the 1991 Gulf War and missile proliferation.[7]

Until 1994, the orientation of the programme was primarily on missile-based defences, with the immediate emphasis on upgrading the Patriot missile system and developing further programmes including the Navy's Lower Tier system and the Theater High Altitude Area Defence system, (THAAD) but also involving continued co-operation with Israel in its Arrow missile system.

Through to 1997, and arising partly from problems with the THAAD programme, the major emphasis was put on the Patriot and Navy programmes, with the Patriot PAC-3 upgrade due in 1999, a prototype Navy system due in 2000 and THAAD by 2006.[8] In addition, an Improved Hawk missile system, with some anti-missile capability, was deployed with the US Marine Corps from 1995.[9]

All of these systems are intended to destroy a missile during the mid-course or terminal phases of its trajectory, but there is a considerable ongoing concern with a core problem of such interceptor missiles, that the incoming missiles might be capable of dispersing their warheads through the release of sub-munitions much earlier in their flight, long before they could be intercepted.

In 1992, a source in the SDI Organisation confirmed that 'canistered warheads are our greatest worry'. By 1995, US intelligence sources were predicting that the ability to release sub-munitions from ascending ballistic missiles could be available in China and North Korea within five years and that these systems could then be sold to countries such as Iran, Syria, Libya or Iraq. Up to 100 sub-munitions, each weighing 5–10 lb, could be released very early in a missile's trajectory, and perhaps as little as 36 miles into the flight, immediately after the powered 'boost' phase of the missile.[10] These sub-munitions canisters could contain chemical or biological warfare payloads, but problems with the high temperatures reached on re-entry would make the survival of such payloads difficult to ensure. Of greater concern would be the use of radiological warheads, with the sub-munitions containing cobalt 60 or strontium 90, the intention being to contaminate the target area, whether a city, military base or industrial centre, and render it unusable.[11]

As a result of such concerns, a longer-term aim of the United States BDM programme has been to develop a method of destroying ballistic missiles while they are still under power in their boost phase. For short-range missiles, the boost phase can be very brief, both in time and distance, although it increases the longer the range of the missile. Thus a missile with a range of 200 miles typically has a flight time of around 4 minutes, but its boost phase lasts for only 60 seconds and in that time it travels around 20 miles. Even a missile with a range of 2,000 miles, with a much longer flight time of around 14 minutes, has a boost phase of only 90 to 120 seconds, during which time it travels about 70 miles.[12]

For missiles with a range of 200 to 2,000 miles, boost phase interception requires target acquisition, weapon deployment and operation and target destruction within, at the most, 120 seconds. The weapon system must therefore be operated from a secure platform close to the missile launch point or it must be fast enough to be operated from outside the defended air space of the state or sub-state group launching the missile.

There are two main approaches to interception, either the use of high velocity missiles fired from interceptor aircraft or unmanned aerial combat vehicles (UCAVs), or the use of an airborne directed energy system. The United States is co-operating with Israel Aircraft Industries to develop a missile-based system, and others are under consideration, but the formidable problems include the need to maintain a number of UCAVs or manned interceptor aircraft constantly airborne and on station at times of crisis. While work on this form of boost phase interception is continuing, it is seen as a back-up in case of problems with the airborne directed energy alternative.[13]

This is the second route – to develop a long-range directed energy weapon that can be deployed a safe distance from the launch area but can target and destroy missiles in their boost phase. This route, which has its origins in the early 1980s, has resulted in the development of the ABL, also termed the YAL-1A Attack Laser.

The origins and development of the airborne laser

The use of lasers for military purposes has been under development in the United States since 1966, when the USAF set up a laboratory just a few years after Theodore Maiman had built the first experimental laser in 1960. In the early 1970s, General Dynamics began to develop the Airborne Laser Laboratory (ALL), and a laser was fired from an aircraft for the first time in 1975.[14] A 10-km range carbon dioxide laser developed in the early 1980s, was then developed, carried on an NKC-135A, a modified tanker aircraft. In trials, this was used to shoot down five Sidewinder air-to-air missiles and a BQM-34 drone simulating a cruise missile. These tests, conducted in 1983, gave a stimulus to further development, much of it undertaken at air force laboratories at Kirtland Air Force Base in New Mexico.[15]

The ALL was a short-range system of relatively low power, whereas an operational boost phase interceptor would need to work at a massively greater power over ranges of several hundred miles, with considerable accuracy and making allowance for atmospheric effects on laser beams. On the other hand, a missile in its boost phase has four areas of vulnerability: the exhaust plume is readily detectable; the missile is moving relatively slowly; it is a much larger target than the separated warhead or submunitions later in the flight; and the missile itself is under considerable mechanical stress due to the high rate of acceleration.[16]

The aim of a directed energy weapon used against a boost phase missile is to heat part of the missile sufficiently to have one of two effects, either

to deform the thin metal case of the missile causing it to crumple in flight, or to heat a pressurised fuel tank causing it to rupture. There are potential countermeasures including strengthening the missile's case or making the missile spin in flight. Although likely to be effective, the countermeasures create other problems; strengthening the missile involves an increase in weight, limiting range and payloads, and spinning the missile can lead to problems of guidance.

In the early 1990s, several experiments were undertaken which suggested that an effective airborne laser was possible. The Airborne Laser Experiment (ABLEX) in 1993 explored the optics required to produce a beam, and in 1995 the ABLE ACE series of experiments studied atmospheric effects. In the winter of 1994–5, the large Mid-Infra-Red Advanced Chemical Laser (MIRACL), later used in anti-satellite tests, demonstrated that it was possible to produce a beam sufficiently powerful to disrupt replicas of a Scud missile's fuel tank. Finally, tests were run in which a laser beam was transmitted from an airborne generator to a receiver aircraft at ranges of up to 120 miles at altitudes between 35,000 and 50,000 feet.[17]

While none of these experiments 'proved' the feasibility of an airborne laser as a boost phase interceptor, they gave impetus to the programme that had already benefited from the development of a high power chemical laser invented in 1977 at the Air Force Weapons Laboratory. The Chemical Oxygen-Iodine Laser (COIL) is generated by chemical energy, enabling the 'fuel' to be carried on a plane and avoiding the need for a large on-board generator.[18] It is intended to form the basis of the boost phase interceptor to be deployed on modified Boeing 747 freighter aircraft. In November 1996, Boeing received a $1.1 billion contract to develop a prototype aircraft, with TRW developing the laser and Lockheed-Martin developing beam- and fire-control systems.

Following a review of the programme completed in May 1998, Boeing and the other contractors were given 'Authority-to-Proceed' on 26 June 1998, the aim being to produce a prototype demonstration by 2002 which, if successful, would be followed by a $4.5 billion contract for a fleet of seven aircraft to be fully deployed by 2008, with an initial operational capability of three aircraft two years earlier.[19]

A series of successful component tests was conducted during 1999. In one programme, a laser module of the required weight limitations generated 107 per cent of the required power. In a further series of tests in July 1999, a scaled down laser was fired over a range of about 35 miles to simulate a full-scale test over six to eight times that range. This was conducted against a static ground-based target, but a further test, reported to be successful was undertaken against an airborne target simulating an engagement with a Scud-type missile. The ABL Program Director was quoted as saying that 'we exceeded all our range requirements by a pretty good margin'.[20] In January 2000, a Boeing 747–400F was delivered to the ABL programme, prior to its receiving the six-module COIL laser.[21]

Airborne laser deployment

An operational ABL will have three laser components. Two will be pulsed lasers, one tracking the target and the other monitoring atmospheric changes to enable the third beam, the primary or 'killing' beam, to be adjusted. The primary beam is the COIL, a very powerful 2–3 megawatt short wavelength weapon, which is directed by a complex series of mirrors and is projected from the plane through a large nose turret.[22]

Under operational conditions, and in the event of a regional crisis in which US interests are threatened by ballistic missile attack, it will be possible for an ABL with augmented crew to fly from the continental United States to the crisis area within 24 hours, carrying a full magazine of laser fuel and supported by aerial refuelling, making it independent of forward basing.

In practice, though, the normal deployment pattern will be for five aircraft and supporting tankers and transport aircraft to deploy to bases in friendly territory, from where continuous 24 hour patrols can be maintained by two aircraft at a time, each ABL being airborne for 12 to 18 hours. Each ABL will patrol at around 40,000 feet, in friendly air space, and will track missiles as they emerge from cloud cover, taking 10 seconds to lock on to them and then lase them for between 18 seconds and a minute depending on range and trajectory.

A fully fuelled ABL will be able to 'fire' up to forty shots, each one capable of destroying a missile under optimal conditions. A C-17 transport aircraft can carry sufficient fuel for 140 more shots, so that, with tanker aircraft in support, the entire system can operate with a relatively small airlift require-ment. The anticipated range of the ABL remains classified, but an early report from the then USAF Chief of Staff, General Ronald Fogelman, indicated a maximum range of up to 400 miles.[23]

In short, the ABL is a directed energy system that is intended to be capable of destroying ballistic missiles accelerating after launch, by focusing a powerful laser beam on them at the speed of light, from a range of up to 400 miles in secure air space until they are irreversibly damaged. It thus has many of the characteristics of an 'ideal' weapon, and comes far closer to such a weapon than any other system deployed or under development.

Limitations of the airborne laser

Although the airborne laser is a priority programme that is receiving substantial funding, there are a number of problems that could lead to its delay or even its cancellation. The central problem is one of finance. The US defence budget has been reduced substantially over the past ten years, and this has resulted in the cancellation of numerous projects. Inter-service funding rivalry has been intense and there has also been an underlying tension between the development of new projects and the need to maintain salaries and career

prospects sufficient to guarantee recruitment levels. Early in 1999, the ABL development programme was cut by $25 million., delaying the onset of live-fire tests by a year.[24] Even so, in debates on the fiscal year 2001 budget, it became apparent that there was substantial support in Congress for maintaining the programme, even thought the Department of Defense wanted to divert funding to more immediate programmes.[25]

There are also likely to be many technical problems with the development of the system through to deployment. Many of the individual technologies in the ABL are proven, but the entire system is extremely complex, and there remain substantial uncertainties concerning the ability of the system to operate through the atmosphere. Proponents believe that the adaptive optics now being developed will overcome atmospheric attenuation of the laser beam, but this may prove difficult to achieve, requiring much testing and refinement. There are also concerns over the ability of the system to maintain the laser on target, and whether the entire system can be developed within the weight constraints of the Boeing 747 airframe.[26] There is also an unusual political dimension to the project, in that some critics of the ABL in Congress base their criticism on the idea that the main thrust of research and development should be on the Space-Based Laser, even though this is a far more experimental project.[27]

Finally, there is the argument that the ABL is intended to be deployed to forward operating bases within flying range of missile deployment sites, but such bases could be put at risk by conventional or unconventional attacks. Furthermore, mass launches of missiles could swamp the interception capabilities of the one or two ABLs that would be on patrol at any one time.

Even so, US military thinking focuses on two principal perceived threats to the security of the United States as being the most serious – missile proliferation and paramilitary (terrorist) action. There is thus great emphasis on ballistic missile defence and the ABL is seen as the best medium-term defensive system, especially against new generations of missiles with fractionating warheads. In terms of overall US Air Force weapons programmes, the ABL is considered to be one of the two most important systems, along with the new F-22 Raptor interceptor.[28]

Furthermore, looking at the development of directed energy weapons in a wider context, there is evidence that they are seen as being essentially a new generation of military technologies that may have applications in a range of conflict situations. They include directed energy applications for satellite/aircraft communications, underground structure detection, camouflage penetration, detection of stealthy aircraft and chemical warfare agent identification.[29] A specific example, already being developed by Boeing is the Airborne Tactical Laser. This 'self-contained roll-on roll-off directed-energy weapon uses a smaller version of the chemical oxygen iodine laser on the ABL', and could be deployed on helicopters or the V-22 Osprey for intercepting cruise missiles.[30]

The ABL and offensive operations

Although the ABL is being developed as a defensive system against ballistic missiles, it may be argued that it represents an early example of a potentially offensive weapon system with remarkable characteristics. Its ability to operate at long range, with considerable power and almost instantaneous effect, might well give it a capability to disrupt a wide range of targets, and later generations of more powerful directed energy weapons could be developed and deployed specifically for this purpose.

One of the main arguments against this line of thinking is that there is a substantial technical problems in using the ABL or any other laser-type weapon against ground-based targets – the difficulty of using the beam to penetrate cloud, coupled with the overall attenuation of the beam in the lower atmosphere. The ABL is intended for operation in the upper atmosphere where beam attenuation is limited, but there are already many indications that this kind of system is being considered for attacking ground-based targets. Moreover, some technologies are now being explored which would increase the capacity of the ABL to do so.

A research programme couples a laser with a particle beam generator, the aim being for the particle beam to disperse any atmospheric impediment to the laser beam. Such 'twin beam' technology might thus allow the ABL to be used to disable ground-based targets such as air defence sites.[31] For this function, the beam could be used to damage site components such as radar systems, or the surface-to-air missiles themselves.[32]

In order to explore the wider potential of the ABL system, the USAF set up a directed energy study in June 1998, chaired by the former USAF Chief of Staff, General Ronald R. Fogelman. Entitled Directed Energy Applications for Tactical Air Combat (DEATAC), the study had two main objectives:

> The first is to identify promising ways in which directed energies, such as lasers, can be used from airborne platforms in tactical roles. A second objective is to identify what the Air Force needs to do, technologically, to develop these weapons, keeping in mind costs versus effectiveness.[33]

DEATAC is thus far wider than exploring upgraded roles for the ABL, being concerned with generic 'directed energies' systems. According to Fogelman:

> I believe that directed-energy weapons will be fundamental to the way the Air Force fights future wars. This study, which I am pleased to be part of, will help prepare us for the changing face of warfare. It is an important step in pursuing the potential of directed-energy technologies.[34]

Study Leader William Thompson outlined the scope of the programme:

> We'll be looking exclusively at directed-energy concepts at a range of power levels, to address weapon and mission-support applications. We'll

also be considering a variety of airborne mediums, from manned aircraft to remotely piloted vehicles.[35]

DEATAC begins with a concept definition phase, at the end of which:

> The study group will identify the most promising applications and technology concepts, considering the technical feasibility, platform impact, mission priority, and potential for cost-effective implementation. Then in a concept development and evaluation phase, the study participants will reconvene to further develop and evaluate the selected concepts from the first phase. The final results of the study will hopefully identify and justify high-payoff concepts for future warfighting and produce technology development and demonstration roadmaps to enable concept reality.[36]

The DEATAC study is focused on a range of developments already in progress primarily as part of the Airborne Laser, but it is relevant to a far more advanced directed energy ballistic missile defence system with substantially greater potential for wider warfighting uses, the SBL. This is a more direct descendant of the directed energy research of the SDI era and forms part of a longer-term programme under the aegis of the Ballistic Missile Defence Organisation.

The space-based laser

The SBL programme is a much longer-term endeavour than the ABL and would be developed and deployed through to 2020 and beyond. It builds on many SDI technologies of the 1980s including the Large Optics Demonstration Experiment (LODE) completed in 1987 and the Alpha laser, a hydrogen-fluoride chemical energy laser. It is envisaged that a Space-Based Laser Readiness Demonstrator would be a substantial 17.5 ton vehicle, 65 feet long and over 14 feet in diameter, incorporating an Alpha laser directed by a 13 feet diameter mirror and a range of surveillance capabilities.[37]

The SBL would work in the same general manner as the ABL, but with much greater power and area coverage. 'Kill' times per missile would be 1 to 10 seconds and retargeting accomplished in as little as 0.5 seconds. At least twelve and possibly twenty-four satellites would eventually be deployed in low Earth orbits of about 650 miles.

Although the SBL is a much more long-term programme than the ABL, it has attracted considerable support in the US Senate because of its potential for providing protection for the continental United States from intercontinental missile attack. In the early part of 1999, the ABL program was restructured by the US Air Force, with a joint venture formed by the three companies already working on the ABL, Boeing, Lockheed Martin and TRW. An on-orbit flight experiment was not planned until 2010 or later, although there was pressure from Senate members for an accelerated programme.[38]

Like the ABL, the SBL weapon system would primarily be a boost-phase missile system, attacking missiles as they ascended above the atmosphere, but, as with the ABL, consideration is already being given to developing space-based directed energy systems for destroying ground-based targets. The successor to the B-2A Spirit bomber could therefore not be a bomber at all, but rather a space-based laser, according to the USAF's Deputy Chief of Staff for Aerospace Operations, Lt Gen. Marvin R. Esmond.[39]

More generally, US Space Command has developed a Long Range Plan (LRP) for the period through to 2020, with one of the four operational concepts of the plan being Global Engagement, which includes: 'Worldwide situational awareness, defence against ballistic and cruise missiles and, if directed by the National Command Authorities, the capability to hold at risk from space a small number of high value targets'.[40] The main emphasis of Space Command's planning is on missile interception using space-based directed energy weapons such as lasers and high-power microwaves with these also providing the means for applying force to targets on the ground.[41] A large part of the LRP is concerned with ensuring that the United States maintains military dominance in space so that any such systems are not threatened by space-based capabilities of other states.

Implications of directed energy weapons

In the near term, the Airborne Laser will provide the United States with a boost-phase interceptor system that is also capable of being developed for use against ground-based targets. In the longer term, a range of space-based systems is planned which would substantially increase this capability. Overall, these developments could begin to provide the United States with the capacity to intervene against a range of targets considered to threaten US interests. Moreover, such intervention could be extremely fast and accurate and virtually invulnerable to direct countermeasures. It would provide the United States, by 2020, with the means to intervene with impunity – a military capability coming close to 'ideal'.

Perhaps most important of all, the use of directed energy weapons could be undertaken with no direct risk to the US personnel employing them, a characteristic of considerable domestic political significance. Indeed, an ultimately space-based system could provide a worldwide intervention capability from the continental United States with no forward-basing of US forces.

As such, this represents a militarily seductive development, and the evidence suggests that military strategists and planners are fully aware of the potential of directed energy technologies. Even so, it is appropriate to go beyond this outlook in order to explore the possible reactions to, and consequences of, such a series of developments.

Since the end of the Cold War, there has been a recognition that future threats will be diverse, unpredictable and highly variable in extent. The US

has therefore progressively concentrated on developing a range of force projection capabilities, with all of the branches of its armed forces endeavouring to enhance their ability to intervene in regional conflicts as and when required. This has accompanied a scaling down of many of the forces that were considered appropriate to the Cold War.

Thus the US Navy has downgraded its anti-submarine capabilities but emphasises the need for deep strike using carrier-based air power and sea-launched cruise missiles. Similarly, the US Army places far less emphasis on heavy armour and more on special operations forces, and the US Air Force has cut back on strategic nuclear forces but places much greater emphasis on long range air power, including the use of conventionally armed air-launched cruise missiles.

Cruise missiles have increasingly become the weapons of choice for force projection, giving the United States the ability to target almost any point on the earth's surface with little risk of direct countermeasures. They have, in consequence, been used in offensive operations against targets in Iraq, Bosnia, Afghanistan, Sudan and Serbia.

Their further development, and that of many unmanned combat aerial vehicles and other weapons over the first decade of the twenty-first century, represents the next stage in force projection, with directed energy weapons likely to follow on from this. Overall, it would appear reasonable to argue that the United States, in conjunction with its allies, is thus developing a remarkable degree of military superiority, certainly sufficient to cope with any threats likely to arise from states and sub-state groups which, by comparison, have far lower military capabilities.

It is also the case, however, that there are many kinds of responses that can be made, and it is far from certain that even force projection technologies that can eventually use directed energy systems may not be susceptible to indirect countermeasures. These may take many different forms. The most immediate, and the most likely, is giving greater protection to potential targets, mainly through hardening them. Since the Gulf War of 1991, an arms race in miniature has develop between states seeking to protect assets by hardening or deep underground sheltering, and weapons developers in the United States and elsewhere who have worked to produce conventional and nuclear earth-penetrating warheads.

Directed energy weapons will not be able to target such hardened facilities, but their potential to hit ground targets will greatly increase the costs of security to states and sub-state groups in conflict with the United States and its allies. It is more likely, therefore, that such opponents will progressively adopt forms of military action that avoid any kind of direct engagement with the United States and its allies.

Indirect responses may take many forms but are likely to focus on types of military and paramilitary action, forms of asymmetric warfare, that cannot easily be predicted or countered.[42] These will, in particular, include paramilitary action against military, political and economic targets in the United

States and its allies. There have been a number of examples of this, notably the destruction of the US Marines barracks in Beirut in 1983, the New York World Trade Center bombing in 1993, and the bombs at the US Embassies in Nairobi and Dar es Salaam in August 1998.

One of the most instructive was the bombing of the Khobar Towers military quarters in Dhahran in 1996. After the Gulf War the United States retained substantial forces in Saudi Arabia, largely to contain Iraq, and many of the forces were centred on the bases at Dhahran. On 25 June 1996, a truck bomb was detonated outside the Khobar Towers block of flats. The devastation was considerable, leaving a substantial crater in front of the flats and tearing the front of the complex down. There were over 500 casualties, including the deaths of nineteen Americans.

As a direct result of this incident, the Dhahran base was run down and many of the forces were moved to a new base, constructed at a cost of $500 million, at a secure and remote site in the heart of Saudi Arabia. US forces ostensibly in Saudi Arabia to protect that country were themselves under such threat from paramilitaries that they were virtually in a state of siege.[43]

None of these attacks involved weapons of mass destruction such as nuclear, radiological, chemical or biological weapons, but the Tokyo subway attack was an early sign of potential WMD (weapon of mass destruction) use, and the Iraqi success in developing biological weapons in the 1980s is a good indicator of the potential of biological warfare systems. It is not uncommon to find that military developments that give considerable capabilities to a particular state can induce unexpected responses in a potential opponent. For example, it is now well recognised that the Soviet Union continued to develop a major offensive biological warfare programme in the 1980s, in defiance of the 1972 Biological and Toxin Weapons Convention. By the end of the 1980s, Soviet BW (biological weapons) capabilities were considerable, and many of them may have been maintained by Russia after the break-up in 1990–1.[44]

Some analysts have contended that the motivation for the Soviet programme was the belief that the United States was maintaining its own offensive BW capability, but a much more likely explanation is offered by Jonathan Tucker and others: 'Moscow may have wished to hedge against the possibility that the SDI program might eventually yield an effective space-based laser defence, blunting the Soviet nuclear retaliatory capability and exposing Moscow to US nuclear blackmail.'[45]

There was an indication of this in a 1987 statement made by the head of the Soviet Novosti Press Agency, Valentin Falin, at the time a Politburo member:

> We won't copy [the US] anymore, making planes to catch up with your planes, missiles to catch up with your missiles. We'll take asymmetric means with new scientific principles available to us. Genetic engineering

could be a hypothetical example. Things could be done for which neither side could find defences or countermeasures, with very dangerous results.[46]

If this analysis is correct, and there is increasing evidence of the size and complexity of the Soviet biological warfare programme, then one of the most significant outcomes of the US drive for strategic defence was that it encouraged the Soviet Union to take an entirely different approach. It may have avoided direct competition with the United States while developing a different class of weapons of mass destruction.

Conclusion

The airborne laser would appear to represent a highly significant military development – a directed energy weapon of considerable potential. While the technology is still in a relatively early stage of development, and is at present concentrated on ballistic missile defence, it is likely to be developed into a weapon system with more general capabilities, giving the United States, and possibly its allies, a remarkable attack capability. Beyond the airborne laser lies the development and deployment of space-based directed energy systems which could give the United States further substantial military advantages.

The capabilities of directed energy weapons, whether airborne or space-based, are already being recognised by planners in terms of a capacity which goes well beyond missile defences and into the sphere of long-range offensive operations. If the new systems translate into these enhanced capabilities, they will come close to the theoretically 'ideal' weapon.

At the same time, while such developments may be very attractive to military planners seeking to have the means to meet numerous yet diffuse threats to US interests, there is every chance that they will result in responses that are fundamentally asymmetric. While states and sub-state groups may attempt to develop protection against future directed energy systems, they are also likely to concentrate on entirely different approaches that do not involve conventional forms of military confrontation.

Political violence and paramilitary activity is a likely to respond to attempts by the United States to maintain global military superiority, with directed energy weapons actually likely to increase the risk of such responses. It may therefore be appropriate to examine more broad-based approaches to maintaining security, which rely less heavily on military superiority and more on trying to achieve an understanding of the likely future causes of insecurity.

8   Economic targeting and asymmetric warfare (2001)

Introduction

On Thursday, 9 April 1992, the Conservative Party, led by John Major, won an unexpected victory in the British General Election, an election in which the conflict in Northern Ireland played a relatively small part. During the previous parliament (1987–92) the bipartisan policy on Northern Ireland between the government and the Labour opposition had been largely maintained, and while the substantial problems of insurgency and civil unrest in the province had been very much a part of the British political scene, the situation in Northern Ireland was not an election issue as such.[1]

On the evening of the day after the General Election, Friday 10 April, two large bombs were detonated in London. The Provisional IRA (PIRA) claimed responsibility for both. One, in the City of London, killed three people, injured over ninety and caused an estimated £1,000 million of damage. The second damaged a flyover at one of London's busiest road junctions and caused extensive disruption to transport for some weeks afterwards.

The purpose of the bombs was primarily to cause damage to the British economy, both by directly disrupting business and transport and by indirectly harming the reputation of London as an international financial centre. Such economic targeting was not new – PIRA had previously targeted shops, offices, bus depots and railways in Northern Ireland and sometimes in Britain, but the scale of the operation was much larger than any previous attack and it represented the start of a sustained campaign, which was to last for much of the life of the newly elected parliament, through to 1997. It was developed in parallel with other more common PIRA tactics such as attacks on the police and armed forces and political assassinations, but was essentially a new strategy that had substantial economic and political effects.

The use of economic targeting by PIRA did not take place in isolation, since a number of paramilitary groups in other regions of conflict have also embraced aspects of such a strategy in the 1990s, and there are, in any case, a number of historical precedents. Indeed, there are some indications that this kind of paramilitary action is part of an international trend, with the PIRA strategy during 1992–7 being the most developed example of economic

targeting employed by any paramilitary group outside of general war. It therefore warrants careful examination and analysis to assess whether it has implications for the future of counter-state action.

It can be argued that modern industrial states are peculiarly susceptible to economic targeting, with 'nodes of power' or 'choke-points' which can be disrupted without great difficulty. The PIRA campaign does lend some support to this view, and certainly caused problems for the British government that were far greater than it was prepared to admit, but there are many aspects to the experience, which suggest that the successful use of economic targeting by a paramilitary group may require a particularly high level of expertise and organisation if it is to have a major impact.

The present chapter begins with a brief review of PIRA strategy since 1970 and then describes the initiation and early years of the 1992–7 campaign. During this period, there was an 18-month ceasefire and this chapter discusses the circumstances surrounding the initiation and subsequent breakdown of the ceasefire followed by the intensive use of economic targeting from February 1996 to April 1997. After reviewing aspects of the campaign as a whole, this chapter discusses recent international experience of economic targeting and places it in the context of such targeting as a feature of interstate warfare. Finally, there is a preliminary analysis of the relevance of this aspect of PIRA strategy to the evolution of counter-state paramilitary action.

Relevant aspects of previous PIRA strategy

The emergence of the Provisional IRA from the original ('official') IRA took place in 1969, and the organisation quickly took precedence over the official wing, which eventually became defunct. From then on, the aim of a united Ireland was sought through paramilitary actions directed at the British government and against unionist structures in Northern Ireland.[2]

Over a period of nearly 30 years, PIRA activity resulted in over 2,500 deaths and 7,500 injuries, with the activity encompassing a very wide range of actions. These included assassinations, bomb, mortar and small arms attacks on military and paramilitary targets in Britain and abroad, and attacks on civilians. Among the many activities were a number of major individual actions, although few in the third decade of activity appear to have been intended to cause substantial civilian casualties:

- on 21 July 1972, 22 bombings in Belfast killed eleven and injured around 100 people;
- on 21 November 1974, bombings of public houses in Birmingham killed twenty-one and injured around 120, and a bomb at Harrod's department store in Central London in 1983 killed five and injured eighty;
- assassinations included the British Ambassador to Ireland in 1976, Earl Mountbatten (cousin of the Queen) in 1979, an attempt against Margaret

Thatcher and members of the UK cabinet at Brighton in 1984, the killing of Ian Gow MP in 1990, and a mortar bomb attempt against the cabinet at Downing Street in 1991;

- on 8 November 1987, a bomb at a Remembrance Day ceremony in Enniskillen, County Fermanagh, killed eleven and injured sixty-three.

These are only examples of PIRA activities, and it is not the role of the present chapter to undertake a detailed description of the development of PIRA strategy over a 30-year period.[3] Even so, a number of aspects of the protracted PIRA paramilitary campaign are relevant to the present analysis.

First, the early years of PIRA activity were marked by attempts to maximise casualties among British soldiers, in the belief that the British public would not long tolerate such casualties. This was based largely on an assessment of the effect of armed forces casualties on domestic public opinion during the retreat from Empire, especially the experience in Palestine, Cyprus and Aden, but also related to the French experience in Indo-China and Algeria and the US experience in Vietnam. In spite of heavy military casualties (102 soldiers killed up to the time of a truce in June 1972), this strategy did not have the expected effect.

More generally, at least until the early 1990s, the various PIRA activities, which included political and some limited economic targeting, had relatively little political impact in Britain in terms of making successive British governments prepared to respond to PIRA demands. A cross-party policy was largely maintained throughout the period, and, if anything, successive PIRA activities appear to have hardened the resolve of the British political system. This is not to say that there were not repeated attempts to seek a solution in Northern Ireland. For much of the period there were parallel processes of vigorous counter-insurgency action against paramilitaries, alongside attempts to achieve powersharing within the province.

Third, the extensive paramilitary activities in Northern Ireland did not succeed in the aim of uniting the nationalist community behind the military struggle. In particular, it was the moderate Social and Democratic Labour Party (SDLP) rather than Sinn Fein, with its links with PIRA, that was the dominant political party for the nationalist community.[4]

Furthermore, the activities stimulated increased reactions from loyalist paramilitaries such as the Ulster Freedom Fighters that included random killings of Catholics on many occasions, as well as substantial bombing campaigns.[5] It is appropriate to point out that one of the worst incidents, in terms of loss of life, throughout more than 30 years of conflict in Northern Ireland was due not to PIRA activity in Britain or Northern Ireland, but resulted from loyalist bombs in Dublin and Monaghan in the Irish Republic in May 1974, killing thirty people and injuring over 150.[6]

In the early 1990s, PIRA continued with a range of paramilitary actions, including an attack in February 1991, on No. 10 Downing Street when the British Cabinet was in session, using a home-made mortar system. With

some exceptions, there was a progressive move towards economic targeting, at least in relation to activity in Britain rather than Northern Ireland. This was part of a significant change in strategy and had two components.

One element was the use of small explosive devices, often against transport facilities such as mainline stations and trunk routes. These themselves caused considerable disruption, but this was made much worse by the use of frequent false alarms. Most of this activity was directed at targets in or near London, but other cities also experienced problems on a smaller scale.[7]

The second element was the use of large explosive charges against targets of considerable economic significance. Six attempts were made from 1992 to 1994, three of which were carried through. They represented a major new strand in PIRA targeting in Britain and deserve some detailed attention because of their relevance to wider aspects of paramilitary action against states.

PIRA economic targeting – 1992–4

On 10 April 1992, immediately after the Conservative victory in the British General Election, PIRA detonated two large bombs in London. The first was in the City of London outside the Baltic Exchange in St Mary Axe. A 45-kg semtex bomb in a transit van exploded at 9.25 pm, killing three people and injuring ninety-one. An inadequate warning had been given, but the explosion happened in mid-evening when the target area was relatively quiet.

The effect of the detonation in the narrow enclosed streets of the city was considerable, causing damage and disruption estimated at up to £1,000 million. Buildings up to 300 metres away were damaged, the most notable example being the Commercial Union headquarters, the 27-storey St Helen's building. Most of its 2,000 large 3m × 1.8m panes of glass were shattered, with flying glass damaging much of the interior of the entire building. Some 400 tonnes of debris were afterwards removed from the building and its immediate surroundings. Scores of buildings were damaged by the blast, and the repair and rebuilding of some of them took more than a year, two years in the case of the St Helen's building.[8]

On the same evening, another transit van bomb was detonated on the southbound flyover carrying the A5 trunk road over the North Circular Road at Staples Corner in North London. This is part of one of Britain's largest and busiest traffic junctions, which also includes the southern end of the M1 motorway, one of the two main routes connecting London with the North of England and Scotland. A warning was given, local evacuation was in progress and no one was killed or injured. Extensive repairs were necessary, and the immediate effect of the bomb was to cause substantial and lengthy traffic disruption in Northwest London.

There were two further attempts at large-scale economic targeting in 1992, both of which were forestalled by security forces. One was a van bomb discovered outside Britain's tallest office tower at Canary Wharf, and the other was a bomb intercepted in North London a few hours before the Lord

Mayor's Show on 14 November. Canary Wharf is at the core of the largest recent business district development in Britain, centred on the previously derelict docks to the east of the City of London. The bomb intercepted in North London was in a box van and comprised some 3 tonnes of weedkiller-based explosive, equivalent to about twice the destructive force of the Baltic Exchange bomb.

The following year, on 24 April 1993, PIRA detonated a further large bomb in Bishopsgate in the City of London. This was a fertiliser-based bomb which used about 5 kg of semtex to detonate a tonne of home-made explosive. One person was killed and forty-seven were injured, with damage estimated initially at about £1,000 million. As with the Baltic Exchange explosion, the narrow streets and tall buildings added hugely to the damage and disruption. Casualties were relatively low partly because the bomb was exploded on a Saturday morning, outside normal business hours.[9]

Finally, during this period of action, in July of the following year a large quantity of explosive was discovered concealed in a lorry at the ferry port of Heysham in Lancashire, the terminal for one of the main commercial ferry routes between Britain and Northern Ireland. This was believed to be a bomb en route from Ireland to a target in Britain and was reported to comprise some 2 tonnes of explosive.

In summary, during this period of just over two years, PIRA attempted to attack targets in Britain with powerful bombs on six occasions. Three of these succeeded, one was discovered at the target, one was intercepted close to the City of London and one was detected in transit. The three actual attacks attracted a great deal of public attention, especially in London. The failed attacks were briefly noted in the media and quickly forgotten outside of government and the security forces.

The economic and political impact of these events is difficult to quantify because of a pronounced tendency on the part of the relevant authorities to minimise the effects in public. Indeed this is a generic problem in trying to assess the effectiveness of any use of economic targeting by paramilitary groups. The repeated experience in a number of countries subject to economic targeting is that governments, city administrations and business communities all take a public stance that the actions are having a minimal economic effect and that recovery will be rapid[10]

There are, however, many indications of the problems caused by PIRA activity. These included a substantial effect on tourist bookings into London hotels as well as problems for the reinsurance market, one response eventually being the government-backed 'Pool Re' arrangement. This was subject to criticism, partly because of its 'all or nothing' working arrangement where companies could not limit cover to vulnerable buildings alone. Even so, it relieved commercial insurance pressures while putting greater responsibility on to government sources of finance.[11]

Reinsurance practice thus had an impact on government, but the targeting of a central business district (CBD) such as the City of London has several

more major effects. One is that not all the costs of the attacks can be covered by insurance, not least loss of data and disruption of routine planning and development. Second, the attacks impair the morale and commercial efficiency of organisations directly affected, relative to unaffected competitors. Third, a bombing campaign leads to a long-term increase in overheads as companies maintain higher levels of security, indeed it tends to boost the development of a costly disaster recovery industry in its own right.

Disaster recovery is a process of providing back-ups mainly to financial institutions in the event of catastrophic disruption. It may include everything from computer back-up facilities, through to guaranteed repair systems and even 'ghost' premises to which institutions can move in the event of disruption. By late 1993, disaster recovery in Britain was reported to be an industry worth £150 million per annum and growing by at least 25 per cent per year. Much of this expenditure was in response to PIRA activities, most of it incurred by larger business organisations.[12]

Finally, the damage caused by a bombing campaign and its aftermath can have a substantial effect on the status of a major business centre, especially in relation to its competitiveness with other centres. For the City of London in the early 1990s, the problem was not so much in relation to major British financial institutions, as most of them operate in London for a variety of commercial reasons that make relocation difficult. They are, in a sense, a captive market by virtue of the location of their own markets. Far more problematic was the status of overseas financial institutions located in London. Competition with other European financial centres, especially Frankfurt, was intense, and the risk of major bomb attacks would be far more likely to affect the choice of location with feasible alternatives being available.

After the Baltic Exchange and Bishopsgate bombs, City of London authorities went to considerable lengths to reassure city-based companies, especially the branches of foreign corporations. This process of reassurance had three main components. First, some 400 businesses were brought in to meet corporation officials to discuss their concerns, with the most significant companies invited to a series of breakfast meetings with the Lord Mayor at the Guildhall. Although the post of Lord Mayor of London is, to an extent, honorary, it has considerable status, and the use of the mayoral office and the historic Guildhall was symbolic of the importance attached by the city authorities to this process.

Second, steps were taken to co-ordinate and upgrade the individual commercial security systems operated by most city businesses. Finally, and most extreme, permanent road-blocks and police-checks were set up on the perimeter of the City of London, with all other routes closed, making it necessary for all vehicles entering the City to undergo police checks.

Apart from the so-called 'ring of steel', which inevitably attracted considerable public attention, the other counter-terrorism moves were undertaken in a low profile manner, with every effort made to downplay the effect of the bombings on the city. At the same time, there are many informal indications

that the PIRA bombing campaign caused great concern in the business community, leading to extensive consultations with government and the repositioning of government policy towards Northern Ireland higher up the political agenda. While the Baltic Exchange and Bishopsgate bombs had obvious effects, the three intercepted bombs caused considerable further concern, even if this was largely unpublicised.

At the time, the Staples Corner bomb, although it caused considerable traffic disruption, attracted far less attention, but may turn out to be more significant in the long term. It was more on a par with the many small-scale incidents involving rail transport, forming part of a reorientation of PIRA targeting towards transport.

There are four further features concerning the early 1990s PIRA bombing campaign that are relevant in the current analysis. The first is that the more usual forms of PIRA action continued alongside these bombings, both in Britain and Northern Ireland. The move to economic targeting was not a complete change of tactic, more an extension. During the course of 1993, for example, nine civilians and the bomber were killed in the bombing of a fish shop in the Protestant Shankill Road area of Belfast in October, and two Royal Ulster Constabulary police officers were shot dead in December.[13]

Second, the city centre bombing campaign involved the logistically difficult process of transporting and assembling large bombs at a distance from relatively safe areas of operation in Northern Ireland and especially the Republic.

Third, alongside the city centre bombings were many examples of smaller incidents in Britain that appeared to have a motive of economic disruption. Along with frequent false alarms directed mainly at the transport system, there were a number of actual attacks with small bombs or mortars. On 28 February 1992, a few weeks prior to the first of the City of London Bombs, a device at London Bridge railway station exploded, injuring twenty-eight people. Just over a year later, on 20 March 1993, two small bombs were detonated in a crowded street in the Cheshire town of Warrington, killing two young boys and injuring fifty-one others, and there were three incidents between 9 and 11 March 1994 in which home-made mortar rounds were fired at targets within Heathrow Airport, causing little damage but substantial disruption.

One aspect of the economic targeting strategy adopted in Britain appears to have been a requirement to limit the extent of civilian casualties. This is not to say that such casualties were to be avoided at all cost – the detonation of large bombs in populated areas without casualties was all but impossible, the Warrington and London Bridge bombs had serious effects, and the Heathrow mortar attack could have been much worse.

At other stages in paramilitary activity, both republican and loyalist groups undertook operations likely to cause heavy casualties, examples being the IRA Birmingham pub bombings in 1974, and the loyalist bombs in Dublin and Monaghan earlier that year. In contrast to these, all three major bombings

in London in 1992 and 1993 were undertaken outside of normal business hours. If the Baltic Exchange, Bishopsgate or Staples Corner bombs had been detonated without warning in the peak business hours, the casualties would have been massive.

What can be said is that the bombing campaign was not deliberately designed to maximise casualties. However, it is probable that the motivation was political rather than humanitarian – previous experience had indicated that causing heavy loss of life would have had a severely antagonistic effect on British public opinion, and could also have diminished support for PIRA within the nationalist community in Northern Ireland, the Irish Republic and, indeed, the United States.

The context of the 1994 ceasefire

The 18-month Northern Ireland ceasefire which commenced in mid-1994, resulted from separate decisions by republican and loyalist paramilitary groups, although it was initiated by a unilateral decision by PIRA. This came about through the interplay of a number of factors.

First, a stalemate in the conflict had developed within Northern Ireland, especially with the increase in power of the loyalist paramilitaries. Their activities against the nationalist community in the early months of 1994 were causing more deaths than republican paramilitary action against the unionist community.

Second, there was widespread war weariness within those Northern Catholic circles from which PIRA drew a residual, if crucial, support; and there was a slowing down of recruitment as families sought to avoid having their children sucked into paramilitary activity. There was also weariness among political activists and elements of the Sinn Fein leadership in the face of a conflict that seemed interminable: the more politically minded republicans were beginning to acknowledge that a 'united Ireland' was not going to be readily achieved by military action and that 'a million Protestants could not be bombed into the Republic'. These sentiments were less strong within paramilitary circles, which explained why Sinn Fein, considered to be the political wing of PIRA, had to tread warily to maintain unity.

Third, there was a lessening of support for the republican cause within the Irish-American community in the United States, a process aided by the increasing commitment of the Clinton administration to aid any peace process.

Fourth, a dialogue developed between elements of the Sinn Fein leadership and the more moderate nationalist group, the SDLP. Particularly significant was the willingness of the SDLP leader, John Hume, to engage directly in such discussions with the leader of Sinn Fein, Gerry Adams, starting in April 1993, a courageous if politically risky action at a time of considerable tension in Northern Ireland.

Finally, there was a growing appreciation by the British Government of the severe economic costs of the conflict and an increased desire to take some

political risks, including unofficial contacts with republicans, to facilitate a ceasefire. In this context, the costs of the bombing campaign in Britain were in addition to the massive costs of maintaining substantial security forces in Northern Ireland and of subsidising the very weak economy of the province.

It is not possible to quantify the relative importance of these and other factors with any precision, although the paramilitary stalemate within Northern Ireland was probably the most significant factor. In any case, there was a synergistic process involved that provided a rather narrow window of opportunity. The end result was a ceasefire announced by PIRA in August 1994, followed by similar declarations from loyalist paramilitaries.

It is essential to recognise, though, that the two groups of decisions were separate and unilateral and were not monitored by any independent agency. Moreover, they were not complete. Punishment beatings and other illegal activities continued throughout the ceasefire, and republican paramilitaries were probably involved in the murder of five alleged drug dealers in the winter months of 1995–6. Moreover, there appear to have been major differences of opinion in PIRA as to the value of a ceasefire, with elements in the Republic being less convinced of the value than some of those in the North.

Furthermore, the calling of a PIRA ceasefire should not be taken as an indication of a willingness to compromise, the ceasefire being considered by many within PIRA as more of a tactic to be employed on the way to the eventual goal of a united Ireland, a goal which could take at least another generation to achieve.

There are also indications that the main paramilitary groups used the period of the ceasefire to improve their military potential. This appears to have included PIRA preparations for further activities in Britain, and loyalist paramilitary enhancements within Northern Ireland. Unconfirmed reports suggest that PIRA succeeded in producing mortars that were very much more effective than the crude devices used before the 1994 ceasefire. On 20 June 1996, Irish Gardai arrested seven men in connection with the discovery of a substantial mortar-manufacturing facility on a farm at Clonaslee in County Laoise. According to the Irish Prime Minister, John Bruton, weapons were being assembled when police moved in on the farm following a period of surveillance.

Furthermore, in November 1995, the Irish Gardai intercepted a 1,300 lb vehicle bomb in the Republic, believed to be en route to Crossmaglen in the North. This incident involved the small and extremist paramilitary group, INLA, rather than the much larger PIRA, then officially on ceasefire.

Even so, and in spite of these various actions, the ceasefire was largely maintained throughout an 18-month period. During this time, progress towards a long-term negotiated settlement was extremely slow. In part this was due to political changes in Dublin with the transition from the Reynolds to the Bruton administrations, while in London the troubled Major Government had other political preoccupations. These included deep divisions within the ruling Conservative Party over the issue of European integration, a revitalised

and increasing effective opposition from the Labour Party and a decreasing majority in parliament as the Conservative Party lost a series of by-elections.

Beyond this lay the entrenched positions of many of the political leaders within the divided community in Northern Ireland, with little sign of movement apparent, even a year after the ceasefire. In particular, John Major's government was potentially at risk without the support of unionist politicians at Westminster, a further motivation for caution in seeking a solution in Northern Ireland.

Even so, attempts were made to facilitate progress, primarily through the Mitchell Commission, headed by the experienced US politician George Mitchell, but progress was slow, and even the Commission's careful report was subject to controversial interpretations.

Although political progress was very limited, the ceasefire resulted in considerable social change in Northern Ireland, starting with many rallies in support of peace. There followed a pronounced easing of security arrangements, increases in tourism and other forms of economic activity, and an easing of social restrictions as cities and towns re-acquired a night life. These developments were welcomed by large sections of both communities, though improvements in inter-communal links were limited. By early 1996, progress towards a long-term resolution of the problems remained slow, but there was considerable community support for maintaining the ceasefire, and a fear of a return to violence.

This last aspect is an enduring point of significance for paramilitary groups. Any group, whether it be republican or loyalist in orientation, that took action likely to result in further violent confrontation within Northern Ireland, would risk losing substantial community support.

The bombing campaign after the ceasefire

The ceasefire ended on 9 February, 1996, with a PIRA announcement followed almost immediately by the detonation of a large bomb at South Quay near Canary Wharf in London, killing two people and causing substantial damage to London's most significant secondary business district. Within a few months, insurance claims arising as a result of the explosion totalled £100 million, even though two of the largest buildings affected were not insured against terrorism.

Shortly after the South Quay bomb, two small bombs were placed in Central London. The first, on 16 February, was in Shaftesbury Avenue and was defused before detonation. Three days later, a second bomb exploded prematurely on a bus near the Aldwych, killing the person responsible, Edward O'Brien. A subsequent search of O'Brien's flat revealed six 2.5 kg blocks of semtex together with timers, detonators and power units.

All of the initial post-ceasefire activity by PIRA was concentrated in Britain. There were no attempts to engage in significant paramilitary activities in Northern Ireland itself, probably because of a reluctance by PIRA to incite

a loyalist paramilitary response. While this appeared initially to work, loyalist marching activity achieved a high profile, with periodic confrontations between loyalist groups and the Royal Ulster Constabulary.

Shortly after the end of the ceasefire, intense political activity by the British and Irish governments resulted in the decision to establish an elected forum to discuss future developments in Northern Ireland, working to an extent in parallel with all-party negotiations. At the same time, the British Government was not prepared to include Sinn Fein in the process in the absence of a renewed ceasefire. Even so, it is evident that the Canary Wharf bombing induced more action on the part of the British Government in a matter of weeks than during 18 months of a ceasefire.

Even so, during March and early April 1996, there was speculation that PIRA might announce a renewed ceasefire. There were further bombs in London, but these were very small, did not cause any casualties and were widely regarded as 'calling card' bombs, designed to remind the British authorities of the continued presence of the IRA. One British response to the end of the ceasefire was a tightening up of anti-terrorist legislation.

There were no further IRA attempts at large-scale action in Britain until the eightieth anniversary of the 1916 Easter Rising on 24 April. On that occasion, an attempt was made to demolish one of the better-known Thames crossings in London, Hammersmith Bridge, with two substantial charges of semtex. The bridge was vulnerable to such an attack, being a suspension bridge with anchor points at the south end located adjacent to a quiet riverside footpath. The detonators exploded but the main charges did not, and there was little damage.[14]

Following this attempted attack, there were a number of bomb alerts on motorways in Britain. On the evening of Thursday 26 April, the M1 motorway was closed at the Woodhall Service Area near Sheffield in South Yorkshire, and the service area evacuated, following a report of a possible bomb being placed at the foot of a bridge across the motorway. Police and army specialists were unable to find any device. A few days later, the M4 motorway was closed in both directions for three hours near London Airport as a result of a similar incident.

The Manchester bomb

In the run-up to the Northern Ireland elections in early June, there was a lull in PIRA activity, and some speculation of a further ceasefire, but immediately after the elections, the largest post-ceasefire bomb was detonated in a shopping area of Manchester, one of Britain's largest cities and a major financial and retail centre. In broad terms it followed the trend of economic targeting, although there were some exceptions to the earlier pattern. The bomb was detonated at 11.20 am on Saturday 15 June, 1996, about 1 hour and 50 minutes after a coded warning had been telephoned to security officers at the nearby Granada Television Centre.[15]

The bomb was in a box van and is estimated to have contained up to 1.5 tonnes of a fertiliser-based explosive, probably detonated by about 1 kg of semtex. This would make it similar in construction to the bomb detonated in the Bishopsgate area of the City of London three years earlier. The target was one of the main shopping areas in Manchester but this was largely evacuated by police before the explosion. Even so, the very large size of the bomb resulted in glass and other debris being projected over a wide area, and there were over 200 casualties, although no deaths. While most injuries were minor, some were serious and required extensive treatment.

The explosion was aimed at the Manchester Arndale Centre, one of the oldest and largest of Britain's inner urban shopping centres, and at a large and busy branch of Marks and Spencer. Before the completion of the nearby Trafford Centre, Greater Manchester did not have a major out-of-town shopping centre, and the retail heart of the city was therefore a particularly significant regional facility. The £200 million Arndale Centre included many of the major retailers as well as a 19-storey office tower occupied primarily by the computer company ICL.

More than 400 businesses were reported to have been affected by the bomb, in addition to Manchester Cathedral and the historic Corn Exchange, with initial estimates of direct and indirect damage being in excess of £250 million. Insurance claims were expected to be up to £75 million, but with many businesses not directly covered. The severity of the damage meant that some major retail premises would require several months of repairs, with consequent loss of revenue. Many of the businesses were small operations, not part of larger companies. While many large companies now have well-rehearsed disaster procedures and can recover quite quickly from such events, the effect on smaller companies, and therefore the cumulative effect on a retail centre, is much more serious.[16]

Although the explosion affected parts of the non-retail business sector of Manchester, it differed from earlier bombs in the City of London and Canary Wharf in not being aimed specifically at the business community. Manchester is a business centre of national significance, and includes a number of business headquarters, including the Co-operative building, the tallest tower block outside London, but the targeting appears to have been the first occasion on the mainland in which a very large device was aimed specifically at the retail sector.

This may have represented a modification of previous CBD targeting, but had other worrying implications, suggesting a more determined approach to targeting by PIRA, which could have risked much greater casualties. Even if a bomb is intended to be detonated after an area has been cleared, if it is emplaced at a busy time there is always a risk of premature detonation causing massive casualties. The two City of London bombs in 1992 and 1993 were emplaced at times when relatively few people were in the vicinity. By contrast, the February 1996 Canary Wharf bomb appears to have been emplaced

towards the end of the rush hour, and the Manchester bomb was in place as the district was filling up for a busy Saturday morning.

On 28 June, PIRA claimed responsibility for a mortar attack at Quebec barracks in Osnabruck, Germany, the first PIRA action in mainland Europe for six years,[17] but the main sphere of operations moved back immediately to Britain and Northern Ireland. From July to September 1996, they experienced reverses in Britain while inter-communal tensions increased in Northern Ireland, especially at the town of Drumcree, adding to support for republican sentiments.

PIRA reversals in Britain

During the 1992–4 phase of city centre bombing, PIRA had experienced reversals, not least with the interception of three of the six bombs known to have been produced for use in Britain. There were further reversals in 1996, though these were, in a sense, more serious, as they involved a substantial number of arrests of PIRA members.

On 15 July, eight suspected members of PIRA were arrested in houses in London and Birmingham and police recovered quantities of bomb-making equipment.[18] Press reports suggested that the action had prevented an imminent attack on electricity, gas and water supplies in London and the Southeast of England but that police were trying to locate up to 80 kg of semtex explosive.[19] In the subsequent trial of the eight arrested, in April 1997, the prosecution argued that the group was intending to destroy six major electricity substations around London, with the aim of disrupting electricity supplies for some months.[20]

In a further reversal for PIRA, British security forces shot dead one suspected member and arrested five others in operations in London and Sussex on 23 September 1996. They also discovered a very large amount of fertiliser-based explosives in a store in North London. The explosives totalled some 10 tons and were found with timers, semtex, equipment for making car bombs, two lorries, handguns, AK47 assault rifles and ammunition. It was estimated that the equipment was sufficient for five or six truck bombs and was probably a prelude to a major bombing campaign following on from the Canary Wharf, Hammersmith Bridge and Manchester bombs.[21]

Thus, the indications are that PIRA was intending to carry out a substantial and sustained series of operations in Britain, which, with the Manchester and Canary Wharf bombs, would have been collectively larger than the 1992–4 series.

During the latter part of 1996, there was a deterioration in community relations in Northern Ireland involving numerous arson attacks against Catholic churches, Orange halls and other sectarian targets. There were a number of PIRA actions against security forces but many were compromised, possibly by informers. One exception to this was the detonation of two large car bombs at Thiepval Army Barracks in Lisburn on 7 October, possibly a

demonstration of the capabilities of the organisation following its reversals in Britain. There was little PIRA activity in Britain from September 1996 to March 1997, prompting suggestions that the actions by security forces in July and September had substantially disrupted PIRA organisation in Britain.

The 1997 General Election campaign

During the course of the British General Election campaign in March and April 1997, PIRA successfully mounted a programme of disruption in Britain, directed mainly against transport targets. On this occasion, rather than utilising large bombs, the tactics involved the use of occasional small explosive devices directed against motorways or mainline railway routes, accompanied by a number of false alarms.

On 26 March, two small bombs exploded on a railway line at Wilmslow near Manchester, and false alarms were raised at Doncaster one of Britain's two main North-South railway routes. There was considerable disruption for several hours.[22] On 3 April, small bombs on the M6 motorway near Birmingham and false alarms affecting the M1 London-Leeds motorway resulted in traffic chaos,[23] and on 5 April, one of the premier sporting events in Britain, the Grand National horse race at Aintree Race Course near Liverpool, was postponed because of a coded warning of a bomb threat, later claimed by PIRA.[24] On 18 April, a bomb was detonated on the main railway line near Leeds, there were bomb warnings at Crewe and Doncaster causing disruption to Britain's two main North-South rail routes, and motorways were affected by other warnings.[25]

On 21 April, a number of bomb threats comprehensively disrupted rail, underground and air traffic in and near London[26] and, four days later, five motorways in the Midlands, as well as a subsidiary London airport at Luton were closed.[27] On this occasion, an attempt was made to blow up a high voltage electricity pylon close to a motorway near Birmingham. A separate incident in the same day closed the M1 motorway near Sheffield in South Yorkshire.[28] There was further disruption to motorways in Southeast England and the West Midlands on 29 April.[29]

The Sinn Fein newspaper, *An Phoblacht – Republican News,* claimed that transport disruption caused a minimum of £30 million losses, and quoted a freight Transport Association estimated that the cost of the campaign would eventually be £100 million.[30] Throughout the period of disruption, the only bombs exploded were small devices, which appeared to confirm that PIRA was not in a position to use large truck bombs, possibly because of the security force raids the previous September.

In summary, between April 1992 and April 1997, with a break of 17 months during the ceasefire, PIRA engaged in a sustained programme of economic targeting in Britain. While additional to other tactics, it represented a new direction for the organisation and caused damage exceeding £2,000 million. At the same time, it was conducted in a highly adverse security environment

and was subjected to repeated disruption by the British security forces. Although there were five major bomb attacks over the five year period, a further device failed to explode, three large bombs were intercepted, substantial quantities of explosives were uncovered, many alleged members of PIRA were arrested and a number were brought to trial.

Nevertheless, a substantially new strategy had been employed and it is appropriate to analyse this in the context both of international trends in paramilitary activity and of a more theoretical assessment of the potential effects of economic targeting.

Experience of international paramilitary activities relevant to economic targeting

Examining aspects of other paramilitary activities which involve elements of economic targeting is a substantial task, with numerous organisations active since the 1980s, especially in Europe, the Middle East and South Asia. Many groups have targeted major centres of power and influence, whether in Beirut or Bologna, Buenos Aires or Tel Aviv, with the economic impact secondary to other aims. There have also been periods in recent history where particular kinds of terrorist activity have been prevalent which have involved a measure of economic targeting. While the extensive hijacking of commercial aircraft during the late 1960s and early 1970s was principally designed for publicity purposes, its impact on the world airline industry was considerable and costly.

There have also been occasions where business centres have been attacked and individual business leaders targeted for kidnapping, kneecapping or assassination. This has resulted most commonly from the activities of radical left-wing groups in Europe and elsewhere. In France, for example, Action Directe targeted business people and financial institutions. Their actions included a bomb attack on the European headquarters of the World Bank in Paris in 1982, and the assassination of the Chairman of Renault, Georges Besse, in 1986.

The Brigate Rosse (Red Brigade), active in Italy in the 1970s and 1980s, conducted the majority of their operations against Italian business targets, including kneecappings and assassinations. They also specialised in business kidnapping, extorting many millions of dollars in ransoms. The German Red Army Faction (known also as the Baader-Meinhof Gang) also targeted the business community, including the kidnapping of Hans-Martin Schleyer in 1977, the murders of Deutsche Bank Chairman Alfred Herrhausen in 1989 and Detlev Rohwedder in 1991.

Outside of Europe, one of the most protracted insurgencies has been the Sendero Luminoso (SL – 'Shining Path') quasi-Maoist guerrilla army in Peru, noted for its brutal insurgency, frequently matched by Peruvian army responses. SL has repeatedly targeted aspects of the Peruvian economy, with particular attempts at wealthy sectors of society. To mark the first 100 days of emergency rule brought in by President Alberto Fujimori in 1992, SL

exploded two car bombs in a wealthy quarter of Lima, killing 18 and wounding 140. Overall, 15 years of SL insurgency (and government response) from 1980 to 1995 resulted in around 25,000 deaths and $22 billion of damage to the Peruvian economy.[31]

In the United States, an attack by anti-federal libertarian elements on the Alfred P. Murrah federal government office block in Oklahoma City demonstrated the ease with which unprotected buildings could be destroyed. Here again, though, the intention was specifically to cause maximum casualties, an aspect of paramilitary action that did not form a significant part of the PIRA strategy during the 1990s.

Assassination and kidnapping of business people have also played a relatively minor part in PIRA strategy, and it is the concentration on more direct economic targeting that is particularly relevant. For the purposes of the present analysis, four examples are worth examining, although it should be emphasised that all of them were intended to cause substantial loss of life and one succeeded in this aim. While not all of the incidents focused on economic targeting, elements of them do serve to demonstrate some of the vulnerabilities of a modern industrialised state. The incidents are the Tokyo subway gas attack, the Air France hijack in Algiers, the attack on the Colombo central business district by the Tamil Tigers and the World Trade Centre bombing in New York.

In the Tokyo subway attack on 20 March 1995, members of the Aum Shinrikyo religious sect released sarin nerve gas at sixteen points on the subway system, killing twelve people and affecting 5,500, some of them seriously. The intention was to cause large numbers of casualties and the effect on business confidence would have been extreme had the nerve gas attack worked as intended. However, the attack was undertaken in haste and the subway ventilation system was more effective in dispersing the gas than anticipated.[32]

French experience of paramilitary activity by Algerian radicals is also relevant. While the seven-year conflict has been devastating within Algeria, it has also affected France as radical groups have perceived the French authorities as giving support to the Algerian Government. As a result, there have been bomb attacks in France often directed at the Paris Metro, together with a more extreme incident involving an attempted large-scale attack on Paris.

This attack commenced with the hijacking of an Air France Airbus A300 on 24 December 1994. Three of the 239 passengers and crew were subsequently killed but sixty-three were released. While refuelling at Marseilles, the plane was attacked by French counter-terrorist forces and the hijackers killed. It was later reported that the intention had been a suicide attack with the plane on Paris, killing the hijackers, the passengers and crew and, in all probability, many people on the ground. The relevance of this incident is again the vulnerability of major cities to unconventional paramilitary action

and it is worth noting that the conflict in Algeria itself has included the use of large bombs against commercial targets and with the press and broadcast media singled out as particular targets.

The conflict between the state of Sri Lanka and the Liberation Tigers of Tamil Eelam (LTTE) started in 1983, and has been one of the most bitter internal conflicts since the 1950s. In October 1995, the Sri Lankan army attempted to oust LTTE from its core stronghold of Jaffna. While apparently successful, the LTTE regrouped in other areas and increased its guerrilla attacks on other aspects of Sri Lankan society, with an increased emphasis on economic targeting, including energy resources.

The most substantial attack came on 31 January 1996, when a suicide bomber drove a truck bomb into the entrance to the Central Bank at the heart of Colombo's business district (CBD). Nearly 100 people were killed and 1,400 injured, and many key buildings were destroyed or severely damaged, including the bank itself, the Celinko Insurance Building, the Air Lanka offices, the Ceylon Hotels Corporation building, the Bank of Ceylon and several hotels.[33]

The bombing of the Colombo CBD had a profound effect on business confidence in Sri Lanka, especially among the expatriate business community and international investors. Although the government sought to minimise the effect, analysts expected the incident, and other LTTE attacks, to have a considerable impact on potential inward investment into Sri Lanka.

The Colombo LTTE bombing is probably the most effective example of economic targeting in recent years, but would have been far less significant in its impact than the bombing of the New York World Trade Centre (WTC) in 1993, had that latter attack succeeded in its original aim. The WTC is a seven-building complex, the western part comprising two very large office towers, each some 400 metres high, linked by the Vista Hotel.

In this incident, on 26 February 1993, a large van bomb was detonated by a radical Islamic group in the underground car park at the Centre, close to the south wall of the North Tower. The intention was to collapse the North Tower over the Vista Hotel and into the South Tower. If it had succeeded, one of the world's largest commercial centres would have been destroyed and the death toll would have been around 30,000, the most devastating attack since the atom bombing of Nagasaki in August 1945.

In the event, damage was massive, six people were killed and over a thousand injured. The whole complex survived destruction, although the Vista Hotel was made safe only through exceptionally skilful emergency engineering work.[34] Because the attack failed in its main purpose, it attracted relatively little international attention, although it had a considerable impact within security circles in the US and caused a review of security in high-rise buildings throughout North America. Along with the PIRA city centre bombs in Britain and the LTTE bomb in Colombo, it illustrates the capacity for individual attacks to have profound implications for commercial activity.

Paramilitary action and economic targeting in interstate warfare

Paramilitary targeting of an economy, especially the PIRA experience, can be further analysed if consideration is given to the manner in which economic targeting is undertaken at times of interstate warfare. While the parallels are far from complete, the much greater experience available concerning economic targeting in this wider context is useful in examining paramilitary activity.

In relation to economic targeting there are two broad differences between interstate warfare and paramilitary organisations engaged in political violence within a state. The first is that, in interstate warfare, economic targeting is just one part of a wider targeting of all major aspects of a state's war-fighting capability and potential. Moreover, it is usually secondary to the more immediate requirement to target directly war-relevant facilities. While a paramilitary organisation may ordinarily target the political leadership together with the military and police forces of the state, if circumstances dictate that economic targeting is an appropriate strategy, then it may become the central plank of the organisation's strategy.

The second is that paramilitary action normally involves a very limited targeting capability, whereas interstate war involves large quantities of ordnance. Even so, there are a number of features of interstate economic targeting which are relevant to the actions of paramilitary groups such as PIRA, and give a useful indication of the economic vulnerabilities of modern industrialised states.

One aspect relates to the Cold War policy of targeting post-war recovery capabilities, the systematic destruction of the underlying economic structure of a state as well as its military and command forces. As a result, target lists were developed that allowed the destruction of those aspects of a state's economic activity that were key to its recovery and redevelopment as a significant industrial power and potential competitor after a nuclear war. The broad details of such targeting have been discussed in the specialist military literature (and summarised in Chapter 1 of this volume) and are relevant to the present discussion.[35] They assumed the prior destruction of major war-related industries and administration as well as airfields and ports. In relation to economic recovery, four further groups of targets were significant:

1   Political and commercial leadership and administration. This included any centres of political and economic authority or organisation not already targeted in other contexts, including business districts of no direct military significance.
2   Energy and raw material resources. These included primary energy resources such as oil, gas and coal fields, and major mineral mines, together with secondary energy resources such as large generating plants, whether fossil fuel, nuclear or hydroelectric, although the risks of targeting nuclear power plants were recognised, as Chernobyl was to show in another context.

3   Communications facilities. These included telecommunications systems such as telephone and microwave complexes, together with radio and television transmitters and production centres and major satellite communications terminals.
4   Transport facilities. These were in addition to airports and seaports, and mainly comprised the most significant junctions, interchanges and major bridges, principally roads, but also rail links and even, in some countries, canal routes.

Further indications of economic targeting priorities are given by the kinds of conventional targeting strategies used in recent wars, although most of them are not wholly relevant to a modern urban/industrial state as they have involved dispersed and primarily rural states such as Vietnam and Afghanistan. The 1991 Gulf War was an exception and is worthy of note, as it is clear that a subsidiary aim of the coalition's Desert Storm bombing campaign was to cause long-term damage to the Iraqi economy, making it more difficult for the country to rebuild its potential to be a threat to neighbouring states and Western interests in the region.

Once again, while the coalition bombing campaign was directed primarily at military and leadership targets, there were elements of the wider strategy relevant to the present discussion. Throughout the war, considerable emphasis was placed on disrupting road transport, principally with systematic air attacks on major river crossings. Telecommunications and energy supply facilities were repeatedly targeted, and novel methods were devised to disrupt electricity distribution.

One particular weapon was a modification of the sea-launched cruise missile. Instead of the normal high explosive warhead, one version was fitted with masses of carbon fibre filaments that were dispersed over a target by a small burster charge. These warheads were detonated over electricity distribution centres, the carbon fibres floating down to short-circuit the centres. Protracted disruption of electricity supplies had a profound effect on Iraq, leading in turn to problems of drinking water supply, drainage and sewage disposal which lasted well beyond the end of the war.

Targeting of the economy in the Gulf War is considered to have had a crippling effect on Iraq, greatly delaying its post-war recovery. While it may have delayed the re-emergence of Iraq as a regional actor, it had a severe effect on public health, with a marked increase in infant and child mortality rates in the months and years after the war.

More recently, the NATO campaign against Serbia, aiming at forcing the withdrawal of Serb military and paramilitary forces from Kosovo in early 1999, also developed into a sustained campaign against the Serbian economy. Because of the concealment, protection and dispersal of Serb forces, and the reluctance of NATO to engage in low altitude airstrikes, it proved very difficult to disrupt Serb military forces, whereas the ability to target the

Serbian economy with air- and sea-launched cruise missiles, precision guided bombs delivered by B-2 and F-117A and other aircraft was far greater.

During the 11-week war, numerous transport, communications and energy resource targets were hit, together with a wide range of industrial targets, and, as in Iraq, specialised munitions were used to disrupt power supplies. During the course of the war, NATO representatives sought to minimise publicity about the use of economic targeting, but significantly more information became available later in the year. According to one estimate from a respected source, the damage inflicted on the Serbian economy by the NATO action was costed at $60 billion, leading to a 40 per cent decrease in the real GDP in 1999 and reducing Serbia to the status of the poorest country in Europe[36] (see also Chapter 5 of this volume).

Assessing the impact of PIRA economic targeting

This discussion of economic targeting in interstate warfare is of value in providing some general parameters with regard to the weak points in a modern urban economy. In addition to central business districts, these are principally energy supplies, telecommunications and transport. For the latter, 'choke points' are particularly attractive targets.[37]

At the same time, as already mentioned, the most important difference with regard to economic targeting as an aspect of paramilitary action is that there will normally be a severe limit on the quantities of explosives likely to be available to the group concerned, security at the most important centres of economic activity can be maintained at a high level, and the paramilitary group will probably be operating in an adverse environment, with security forces intent on interception. Given such limitations, how does PIRA activity in Britain in the period 1992–7 match up to the economic vulnerabilities of the British state?

Britain's financial activities are concentrated in central London and its secondary business district in docklands, and, to a much lesser extent, in the cities of Manchester, Birmingham and Leeds in England, Glasgow and Edinburgh in Scotland, and Cardiff in Wales. Given that PIRA activity in Britain has been almost entirely an anti-English activity, with very little action taken in Wales and Scotland, it would be unlikely that these cities would be major targets for anti-CBD bombs. Birmingham would be an unlikely target, with its memories of the 1974 pub bombings likely to incite considerable hostility to the republican cause. In the event, PIRA anti-CBD activity was initially directed against the London CBD and later extended to docklands and eventually to Manchester, probably a reaction to the increasing difficulty of operating in London. Thus, as targets became better protected, easier targets were chosen.

Britain's energy supplies stem primarily from oil, coal and natural gas, with nuclear power and hydroelectricity being subsidiary sources. Oil is either imported or brought ashore from offshore fields at a number of locations,

there are several major refineries and a complex network of pipelines and road and rail distribution systems. The entire distribution system is relatively dispersed, and although the destruction of any one part of it would be spectacular, its direct impact would be small. Refineries are spread over a large area, and tank farms are designed to isolate individual fires or explosions. Pipelines have a number of emergency cut-offs, and even damage to a major pipeline or pumping or distribution station would be capable of reasonably rapid repair.

The natural gas supply system is essentially hierarchical, from a small number of onshore access points for offshore fields and then through a national pipeline distribution system. Again, the system is designed to be resistant to major accident, which also gives it a resilience to paramilitary activity. There have been a few examples of PIRA attempts at hydrocarbon facilities, but they have been of minor significance.

Electricity in Britain is produced at well over fifty generating stations using coal, oil, gas, nuclear or hydropower. While there are significant concentrations of generating capacity, for example in the East Midlands and Yorkshire, an attack on any one generating station would have little impact on national supply. This is distributed through a national grid network of power cables that is not hierarchical. For the great majority of each year, the grid system works well below its design capacity, this only being approached during severe winter weather.

Even then, the grid nature of the system makes it difficult for a paramilitary group to target, unless it can succeed in detonating a number of substantial devices, either to bring down power lines throughout much of the system, or else by damaging major switching stations. Even so, at least one attempt was made by PIRA to bring down power lines in the West Midlands. Furthermore a substantial attack on the major switching stations around London was being planned, designed to overcome the strengths of the system and black out electricity supplies throughout London. This was prevented when the PIRA active service unit engaged in the operation was intercepted by security forces.

Britain's telecommunications systems were relatively dispersed during the early and mid-1990s (and are even more so with the advent of cellular phones), relying on microwave, fibre-optic and other systems. Radio and television broadcasting systems do involve a small number of high-powered transmitters, usually operating from 200 to 350 metre-high transmitting towers, and the destruction of any of these towers might have appeared attractive to PIRA, at least in symbolic terms. However, disruption would be temporary at most. In 1969, one of the two tallest transmitting towers in Britain, at Emley Moor in West Yorkshire, experienced catastrophic failure and collapse as a result of icing brought on by freak weather conditions. Within four days, a temporary mast had been erected and transmissions resumed.

Road, rail and air transport were all subject to disruption by PIRA activity, both during the 1992–7 period and at other times. The main rail routes in

Britain radiate from London, with the most important routes being the two north-south routes: the East Coast and West Coast main lines. The main motorway routes are broadly similar in layout, with two routes, the M6 and M1, carrying most traffic. Air traffic is dominated by London Heathrow, followed by London Gatwick and Manchester. Security has been relatively high at airports since the hijackings of the 1960s and 1970s, although three unsuccessful mortar attacks were made against London Heathrow in 1994.

Road and rail routes have numerous choke points. In the case of railways, these are the major terminals and a few interchange junctions such as Birmingham New Street, Leeds and Doncaster. PIRA frequently used small bombs or false alarms to disrupt rail terminals, both in London and in provincial cities. During the 1997 election, PIRA succeeded in temporarily closing both main north-south rail routes, and, at different times, closed Birmingham New Street, Leeds and Doncaster stations.

Most road choke points comprise major intersections, bridges or elevated sections. PIRA bombed the M1/North Circular Road junction in North London in 1992, attempted to destroy Hammersmith Bridge in 1996, and used a small device to disrupt an elevated section of the M6 near Birmingham the following year. During the general election campaign of 1997, it also used frequent false alarms to cause wholesale disruption to many parts of the network.

Overall, it is reasonable to conclude that the Provisional IRA had developed a rather sophisticated understanding of the weak points in the British economy in relation to the limited resources available to the organisation and the adverse security environment in which it was operating. For some five years, interrupted by an 18-month ceasefire, it engaged in a programme of economic targeting in Britain that concentrated on those two aspects of the economy most susceptible to its limited paramilitary capabilities – central business districts and transport systems. It affected the former using large truck bombs, and the latter principally by using small devices and frequent false alarms to cause disruption. The city-centre bombs caused considerable damage and long-term disruption, the transport interruptions were mostly short term but severe. The bombing and disruption to transport during the 1997 general election was probably intended to concentrate the minds of the incoming administration.

Evidence given in this chapter indicates the seriousness of the PIRA campaign for the British state, not least in terms of the action of the civic and business communities in London, and the British government's concern to seek a political settlement, both after the breakdown of the ceasefire in 1996 and after the 1997 general election.

It is worth noting, however, that the PIRA campaign over the 1992–7 period was intended to be far more substantial than was actually the case. Prior to the ceasefire, only three of the six powerful devices intended for use were successfully detonated. In the 1996–7 campaign, reversals for PIRA were even more substantial. While two large bombs were detonated, in East

London and Manchester, the Hammersmith Bridge bomb failed to explode, two active service units were disrupted, a major attack on London's electricity supplies was averted and material for at least five large bombs was recovered.

Overall, significantly less than half of PIRA's intended 'large bomb' campaign was implemented. If the security forces had been less successful, the political impact of the 1992–7 campaign might have been substantially greater. Even as it stands, the PIRA experience during this period is significant as a facet of paramilitary violence against states.

Of the other examples discussed, two points may be made. One is that they were not all examples purely of economic targeting. The LTTE attack certainly had this feature, and it can be argued that the World Trade Centre bomb, if it had succeeded, would have had a very substantial economic impact, as well as the symbolic impact of the destruction of such a well-known building complex. The Tokyo and Paris incidents would also have been notable in economic terms, and many of the other examples mentioned had an element of economic effect, whatever the other intentions of the paramilitary groups concerned.

The PIRA example, in particular, does tend to show that a modern industrial state is vulnerable to economic targeting by a determined and resourceful paramilitary group, and that such a campaign can have both an organisational and political impact. The question remains whether the PIRA example will have an effect on other groups.

Such a question can be viewed in three ways. On the one hand, as Hoffman has argued,[38] paramilitary groups do tend to be fairly conservative in their tactics, developing particular 'styles' of activity, whether these be the use of bombs, assassinations, hijackings or other methods that are broadly peculiar to individual movements. Against this, there is abundant evidence that paramilitary groups maintain linkages, in addition to any state sponsorship of paramilitary action that might involve a degree of co-ordinated training that includes learning from the experience of particular groups.

Perhaps the most interesting aspect of the PIRA campaign is not that it was an example of economic targeting, but that it may eventually be seen to have contributed to the recognition by non-state actors of the points of vulnerability of a state, especially the selection of targets that are significant to a state but are not easily protected. The United States has experienced this in the bombing of the Alfred P. Murrah building in Oklahoma City and in the attacks on US embassies in Nairobi and Dar es Salaam in 1998. There is, though, a more significant if less well-known example than both of these incidents, one that had both a strategic and economic effect – the bombing of the Khobar Towers barracks complex in Saudi Arabia in 1996.

Following the Gulf War of 1991, the United States maintained substantial military forces in Saudi Arabia, with much of the activity centred on the military base at Dhahran. On the evening of 27 June 1996, a sewage disposal tanker containing nearly 10 tonnes of explosive was backed up to a perimeter fence in front of the Khobar Towers accommodation block housing US

personnel. The bomb exploded like a shaped charge, demolishing the front of the block, killing nineteen Americans and injuring 500.

As a result of the attack, the decision was taken to relocate a substantial part of US military resources to a new base in the Saudi interior, built around a temporary air base previously constructed at the time of the Gulf War. Within six months, Prince Sultan Air Base had over 4,000 US troops based there, within a 35-km perimeter protected by a series of high security barriers and patrolled by a force of 400 guards. The complex was reported to have cost $500 million, but was considered necessary to provide adequate protection for the US forces based in Saudi Arabia.[39]

The Khobar Towers bombing, like the PIRA campaign, the US Embassy bombings, the World Trade Centre incident and others, can all be considered examples of asymmetric warfare in which relatively small paramilitary groups can have a pronounced effect on an otherwise powerful state. This entire discussion, though, has been concerned with the use of conventional military technologies, with the one exception of the Tokyo subway nerve agent attack. If we were to extend this discussion to embrace nuclear, chemical, biological or radiological weapons, then the potential for economic targeting, as well as action against political centres of state power, would be substantially increased.

Of the four classes of weapons of mass destruction, the nuclear option is least likely to be available to a paramilitary group, but a chemical warfare agent has already been used, in Tokyo. Both radiological and biological weapons require quite sophisticated technologies for development, but certain categories of either class of weapon could have a long-term contaminating effect on a target, and a central business district contaminated with persistent radiological material or with anthrax spores, could be unusable for months or years, with a formidable economic effect.

Furthermore, examples of narrowly directed attacks have already been considered within the defence community. In 1995, a planning exercise conducted at the US Department of Defense was based on a scenario in which quantities of anthrax spores were introduced into the ventilation system of the New York Stock Exchange. The intention was to infect and kill the people who ran the world's largest stock exchange, causing considerable disruption to the US and international economies.[40]

The PIRA economic targeting campaign of the mid-1990s was intended to have a substantial economic cost without intentionally causing mass casualties. Even with this limitation, it had a considerable effect. Future campaigns by other paramilitary groups in other circumstances may have far greater human as well as economic costs. As an example of paramilitary targeting, the PIRA campaign had many significant features. It is certainly reasonable to conclude that it was one of the most notable paramilitary activities of the late twentieth century and a pointer to the vulnerability of modern urban-industrial states to asymmetric warfare in the early twenty-first century.[41]

Part IV

After 9/11

Introduction

A few months after the 9/11 attacks, an early attempt was made to assess the reasons behind the vigorous US military response and the possible consequences. This was published as a chapter in a new edition of an earlier book[1] and is reproduced here as Chapter 9. Although the termination of the Taliban regime was still a recent event, the essay argued that the strength of the US reaction was an example of the need to regain control of an international environment that had so unexpectedly produced such a calamitous attack.

The idea of US leadership that would amount to a New American Century had appeared to make substantial progress in the early months of the Bush administration with the neo-conservatives particularly strong in the areas of foreign policy and military posture. In such a context it was believed to be absolutely essential to respond rapidly to the activities of the al-Qaida movement and the Taliban regime that had harboured it. Furthermore, by early 2002 President Bush had identified an 'axis of evil' incorporating Iraq, Iran and North Korea, and there was already evidence that the United States would move towards regime termination in Iraq.

That termination of the Saddam Hussein regime commenced in late March 2003 and appeared initially to meet with considerable success, the regime collapsing within three weeks. Within a year, though, a substantial insurgency was developing, the coalition led by the United States was beginning to fracture and there seemed a prospect of a drawn out conflict.

Even though the Iraq War proved so intractable and resulted in a degree of violence and insecurity that surpassed the expectations of even the most pessimistic analyst, this did not erode the belief that Iran presented an even greater problem and could not be allowed to have even the capacity to develop nuclear weapons. In the worst case, a crisis with Iran could extend to military action by the United States or Israel, or perhaps a combination of both. Chapter 10, written in 2006 before the Israeli defeat in southern Lebanon, assessed the possible consequences of a war with Iran and argued that the resulting instability made it eminently wise to rule out military action as a means of approaching the issue of Iranian nuclear ambitions.

In the final part of this collection, a more general analysis of the first five years of the war on terror will be undertaken, concentrating principally on

Afghanistan, Iraq and the al-Qaida movement. This will be followed by an essay that seeks to place these first five years in the wider context of long-term trends in global security and the need to seek an approach based on sustainable security.

9   11 September and the New American Century (2002)

The first edition of *Losing Control,* written during the period up to March 2000, argued that the Western security paradigm was, in essence, that international security could best be maintained by the continuation of a globalised liberal market economy, supported by a range of institutional and security organisations. The paradigm recognised the increasing volatility and unpredictability of a global security system in which the near-certainties of the Cold War confrontation had been replaced by a 'violent peace', with conflicts continuing across most regions of the world. Even so, it was thought that military postures were adequate to handle this uncertain world and that Western society would continue to benefit from its dominance of the international economic and financial systems.

This paradigm was questioned, both in terms of the changing causes of conflict and the ability to maintain control. In essence, the argument was presented that an elite world, focused mainly on the states of the North Atlantic community, was essentially unstable. Two 'drivers' of insecurity were developing – the widening socio-economic divide and the problem of global environmental constraints. These would be likely to lead, in different ways, to much greater problems relating to issues of migration, to a greater likelihood of different forms of environmental conflict and, above all, to the development of anti-elite insurgencies and paramilitary actions, some of them transnational in their effect.

In particular, attention was drawn to the increasing capacity of relatively weak groups, whether in the form of states or sub-state actors, to take action against the perceived vulnerabilities of advanced industrial states. In examining this capacity, two types of example were cited (Chapter 8). One was the manner in which Iraq sought to develop a deterrent system based on weapons of mass destruction, and was able to do so in the case of biological weapons in a remarkably short space of time. The other was the development of a range of paramilitary actions resulting in political violence such as the bombing of the Colombo central business district by the LTTE (Tamil Tigers), the Tokyo subway nerve agent attack, the use of economic targeting by the Provisional IRA, the attack on US military and diplomatic interests in the Middle East and East Africa, and the attempt to destroy the World Trade Center in New York in 1993.

The argument was made that the full impact of these events had not been properly appreciated and that they demonstrated a potential vulnerability of Western elite systems to 'revolts from the margins'. Furthermore, they showed that it might prove impossible to maintain control of a potentially unstable world system, that keeping the lid on dissent, 'liddism', might be singularly inappropriate, contriving to increase violence and insecurity rather than diminish them.

If this analysis was correct, then it suggested that the Western security paradigm should best evolve into a posture that encouraged the addressing of the core problems, seeking to aid economic co-operation for sustainable development, coupled with global environmental management and decreased reliance on military approaches to international security. In the final chapter, a number of indications were given as to an appropriate agenda, and a hopeful note was sounded that a combination of citizen groups in Northern and Southern countries, coupled with effective leadership in some Northern states, might ensure that the old security paradigm could be replaced by one that was more in the interests of the global community as a whole.

In making this case, it was argued that such an approach was ethically more acceptable than current patterns that tend to increase socio-economic divisions and environmental instability. However, it was also argued that this should not, in any way, be regarded as a solely idealistic approach – if the existing security paradigm was inadequate then it was also a matter of self-interest to Western elites that they engage in approaches that would yield a more just and stable world.

Although the analysis presented a number of examples where such thinking was beginning to encroach on Western political cultures, it also expressed the fear that there were exceptionally powerful arguments against such optimism. In particular, it was suggested that perceptions of Western vulnerability might well reinforce the existing paradigm, making it appear even more necessary to maintain control rather than addressing core issues of instability and conflict.

The attempt to destroy the New York World Trade Center in 1993 was cited as an example in this context, and it was suggested that if the attempt had succeeded, than it might not have resulted in any fundamental questioning of the paradigm:

> Take, once again, the case of the World Trade Center bombing. If that attack had had its intended effect, the results would have been calamitous, not just for the City of New York but for the United States as a whole. But would it have resulted in any rethinking of security? Probably not. A more likely result would have been a massive and violent military reaction against any groups anywhere in the Middle East that were thought to have even the slightest connection with the attack.

(Chapter 8)

That 1993 attack was intended to collapse the North Tower across the Vista Hotel and into the South Tower, bringing about the destruction of the entire complex, and causing the deaths of perhaps 30,000 people. The 2001 attack used two passenger jets instead of bombs, and while the effects were less devastating, both towers collapsed and 3,000 people died.

In presenting the analysis (in 1999) it was anticipated that problems of marginalisation, environmental constraints and anti-elite action would develop over a number of years, perhaps over one or two decades, and that there was not necessarily likely to be any immediacy of events that would bring the issues more rapidly to the fore. That is not how things have worked out in the two years since 2000, and the purpose of this chapter is to review the rapid pace of events, especially in relation to the attacks in New York and Washington on 11 September 2001 and the subsequent 'war on terrorism', and to assess whether these make it more likely that the existing Western security paradigm will be strengthened or whether they will encourage a substantial change in Western approaches to international security.

Although the focus in this chapter will be primarily on these events, it is appropriate to mention that other developments do relate to the argument such as the anti-globalisation actions at the World Trade Organisation meeting in Seattle in 1999. On that and other occasions at the end of the 1990s, a crack began to appear in the edifice of Western economic control. A combination of non-violent demonstrations and a small element of violent activists had substantial effects on later meetings of international financial institutions in Washington and Prague, culminating in substantial demonstrations, and rioting, at the meeting of the Group of Eight in Genoa, Italy, in 2001.

Behind these public demonstrations of opposition there was a far greater perception that a North–South rift was developing. There was, for example, continued opposition to the planned Multilateral Agreement on Investments, and a wider concern that trade in intellectual property rights would act against the interests of Southern states. Even after the traumatic events of 11 September, there were some Western commentators who were able to say in public that it would be necessary to address the root causes of political violence and that configuring the response to the attacks as a 'war on terrorism' would prove inadequate.

Beyond this lay an unease, even permeating through to some of the elements of Western political leadership, a recognition that liberal market globalisation might not be delivering economic justice. It was not expressed in such blunt terms, but it was recognised that the expected improvements in international development were simply not happening. Moreover, there was a clear recognition in Europe, at least, that the issues of the global environment were rising up the political agenda, especially in terms of climate change.

Similarly, on the issue of migration, a range of events suggested that this, too, was being seen as a major international issue. In Europe this took the form of a greatly increased concern over migratory pressures into Western Europe, not least in relation to asylum seekers desperate for entry into Britain.

In Southeast Asia there was a dramatic illustration of such pressures, late in 2001, when the Australian Navy intercepted a cargo vessel bound for an Australian port after it had rescued several hundred refugees from a sinking ferry. Despite considerable international pressure, the Australian government, facing a general election, refused even to allow the refugees to land on Christmas Island and they were eventually transferred to the tiny state of Nauru in the West Pacific.

While these and other events in 1999–2001 serve broadly to strengthen the arguments presented here, it is the attacks in New York and Washington that are greatly more significant. Their impact, not least in the context of the pre-existing defence and foreign policies of the Bush administration, is likely to be profound until 2010 and beyond, having a considerable effect on the prospects for changes to the Western security paradigm.

The impact of 11 September

On 11 September 2001, four large passenger aircraft were hijacked after taking off on internal flights from airports in the Eastern United States. Two of the planes were flown into the twin towers of the New York World Trade Center, one crashed into the headquarters of the US Department of Defense, the Pentagon building in Washington, and a fourth crashed in open country, apparently after a struggle between some of the passengers and the hijackers.

The fires that followed the crashes in New York caused the collapse of both of the towers of the World Trade Center, as well as the almost complete destruction of the other five buildings in the complex together with neighbouring tower blocks. The aircraft that hit the Pentagon crashed into part of the building where a renovation was being completed. It was not yet fully reoccupied, but nearly 200 people were killed in addition to all of those on the plane.

Although the great majority of the building survived, fires continued for several days, and reconstruction costs were subsequently estimated at $500 million. Within the US military, though, the impact was much greater, especially in the Navy, whose personnel had been occupying that part of the Pentagon. More generally, the fact that such an attack could be staged on the centre of US military power, and in such a manner, caused both shock and consternation.

Over the previous 20 years, US military forces deployed overseas had experienced numerous security problems. From the bombing of the marines barracks at Beirut airport in 1983 through the disastrous experience in Somalia in 1993 to the Khobar Towers and *USS Cole* attacks in more recent years, there had been an experience of antagonism to overseas deployments, but none of these compared with the attack on the Pentagon. That this building could be subject to such devastation through the actions of hijackers equipped only with knives showed a security weakness that was deeply worrying.

While this had its impact on the US military, and also demonstrated the innate vulnerability of federal buildings in Washington, it was overshadowed by the sheer destruction in New York, the impact of which was to have a profound effect on American perceptions of their own security. This, in turn, was to lend exceptionally strong support to the Bush administration in its chosen response to the atrocities.

When the World Trade Center was completed in the early 1970s, it represented a remarkably concrete and visible symbol of US business prowess and capabilities. The twin towers were then the tallest buildings in the world, but they represented much more than this. Most US and foreign tourists visiting New York would go to the top of one of the towers, the seven-building complex housed a remarkable array of commercial and financial enterprises, and the towers themselves dominated the whole of central Manhattan. They were, for Americans, the most significant buildings of the post-war era.

The impact of the attacks was heightened by their nature, and by the subsequent sequence of events. After the first plane hit the North Tower, network television covered the attack on the South Tower and, by the time the towers collapsed, the disaster was being watched across the country by scores of millions of Americans. The impact was profound and is still not fully appreciated outside of the United States. Initial estimates spoke of a likely death toll exceeding 10,000. That it turned out to be much less was little consolation as it still represented the most sudden and unexpected attack since Pearl Harbour in 1941.

The reaction was inevitable and predictable. America was under terrorist attack, initially by unknown paramilitaries, and a strong response was expected. But this response would be undertaken by an administration that had only been in office for eight months and was markedly different from its predecessor. The Bush administration had won an extraordinarily narrow victory at the polls, dependent on questionable results in the state of Florida, and had been expected, as a result, to adopt a rather consensual approach to policy formulation.

Within a very few months of taking office, this had been shown not to be the case – a range of policies were demonstrating a markedly right-wing orientation, both domestically and in terms of international relations. That this was the case owed much to the manner in which such policies had been under development prior to the 2000 election, and these, in turn, were to have a substantial impact on the response to 11 September.

The Republican security agenda at the turn of the century

During the late 1990s, with the Republican control of both Houses of Congress, aspects of US foreign and security policy demonstrated an increasingly conservative agenda. On issues within the responsibility of the presidency, there were notable exceptions, not least the persistent attempts to get a

settlement between the Israelis and the Palestinians. On other issues, the changing agenda was clear-cut. The Senate was not prepared to ratify the Comprehensive Test Ban Treaty for nuclear weapons, even though an impressive array of states, including close allies of the United States, were in favour.

On several other issues there were indications of the developing agenda. They included opposition to aspects of the proposed international ban on land mines and marked opposition to the establishment of an independent international criminal court. Another issue, climate change, was potentially divisive between the United States and a number of European governments, where the latter were in favour of adopting the Kyoto protocols on the release of greenhouse gases, in marked contrast to the majority view in Congress.

More generally, there was a foreign and security policy agenda being developed by a number of right-wing think tanks and interest groups that indicated that an incoming Bush administration would take a strongly conservative line on many issues. In relation to this, there was a significant parallel with the situation in the United States some 20 years previously.

In the late 1970s, during the latter stages of the presidency of Jimmy Carter, there developed a strong view in Republican circles that it was essential to equip the United States much more strongly in its confrontation with the Soviet Union. Such circles were broadly antagonistic to the arms control agenda and took the view that the Soviet Union was involved in attempts to gain military superiority.

This general analysis was concentrated and publicised by groups such as the Committee on the Present Danger, the Heritage Foundation and High Frontier, and was boosted massively by the Soviet intervention in Afghanistan – proof positive, if any were needed, of the expansionist intentions of the Soviet Union. The Iranian revolution and subsequent hostage crisis was also seen as clear evidence of a weakening of the United States, and Ronald Reagan's election to the presidency was accompanied by a strong rhetoric of 're-arming America'. Many of those involved in the think tanks and interest groups went on to occupy significant positions in the Reagan administration, and formed part of the political process that resulted in substantial increases in defence spending accompanied by more assertive military postures.

The comparison with the period 20 years later is significant. Although President Clinton won a second term in 1996, he was bitterly unpopular in Republican circles to an extent which is rare in US politics. One aspect of this unpopularity was the belief that he was not prepared to enable the United States to act sufficiently in its own security interests overseas. In part, the disaster in Somalia was one example of this. Another was the continuing and apparently insoluble confrontation with Iraq, and another was the belief that the US could find itself dragged into a long-term conflict in the Balkans.

More generally, there was a perception that the proliferation of missiles and weapons of mass destruction to 'rogue states' represented a threat to the continental United States. Furthermore, there was clear-cut evidence that

terrorists and their state sponsors were working against US interests, as shown by bomb attacks against US facilities in Saudi Arabia and the embassy bombings in Kenya and Tanzania.

But there was a wider and less clearly defined view that the United States was abrogating international leadership of a form that was in its own security interests. With the Cold War nearly ten years distant and Russia greatly weakened, there was still a potential challenge from China, as well as diverse threats from states and sub-state actors.

Furthermore, even the success of the global free market was being called into question, both by anti-globalisation protestors and even by some Southern states. In short, where the world desperately needed US leadership to demonstrate the innate value of the Western style of economy and polity, what was on offer was a weak presidency prone to compromise.

The view of the liberal market economy was fundamental to this outlook. At root, this comes from a deep-seated conviction that there is only one economic system, itself set in one political context. The system is the globalised free market and the context is liberal democracy. That this is the only way is demonstrated by the collapse of the Soviet bloc and most other examples of centrally planned systems. There is, put simply, an implicit belief that there is no other way.

Furthermore, there was a significant element within conservative thinking that shared the belief that the United States has a historic mission to be a civilising force in world affairs. History is at an end in that, with the ending of the Cold War, the American way of life is predominant. This does not imply a direct neo-colonial control of the world, but more a shaping, through governmental, business and other processes, of a world economy and polity that is broadly in the US image. In other words, we can rightly look forward to the twenty-first century as an American century.

One of the most significant standard-bearers of the Republican Right, founded in 1997, is the *Project for the New American Century.* Its statement of principles asks: 'Does the United States have the resolve to shape a new century favourable to American principles and interests?' It believes that this is essential and that it is necessary 'to accept responsibility for America's unique role in preserving and extending an international order friendly to our security, our prosperity and our principles'.[1]

But this underlying thinking goes further than this, with a refusal, in the more forceful business and political circles, to accept that there *can* be any legitimate alternative. It is simply unthinkable, not least since to accept the possibility of alternatives implies that the dominant model might not be fully valid. There is thus, in this world view, a cultural assumption that no other approach is acceptable, and that any other approach must at least be deeply wrong-headed if not malign.

It is for this reason, in particular, that the attacks of 11 September are so significant, especially the destruction of the World Trade Center. It is not just that there was an appalling loss of life, that a key part of the US financial

structure was damaged and that Wall Street itself was forced to close for four days. The effects spread across a whole raft of US industries, causing economic damage sufficient to precipitate a major economic downturn. The attacks, in short, represented a real assault on the whole political, economic and security paradigm that had become central to the Bush administration.

The early months of the Bush administration

This move to a unilateralist stance in international relations became clear very early in the life of the administration, and came as something of a surprise to many observers. The nature of the Bush victory in November/December 2001 had been so close, dependent on a few hundred votes in a single state, that there had been an expectation that the administration would tend towards conciliation – developing its polices more in terms of a coalition across the mainstream of the political spectrum.

In the first few months, this notion was rapidly disabused, and it is worth noting that, as in 1980, the incoming administration included prominent members of those groups on the Republican Right that had been so committed to an assertive international stance. Supporters of the *Project on the New American Century* included incoming Vice-President Dick Cheney and the new Secretary of Defense Donald Rumsfeld.

During the course of the early part of 2001, there were numerous examples of foreign policy and security decisions that exhibited a strongly unilateralist stance, often in marked contrast to the attitudes of European allies. President Bush made it clear that the United States would pursue the development of a national missile defence programme, even if it meant withdrawing from the Anti-Ballistic Missile Treaty, that decision eventually being taken later in the year. There was opposition to UN conventions on the prevention of terrorism, and to the initiation of negotiations on the control of the weaponisation of space, and a markedly critical stance on the UN discussions on the control of light weapons.[2]

There were also clear changes of policy on two issues, the status of North Korea and the attempts to build an accord between the Israelis and Palestinians. In the case of North Korea, careful work by the Clinton administration, together with the historic summit between the leaders of North and South Korea, had suggested that North Korea might ultimately lose its status as a putative 'rogue state', but the attitude of the Bush administration, early in 2001, was to disengage from further negotiations. In relation to the Israeli-Palestinian confrontation, there was palpable disinterest, contrasted strongly with the efforts of the previous administration.

Perhaps most indicative of the new mood was the attitude to two key international agreements, the Kyoto accords on climate change and the negotiations in Geneva seeking to strengthen the Biological and Toxin Weapons Convention (BTWC), a treaty negotiated back in 1972 but lacking any real power of inspection or verification.

The decision to withdraw from the Kyoto Protocols was a considerable surprise to European allies, who eventually went on to continue the process without the United States. The effect, though, was deep-seated, and was the clearest sign that the new administration looked narrowly to its own domestic circumstances.

The developing opposition to the proposed protocol to strengthen the BTWC was much less in the public eye in Europe, but opinion leaders across Europe were thoroughly dismayed at the US attitude, especially as there had been more than six years of careful negotiation on one of the most difficult arms control issues of the late twentieth century.

All these indications of US unilateralism do not imply that such an approach is inevitable, but it does mean that the approach adopted in Washington was essentially based on a security outlook that sees many such treaties and proposals as ones that limit the capacity of the United States to ensure its security, imposing an international regime in which cheats may well prosper but the good guys are constrained.

This may not be seen as a conspiracy as such but, in an obviously unipolar world, lesser states seem intent on tying it down with a series of treaties that persistently limit its capacity to defend itself and its wider interests. This self-view goes even further. Much as Gulliver was tied down by the Lilliputians, so a mixed group of states seeks to limit a benevolent superpower in its efforts to ensure a peaceful world developing substantially in the American image. As one leading Republican writer, Charles Krauthammer, put it three months before the 11 September attacks:

> Multipolarity, yes, when there is no alternative. But not when there is. Not when we have the unique imbalance of power that we enjoy today – and that has given the international system a stability and essential tranquility it had not know for at least a century.
>
> The international environment is far more likely to enjoy peace under a single hegemon. Moreover, we are not just any hegemon. We run a uniquely benign imperium.[3]

This view, which lies at the heart of Republican thinking on international affairs, contrasts markedly with the multilateralist outlook, widely held among America's European allies and by much opinion in the United States itself. This believes that co-operative international behaviour, codified in treaties, is the cornerstone of a more stable and peaceful world order.

This is not to say that the United States, under the Bush administration, has become unilateralist in all things. As Krauthammer argues, where it is in US interests to have agreements, then they are acceptable. Thus, NATO may expand eastwards, the North American Free Trade Area is welcomed, and many aspects of world trade negotiations serve US interests. But the policy is highly selective and it fits a paradigm in which US security interests are paramount and that the only way to ensure peace and prosperity is for

the United States to have freedom of action, whatever the effects on the world in general and its allies in particular. Criticisms are unwarranted and short-sighted, for what is good for the United States is necessarily good for the world.

A transatlantic divide

The attitudes and policies that had become evident in the first few months of the Bush administration began, almost at once, to create discernible strains in transatlantic relations, even if most of the concerns felt by European political leaders have been expressed in private. Opinion formers and commentators across Europe expressed much more open dismay and consternation, and their views were exemplified in many areas of security and foreign policy where clear transatlantic differences began to emerge.

This was particularly noticeable in relation to the Kyoto Protocols, where European governments have remained in favour of continued negotiations, and in the support in Europe for the negotiations on biological weapons, but it came through in numerous other ways. As the United States withdrew its interest in negotiations with North Korea, the European Union dispatched a high-level group to the region in May 2000. In Europe, especially in Germany, there was a much greater sensitivity to Russian concerns over NATO enlargement, and to Chinese fears over national missile defence, and the European Union retained a stronger, if still inadequate, commitment to the Middle East peace process.

More generally, one of the effects of European enlargement has been to bring in countries such as Sweden, joining the Netherlands, Ireland and others that take a more progressive stance on a number of core international issues, not least climate change, the world debt crisis and conflict prevention and resolution. This adds to a longer-term European culture of co-operation that has developed since the end of the Second World War and results in a far greater salience for multilateral co-operation, even where agreements may not be to the short-term advantage of individual participants.

The response to 11 September

Across much of the world, the immediate response to the atrocities of 11 September was of strong sympathy for the United States. The full impact of the attacks caused considerable shock, not least because the twin towers were widely recognisable across the world.

Within days, there was an appreciation among many opinion formers, especially in Europe, that one effect of the attacks might be to encourage the United States to be highly co-operative in its response. It was immediately recognised that there would be comprehensive collaboration between security and intelligence agencies. It was also thought likely that the Bush administration would recognise that any successful attempts to bring the planners

of the attacks to justice would best be undertaken as part of a global process of co-operation. Such a process would also need to recognise that there were underlying reasons for the level of anti-Western and anti-American attitudes present, not least in the Middle East and Southwest Asia.

In the event, the US response to 11 September was singularly independent. A number of states co-operated in the war in Afghanistan, but they were surprisingly few in number and there was no doubt whatsoever that this was not a broadly based coalition of partners but a substantial military operation organised and commanded by the United States.

In the immediate aftermath of the attacks, attention focused on the al-Qaida network and its putative leader Osama bin Laden, but the refusal of the Taliban regime in Afghanistan to offer up the leadership to the United States, following several years of harbouring elements of the network, resulted in the United States developing two war aims – the destruction of the regime and of the al-Qaida network in Afghanistan.

The first phase of the war in Afghanistan lasted three months and resulted in the destruction of the Taliban regime and the dispersal of al-Qaida operatives then present in the country. There was an initial supposition that the United States would put substantial ground forces into the country, but the military tactics used took a very different root with three components. The first was the use of special forces to undertake reconnaissance and to identify targets for bombing, and the second was the use of a range of strike aircraft, especially strategic bombers, to destroy Taliban facilities and militia.

The third element, and the key to the whole war, was the use of anti-Taliban forces, especially the Northern Alliance, as ground troops to evict Taliban militia from all of their centres of power. In essence, this meant that the United States took sides in a long-running civil war, supporting a range of groups that themselves had had an appalling human rights record before the Taliban had progressively taken power in the mid- and late 1990s. In the process, large quantities of arms were provided to anti-Taliban forces, most of them coming from Russia although it appears that these transactions were largely financed by the United States.

By the end of 2001, most of the al-Qaida centres and almost all of the concentrations of Taliban military power had been dispersed or destroyed, but the manner in which this happened has implications for the future. In a number of isolated cases there was severe ground fighting between Northern Alliance and other forces, on the one hand, and Taliban and al-Qaida militia on the other. But in the great majority of the cases, the Taliban and al-Qaida did not engage in fighting at all, preferring to withdraw, usually with their weapons intact, and to melt away into their home areas or communities in which they could rely on support, including those in Pakistan.

Such a withdrawal was undertaken most remarkably from Kabul itself, where an overnight retreat was accomplished with hardly any casualties, but there were similar processes in many other parts of the country. One obvious result is that the Taliban regime lost control of Afghanistan, and an interim

administration was established in Kabul. But the longer-term implications were much less clear. The public perception was of a war won with minimal casualties for the United States, but the US military view was that a much longer-term if lower-level confrontation in Afghanistan was likely. This is due to the recognition that the Taliban militia were rarely defeated but chose not to fight on terms massively favourable to the Northern Alliance and to US air power.

This view is supported by two other factors. One is that it proved exceptionally difficult to take into custody senior commanders of the Taliban and al-Qaida, including the leadership of both organisations. The second is a prevailing view that much of the al-Qaida organisation moved from Afghanistan into Pakistan during the course of the conflict.

The reporting of the war in the US media tended to concentrate heavily on the rapid collapse of the Taliban, as might be expected in the circumstances. In Europe, and especially in the Middle East, there was rather more reporting of other aspects of the war and its immediate aftermath. One element was the extent and ferocity of the US bombing campaign, including the use of cluster bombs and other area-impact munitions. Lack of accurate intelligence resulted in numerous mistakes in targeting. Moreover, Taliban militia, on the occasions when they faced Northern Alliance forces, were frequently interspersed with local farmers and villagers – these were not concentrated front lines in the normal military sense. As a result, intensive area bombing resulted in high civilian casualties.

The overall effect of this, and of the mis-targeting, was to cause numerous civilian casualties, possibly exceeding 3,000 during the last three months of 2001, similar to the number of people killed on 11 September. There were also pernicious after effects. Cluster bomb units were used against Taliban militia around the city of Herat in western Afghanistan in November 2001, and in the following two months more than forty local people were killed and as many injured as a result of the accidental detonation of unexploded cluster bomblets.

The second element was the overall community effect of the war on Afghan society. The rapid advances of the Northern Alliance and the retreat of the Taliban was coupled with a massive flow of light arms into Afghanistan, a country in which there was already a vigorous arms market and a heavily armed male population. The absence of central control resulted in an immediate return to the disorder of the early 1990s, characterised by competing warlords, banditry and further movement of refugees. It is also likely that the need of local factions to ensure a source of income will result in increased opium production.

In cities that came under some degree of central control, especially Kabul, the situation was very much better than under the Taliban regime. In much of the rest of the country, there was an uncomfortable paradox. The Taliban regime had been a particularly brutal and repressive regime, even if it had originally been welcomed in the mid-1990s because of the degree of order

it brought to a chaotic and anarchic country. Even so, when it collapsed, there was a return to precisely that disorder. There were notable efforts by some external powers and non-government bodies to provide aid through the winter of 2001–2, and the International Security Assistance Force was established to provide stability in Kabul. This provided no more than 5,000 personnel, whereas a UN estimate of the size of a stabilisation force required to bring security to the country as a whole was 30,000. Unfortunately, there was not the international commitment to such aid, especially from the United States, and the result is that the achievement of a peaceful society in Afghanistan will take very much longer.

Although the Pentagon view in early 2002 was that the war would continue, in some form, for some months to come, an initial independent analysis of the war pointed to four military outcomes for the United States and its local Afghan allies through to January 2002.[4] Between 3,000 and 4,000 Taliban coalition troops had been killed, including 600–800 'Afghan Arabs' out of up to 3,000 affiliated to al-Qaida. Approximately 7,000 were prisoners, the great majority still in Afghanistan. Most of the senior Taliban leadership survived the war and avoided capture, many moving into Pakistan. Finally, perhaps half of the senior al-Qaida leadership in Afghanistan was killed or captured, and many camps or other facilities were overrun or destroyed.

More generally, the analysis came to two significant conclusions. One was that while the Taliban regime had been forced from power and widely discredited as an ideological movement, many members would be likely to resume a role in the Afghan polity. The other was that while the capacity of the al-Qaida network had been greatly disrupted, this might only be temporary. Such a view was supported by that of the acting assistant director of the FBI's counter-terrorism division, J.T.Caruso, reported in mid-December 2001, who expressed the view that, as a result of the military action, the al-Qaida network's capacity to commit 'horrific acts' had been reduced by 30 per cent.[5]

There are two other aspects of the war that are relevant to a longer-term analysis of its effects on the Western security paradigm. The first is that the United States has been able to extend its military presence substantially into Central Asia. As well as bases in Afghanistan itself, and facilities in Pakistan, the US has developed a sizeable military presence in Uzbekistan and a new base is being developed at Bishkek in Kyrgyzstan as well as facilities in Tajikistan.

While such a presence may not be widely popular in these states, and certainly not in Moscow, the regimes will be supportive, not least because of the economic rewards that follow such deployments but also because a foreign military presence can, in some circumstances, ensure the survival of an unpopular regime. The impact on China is likely to be far less favourable as the United States consolidates its influence in Central Asia. Iran, too, will view this presence, along with the substantial US forces in western Gulf states, as unconducive to its own security.

This, in turn, is part of a wider effect of the war, and of the increasing US presence in the region and its effect on political and public opinion. Within the United States, the common view of the atrocities of 11 September is that they were carried out by a terrorist organisation motivated principally by an irrational and visceral anti-American attitude. Thoughtful opinion within the United States does not take this view, but there is little general recognition of the political context in which the al-Qaida network has developed.

This relates principally to two factors, the US military presence in the Persian Gulf in general and Saudi Arabia in particular, and a belief that the House of Saud has lost its legitimacy as the Guardian of the Two Holy Places. Across the Middle East there is a wider Arab perception of a United States that is deeply implicated in the treatment of Palestinians by Israel, but this has been a secondary issue for the al-Qaida network, with the US presence in Saudi Arabia being seen as a follow-on to the Soviet presence in Afghanistan in the 1990s.

What is particularly significant is that there is extensive support within Saudi Arabia for the al-Qaida demand that the United States military forces leave the country, with that support represented by financial aid from many sources as well as tacit recognition of the aim within some elements of the House of Saud.

There is a further aspect of the 11 September attacks and the US response that must be considered. The destruction of the World Trade Center and the attack on the Pentagon were carefully planned operations, conceived and implemented over a long period of time. Furthermore, they formed part of a long-term strategy, probably developed in concert with other paramilitary coalitions in Southwest Asia, with previous acts including small-scale attacks against US personnel in Saudi Arabia, the more devastating Khobar Towers and *USS Cole* bombings, and the destructive attacks on the US embassies in East Africa.

It should therefore be assumed that those ultimately responsible for 11 September had planned those attacks as part of a strategy that would expect a very strong US counter-reaction, especially from the new Bush administration. It should therefore be assumed that the war in Afghanistan was not only anticipated but was part of the strategy itself. From the point of view of an al-Qaida strategy measured in decades rather than years, a strong and sustained US military offensive, including the substantial build-up of US forces in the region, would be exactly what is required to further encourage and enhance the developing anti-US mood, providing long-term support for al-Qaida and other networks opposed to the presence of the United States in the Gulf as well as its ongoing support for Israel.

Indeed, any extension of the 'war on terrorism' to other Islamic centres, not least the Philippines, Somalia and possibly even Iraq and Iran, would be considered, in the long term, to be in the considerable interests of al-Qaida and associated groups. To this extent, the 11 September attacks not only succeeded in their aims of attacking core symbols of US economic and

military power, they incited a reaction that will, in turn, ultimately ensure further action against the United States, as well as aiding the development of a more general line of fracture between the West and the Islamic world.

The view from the majority world

In the United States there has been overwhelming support for the 'war on terror'. In Europe, sympathy over the attacks remains, but the support for the war has been much more mixed, with a widespread concern that it might ultimately lead to more tensions and violence. In much of the Middle East and Southwest Asia there has been considerable opposition to the war in Afghanistan. What, then, of the rest of the world – in particular the 'majority world' of three-quarters of the global population.

While there is no common view, there is a persistent and deep-seated thread of opinion that sees the US response to 11 September as part of a continuum of action over some decades. One analysis, published soon after the attacks on New York and Washington, condemns them as horrific, despicable and unpardonable, but cautions against an automatic 'iron fist' response that ignores the underlying context. It points to the frequent use of indiscriminate force by the United States, not least in Korea and Vietnam, and to the bitter mood throughout much of the Middle East and Southwest Asia, directed partly at the United States because of its perceived dominance of the region but also against autocratic states dependent on continuing US support. The analysis concludes:

> The only response that will really contribute to global security and peace is for Washington to address not the symptoms but the roots of terrorism. It is for the United States to re-examine and substantially change its policies in the Middle East and the Third World, supporting for a change arrangements that will not stand in the way of the achievement of equity, justice and genuine national sovereignty for currently marginalized peoples. Any other way leads to endless war.[6]

A report from the South Centre, published three months after the 11 September attacks, and with the war in Afghanistan continuing, summed up the mood among many Southern opinion formers. The 'war against terror' is seen alongside Northern dominance of the international financial institutions such as the IMF (International Monetary Fund), the World Bank and the WTO (World Trade Organisation), as well as attitudes to climate change and the tardy and thoroughly limited progress on debt relief.

> Increasing numbers in the South perceive the evolving situation as no less than modern imperialism, using the full panoply of mechanisms to bend the will and shape the global order to suit the preferences and need of the major advanced industrial nations. Moreover, this new imperialism

is largely unhindered, in fact it is even aided and abetter, by the multilateral mechanisms developed over the past five decades.

Growing resentment in the South at the sense of powerlessness in the face of Northern arrogance and impunity breeds frustration, which hardly provides fertile ground for development or peace or building the international community. Now, the fear of speaking up in defence of one's own interests has been further exacerbated by the new dictum 'You are either with us or against us'.[7]

Such views will find virtually no favour in Washington, representing, as they do, quite fundamental contradictions to the current world view. Yet they represent views that are widespread right across the majority world away from the North Atlantic states, even if they will have little or no effect on current US policy.

Conclusions

The analysis originally developed in this book was essentially looking to the longer-term condition of international security. The view was that socio-economic divisions and environmental constraints would lead to considerable problems of conflict and insecurity over a ten to thirty year timescale, that the Western security paradigm of maintaining control would prove illusory as the innate vulnerabilities of advanced urban industrial societies became evident. On this analysis it was assumed that there would be an opportunity, perhaps in the first decade of the twenty-first century to rethink the security paradigm and develop a far more rounded approach to common security. Issues such as co-operation for sustainable development and environmental management might therefore come to the fore. As a consequence, the socio-economic divide could narrow, excesses of environmental conflict might be avoided, and a more global agenda for peace could evolve. In short, there was time to make a difference before the existing paradigm ran into severe difficulties, making it apparent that it might not be sustainable.

What, then, is the relevance of 11 September and its aftermath to this analysis, and will it make a re-examination of the paradigm more or less likely? The first point to emphasise is that the al-Qaida attacks on New York and Washington did not come from a desperate underclass of marginalised people across the globe, driven to violence by an utter frustration at the possibilities of peaceful change. Even so, the context of the development of the network does show a relevance to the present analysis in three respects.

One, inevitably, is that the atrocities of 11 September have demonstrated all too clearly the manner in which a remarkably powerful state has been shown to be vulnerable to paramilitary attack, and a second does relate closely to the theme of environmental constraints. The al-Qaida motivation against the United States arises only marginally from US support for Israel and much more fundamentally because of opposition to the US military presence in

Saudi Arabia. This, in turn, is due to the huge geo-strategic importance of the Persian Gulf region, and its oil supplies, to the United States and its allies.

Finally, al-Qaida and similar networks draw much of their support from the 'demographic bulge' of young people growing up in the Middle East and Southwest Asia who see themselves as marginalised and with diminishing prospects. This is not to deny the substantial support that such networks receive from wealthy individuals – itself a reflection of the antagonism towards Western influence. Furthermore, many of those directly involved at the higher levels of the organisation are well educated. In one sense, the attacks of 11 September really are an illustration of that uncomfortable 'revolution of frustrated expectations'.

Perhaps the real significance is that 11 September brought forward the question of 'losing control' by some years, perhaps even a decade, and the result appears to be an utterly determined endeavour to regain control. This came through most clearly in President Bush's *State of the Union* address to Congress in January 2002, where he made it clear that the United States was now engaged in a long-term war on terror that would take in opposition to the United States wherever it was perceived, naming three countries, in particular – Iraq, North Korea and Iran – as an 'axis of evil'. The attitude is 'if you are not with us, you are against us' and the United States requires its allies to work with it in ensuring a stable world in the Western image, with the ready and persistent use of force available to ensure such stability, as and when required.

Put bluntly, from the perception of the Bush administration, majority opinion in the United States, and some opinion in Europe, 11 September has strongly reinforced the paradigm and made it far less likely that a wider analysis will be considered. This is, in particular, in marked contrast to the more common view in the rest of the world, where sympathy for the United States over the losses of 11 September is still there, but there is a real fear of a new vision for the twenty-first century in which an unjust and unstable *status quo* is rigorously maintained.

For the future, then, what is a reasonable prognosis? Although it is a rather crude device to present it in terms of just two choices, it is a helpful simplification. One possibility is that 11 September reinforces all of the core elements of the security paradigm, and that the major effort is concentrated on maintaining control of an unstable and evidently violent world. Defence budgets will rise, counter-insurgency and anti-terrorism action will come centre stage, bases will be maintained in 'regions of potential threat' and long-range force projection will be enhanced. There will be little deference to international law or multilateral agreements, and root causes of violence will be largely ignored.

Given the international trends towards greater divisions, and the increasing frustrations of a marginalised majority, this will most probably lead to the development of more radical and extreme social movements, leading to further events, possibly much more devastating than the massacres of 11 September.

These, in turn, will be likely to lead to a redoubling of efforts to maintain control, a never-ending war indeed.

The other possibility is that the trauma of 11 September encourages individuals, citizen groups, intellectuals and indeed political leaders to recognise the long-term security significance of what happened and to redouble efforts to move to a more equitable and stable world. This should not be dismissed as idealism as there are very many signs of this, as indicated in Chapter 8. Indeed, one of the more hopeful features of the post-11 September analysis, understandably much more common outside of the United States, was concern to address root causes of political violence instead of concentrating on control of the symptoms.

In the final analysis, it is a matter of choice, and the first decade of the twenty-first century is likely to prove pivotal in determining the degree of international instability that could prevail for much of the century. The early effects of 11 September suggest a hardening of the old paradigm, but there is every chance that it may become possible to further analyse and demonstrate the futility of that approach. The responsibility for those in a position to do so, whether activists, academics, politicians or many others, is considerable.

10 Iran (2006)

Consequences of a war

Introduction

In November 2002, four months before the Iraq War started, the Oxford Research Group published a report, *Iraq: Consequences of a War,*[1] that examined the possible outcomes of military action to terminate the Saddam Hussein regime. Two of its conclusions were that regime termination was certainly feasible but that the occupation of Iraq by coalition troops would increase support for radical elements in the region and also incite an insurgency:

> The United States has sufficient forces to ensure regime destruction but the regime's replacement by occupying forces or by a client regime, even if the war is not greatly destructive, should be expected to increase regional opposition to the US presence. It is likely, in particular, to increase support for organisations such as al-Qaida and to prove counter-productive to peace and security in the region.

and:

> It is also possible that a paramilitary movement could develop from within Iraq. While there is abundant evidence of the unpopularity of the Saddam Hussein regime, it is certainly possible that internal opposition to US occupation and the subsequent installing of a client regime would result in an evolving insurgency. Internal opposition to the current regime does not equate with the future acceptance of foreign occupation.

At the time of writing that report, war with Iraq seemed increasingly likely. By contrast at the present time war with Iran over the latter's presumed nuclear weapons ambitions may be rather less likely but this may change. A diplomatic solution to the profound differences between Washington and Tehran is still possible, but is becoming progressively less likely. As major difficulties persist and possibly intensify, the possibility of military action by the United States or Israel increases. Even at this stage, therefore, it is

appropriate to analyse what kind of military action might take place and what might be its outcome and aftermath. If there are valid arguments that military action might have severe consequences, perhaps even worse than the problems now being experienced in Iraq, then such a conclusion would imply that much greater emphasis on alternative solutions is both essential and urgent.

This chapter takes as an assumption that any military action by the United States or Israel would have as its function the inflicting of severe damage on Iran's nuclear installations and medium range missile programmes, while, in the case of the United States, endeavouring to pre-empt any damaging Iranian response. It also does not investigate the possibility that the United States would take the kind of military action necessary to terminate the current regime in Tehran. That would require major deployments of at least 100,000 ground troops, either by the United States on its own or in coalition with other states. At the present time, the United States does not have such spare capacity, mainly because of the need to maintain up to 150,000 troops in Iraq, up to 30,000 in western Gulf states and around 18,000 in Afghanistan. There is no other state that has both the capacity to provide such numbers of troops and is remotely supportive of such a level of US military action. Regime termination as a military aim is not therefore examined in this report.

The US context

Although major difficulties have arisen with US military operations in Iraq, there is still a dominant feeling in neo-conservative circles in Washington that Iran is, and always has been, a much greater threat to US regional and global interests than Iraq was. A common view before the start of the Iraq War in March 2003 was that 'if we get Iraq right, we won't have to worry about Iran'. In other words, if military force proved easily able to terminate the Saddam Hussein regime and replace it with a stable client government supported by permanent US bases, then Iran would bow to US policy in the region, causing little trouble. The fact that Iraq was not 'got right' and that there is considerable potential for Iranian influence in Iraq is one consequence of the decision to terminate the Saddam Hussein regime.

The perception of Iran as the major threat to US interests in the Middle East stems, in part, from the long-term consequences of seeing the apparently secure, authoritarian and pro-American regime of the Shah so easily deposed in a matter of weeks in 1979. The Shah's Iran had been seen as the lynchpin of US security interests in the Gulf – a bulwark against Soviet interference. The sudden regime collapse, followed by the traumatic impotence of the United States at the time of the hostage crisis and the subsequent and bitter antagonism to the US demonstrated by the Islamic Republic under Ayatollah Khomenei, meant that Iran was a direct and persistent obstacle to US regional interests.

These were, and are, centred on the Gulf region's immense oil reserves and the trend of the United States becoming increasingly dependent on imported oil. If the oil factor was important at the start of the 1990s, it is far more so 15 years later, with US oil import dependency increasing year by year, with China in a similar position, and with Gulf fossil fuel resources likely to make the region of profound geopolitical significance during the first three or four decades of the twenty-first century.

In such circumstances it is fundamentally unacceptable to the United States for a 'rogue' state such as Iran to be allowed to get even remotely near having its own nuclear capability. Such a 'deterrent' would greatly limit US options in the region, and would provide a threat to its closest ally – Israel. While Washington may not be implacably opposed to diplomatic options to ensure that Iran does not go down the path of a major nuclear infrastructure, if those fail, then it has to be recognised that destruction of the suspected nuclear weapons infrastructure and associated facilities is likely to be undertaken at some stage.

The Israel factor

Israel has maintained a nuclear capability since the late 1960s and is believed to have over 100 nuclear warheads, principally for delivery by aircraft or surface-to-surface missiles. It may also be developing warheads for submarine-launched cruise missiles. Even so, Israel regards it as essential to its security that it is the only state in the region with a nuclear capability. Since the Iranian Revolution at the end of the 1970s, successive Israeli governments have regarded Iran as the greatest long-term regional threat.

Units of the Israeli Air Force destroyed the Iraqi experimental Osiraq reactor near Baghdad in 1981, limiting Iraq's potential to take the plutonium route to nuclear weapons. Baghdad was within range of Israeli aircraft whereas the Iranian facilities were, until about 2004 at the limit of Israeli Air Force capability. That has now changed with the importing of long-range versions of the US F-15 and F-16 strike aircraft – the F-15I and the F-16I. Some twenty-five of the F-15I are in service, and Israel is building up a force of 102 F-16I aircraft, deliveries having started in 2003.[2] The Israeli Air Force has also acquired 500 earth penetrating bombs from the United States for use against underground facilities.

Israeli military units have also been involved in a range of operations in Iraq, especially in the Kurdish Northeast of the country where, among other activities, they have been training commando units. More generally, the normally close relationship between the US military and the Israeli Defence Force (IDF) has been greatly strengthened between 2004 and 2006 as a result of US experiences in Iraq. There has been a substantial exchange of experience, especially between the IDF and the US Army's Training and Doctrine Command (TRADOC).[3] Israeli arms companies have also provided the US armed forces with a wide range of specialist counter-insurgency

weaponry and equipment, much of it developed as a result of Israeli experience in controlling the occupied Palestinian territories. Although not commonly covered in the Western media, this relationship is well known across the Middle East and would contribute to an assumption that any Israeli attack on Iran would be undertaken with the knowledge, approval and assistance of the United States. It is certainly the case that an Israeli air attack on Iran would involve flights through air space dominated by the United States.

For the purposes of this article, it is assumed that if the IDF was to engage in actions to seriously damage Iran's nuclear weapons developments, it would therefore do so with the tacit support of the United States, would have access to facilities in Northeast Iraq if needed, would be aiming simply to set back any nuclear programme for five years or more, and would also target Iranian missile developments. It would not extend beyond these aims whereas US action would need to do so, for reasons discussed later.

The close links between Israel and the United States are far more widely recognised across the Middle East than in the US or Europe. As a result, any Israeli military action against Iran would be seen as essentially a joint operation, with Israel acting as a surrogate and doing so with direct US support.

The Iranian context

The Iranian context comprises a self-perception of Iran as one of the world's historic powers and a belief that a high-technology future is an essential part of its place in the world, coupled with a strong feeling of current vulnerability. As with China, Iran looks back to several thousand years of notable history and believes that greatness is once more feasible given the combination of massive fossil fuel resources, a young population, a large and well-populated country and a geographical position that puts it at the heart of an immensely significant region.

Although the Iranian socio-political environment is complex and markedly changeable, there is a general belief in the value of advanced technology, and a perception of nuclear power as a symbol of modernity. When faced with the argument that a country so well endowed with oil and gas does not need nuclear power, the immediate reply is to point to a fifth of electricity already generated by hydroelectric power, and the argument that oil and gas are too valuable to be used for electricity generation, especially given Iran's indigenous reserves of uranium ores. In terms of public attitudes, it is clear that a range of opinion formers from across the political and religious spectrums believe that Iran has every right to develop a nuclear fuel cycle. It is also the widespread view that Iran has the right to develop nuclear weapons should the country's security require it.

Although Iran was in breach of some aspects of the Non-Proliferation Treaty in the 1990s, it is, at the time of writing, abiding by the terms of the treaty. It is therefore allowed to develop a civil nuclear power programme,

including uranium enrichment activities, and could remain within the terms of the treaty until such time as a decision was taken to develop nuclear weapons in which case, as with North Korea, it could withdraw. Given the US view of Iran as part of the 'axis of evil', this is not acceptable to the current administration in Washington. It is just possible that Washington might entertain the continued development of a civil nuclear power programme that did not involve domestic uranium enrichment, but even this is not certain.

On the question of Iranian perceptions of security, while there is considerable self-belief in the capabilities of Iran, there is also a certain sense of insecurity. Between 2002 and 2006, Iran has seen the regimes to the east and west of it terminated by large-scale military action by a superpower that has implied that regime termination in Iran is a desirable option.

Immediately to the west of Iran, the United States has close to 150,000 troops in Iraq and is building permanent military bases there. It has extensive deployments in Kuwait, Bahrain and Qatar and has its Fifth Fleet that controls the waters of the Persian Gulf and the Arabian Sea and is overwhelmingly powerful in contrast with the small Iranian Navy. To the east, Iran sees the United States firmly ensconced in Afghanistan, with two permanent bases now established at Bagram near Kabul and at Kandahar. Moreover, a large new military base is being developed near the western Afghan city of Herat, close to Iran's eastern border with that country. Finally, the United States has developed close military links and, in some cases, basing facilities in a number of countries to the north and east of Iran, especially those close to the Caspian Basin oilfields or pipelines that bring such oil through to Black Sea or Mediterranean ports.

Current circumstances in Iran

These factors all make it reasonable to assume that there is a strong motivation for Iran either to develop nuclear weapons or to have the ability to do so at short notice should it be decided that national security makes such a decision essential. However, motivation does not equate with an inevitability of such a decision. Furthermore, this context is complicated by the current political environment. The relatively reformist administration of President Khatami failed to instigate sufficient reforms to satisfy a young, ambitious and often frustrated population, partly because the conservative theocracy could block many initiatives without difficulty. The Khatami government also failed to address deep socio-economic divisions, and its double failure, coupled with the blocking of reformists standing for power by the theocracy, limited choices in the 2005 elections, both for the Majlis and the presidency. The surprise election of Mr Ahmadinejad, with strong Revolutionary Guard support, came about partly because he was thought to speak for the poor.

President Ahmadinejad's policies since coming to power have been somewhat unpredictable. They have included strident public attacks on Israel, the replacement of moderates and technocrats in key ministries and diplomatic

missions, and the removal from office of those previously engaged in negotiations with the EU3 on nuclear issues. These are all moves likely to cause further tensions with Washington. They are not necessarily popular across the Iranian political spectrum, and that may include substantial elements of the powerful theocracy. It is possible that the Ahmadinejad administration may soon experience serious problems of stability, but that could lead to a hardening of policies, hastening a crisis with the United States.

Furthermore, current circumstances in neighbouring Iraq are broadly favourable to the present administration in Tehran and unfavourable to the United States. Progress towards wider representation within Iraq invariably means more power for the Shi'a community, many elements of which have close connections with Iran. In spite of regular claims of Iranian support for some of the Shi'a militias in Iraq, there is little evidence of substantial official Iranian involvement, but the potential is certainly there.

The UK has made more particular claims of Iranian involvement in the spreading of some weapons technologies, but Iran, in turn, blames Britain and the US for supporting dissidents, even to the extent of their being involved in some manner in some of the bombing incidents within Iran.

The nature of military action

From a US perspective, there would be two main reasons for taking action against Iranian nuclear facilities. One would be to damage the overall programme to the extent that any plans to produce nuclear weapons could be set back at least five years and preferably longer, but a second would be to make it clear that the United States is prepared to take significant preventative military action in this regard, and would, by implication, take action against other Iranian activities that it might find unacceptable, not least any Iranian interference in Iraq.

The core problem is that *any* military action would, in practice, have to involve more than just a series of attacks on a small range of directly nuclear-related sites. Moreover, once such action started, it would be virtually impossible to maintain any relationship with Iran except one based on violence.

Apart from anything else, all the available evidence suggests that any military action would have a very powerful unifying effect within Iran, bringing a wide range of political and religious opinion behind the administration, increasing both its power base and its stability. Even the current administration could be expected to be a focus of support. Those elements of the theocracy that are at present suspicious of Mr Ahmadinejad and may still resent his unexpected electoral success, would not stand in the way of a united Iran faced with US military action.

Although the United States has a major problem of overstretch affecting its Army and Marine Corps, an attack on Iranian nuclear facilities would be undertaken almost entirely by the Air Force and the Navy. To have the maximum impact, it would be done by surprise, utilising land-based aircraft

already in the region, long-range strike aircraft operating from the United States, the UK and Diego Garcia, and naval strike forces involving carrier-borne aircraft and sea-launched cruise missiles.

At any one time, the US Navy keeps one aircraft carrier battle group on station in or near the Persian Gulf. Such groups rotate, and there are periods when two are on station, providing over 150 aircraft, together with several hundred cruise missiles.[4] Similar numbers of land-based aircraft could be assembled with little notice, given the range of US bases in the region, and B-1B and B-2 bombers could operate from outside the region. In particular, the specialised facilities required to operate the stealthy B-2 aircraft are now available at Fairford air base in Gloucestershire.[5]

Air strikes on nuclear facilities would involve the destruction of facilities at the Tehran Research Reactor, together with the radioisotope production facility, a range of nuclear-related laboratories and the Kalaye Electric Company, all in Tehran. The Esfahan Nuclear Technology Centre would be a major target, including a series of experimental reactors, uranium conversion facilities and a fuel fabrication laboratory. Pilot and full-scale enrichment plants at Natanz would be targeted, as would facilities at Arak.[6] The new 1,000 MW reactor nearing completion at Bushehr would be targeted, although this could be problematic once the reactor is fully fuelled and goes critical some time in 2006. Once that has happened, any destruction of the containment structure could lead to serious problems of radioactive dispersal affecting not just the Iranian Gulf coast, but Western Gulf seaboards in Kuwait, Saudi Arabia, Bahrain, Qatar and the United Arab Emirates. As well as the direct human effects, since these comprise the world's most substantial concentration of oil production facilities, the consequences could be severe.[7]

All of the initial attacks would be undertaken more or less simultaneously, in order to kill as many of the technically competent staff as possible, therefore doing the greatest damage to longer-term prospects. This would be a necessary part of any military action and would probably extend to the destruction of university laboratories and technology centres that indirectly support the Iranian nuclear scientific and technical infrastructure.

Such an aspect of the attack is not widely recognised outside military planning circles but would be an essential component of the operation. Given that the aim is to set back Iranian nuclear potential for as long as possible, it would be essential to go well beyond the destruction of physical facilities that could be replace quite rapidly. The killing of those with technical expertise would have a much more substantial impact on any efforts to redevelop nuclear capabilities. Furthermore, since such expertise is known to include foreign nationals, the killing of such people already working in the country would serve as a deterrent to the involvement of others in the future.

Iran currently has limited air defences and a largely obsolete and small air force. Even so, defence suppression would be a major aspect of military action, primarily to reduce the risk of the killing or capture of US aircrew. It would involve the targeting of radar facilities and command and control

centres, as well as Western Command air bases at Tehran, Tabriz, Hamadan, Dezful, Umidiyeh, Shiraz and Isfahan, and Southern Command air bases at Bushehr, Bandar Abbas and Chah Bahar.[8] A particular concern for US forces is the continued deployment by Iran of forty-five or more of the American F-14A Tomcat interceptors and their long-range AWG-9 radar equipment. Some seventy-nine planes were originally procured before the fall of the Shah and around thirty are available operationally at any one time out of those still deployed.[9]

Research, development and production facilities for Iran's medium-range ballistic missile programme would be priority targets, as would bases at which these mobile missiles are deployed. Because of their mobility, surprise would, once again be essential.

US forces have already used reconnaissance drones to map Iranian facilities and these, combined with satellite reconnaissance and a range of forms of electronic surveillance, have provided considerable information on the nuclear infrastructure and more general defence forces.

The attacks described so far would involve a strong element of surprise in relation to the core nuclear infrastructure and the air defence system, with these undertaken in a matter of hours. Up to a hundred sorties by strike aircraft, backed up by several hundred additional sorties by aerial refuelling, defence suppression and reconnaissance aircraft would be accompanied by 200 or more cruise missile sorties.

Following immediate bomb damage assessment, major targets would be revisited in the following days in parallel with attacks on less time-urgent targets. For US forces, the main period of intense military activity might extend over four to five days but could continue for several days more, depending on Iranian responses.

Pre-empting Iranian responses

In addition to the substantial programme of air strikes and missile attacks on nuclear, missile and defence facilities, US military operations would also be aimed at pre-empting any immediate Iranian responses. Most significant of these would be any possible retaliatory Iranian action to affect the transport of oil and liquefied natural gas through the Straits of Hormuz. On the assumption that this would be an obvious form of retaliation, it would be necessary to destroy coastal anti-ship missile batteries and Iran's small force of warships. The main base and dockyard is at Bushehr, the operational headquarters is at Bandar Abbas, which is also the base for Iran's small flotilla of Russian-built *Kilo*-class submarines, although Chah Bahar is due to become the new base for these three boats. Other bases for light naval forces include Kharg Island at the head of the Gulf and islands in the Abu Musa group Southwest of the Straits of Hormuz, these being heavily defended and well supplied.[10]

The small Iranian Navy suffered severe losses in its exchanges with the US Navy at the end of the 'tanker war' in April 1988, and it is probable that the main emphasis will be on fast light forces, including speedboats crewed by those prepared to die. These would be Iranian Revolutionary Guard (IRG) forces and they would most likely place the greatest emphasis on attacking tanker traffic rather than US naval units. Operating bases for these forces would be priorities for attack.

It would also be assumed that IRG elements would move into some parts of Iraq to link up with sympathetic militia. To demonstrate that any such moves would incite retaliation, it is probable that military action would target forward-based ground force units both of the IRG and of the regular army. Of the numerous Iranian Army bases, those close to the border with Iraq at Abadan, Khorramshahr, Ahvaz, Dezfuland and possibly Mahabad would be the most likely targets, as would major IRG centres. A range of logistical support facilities would be targeted, with this possibly extending to destruction of bridges. Given the porous nature of the border, this latter action would be primarily symbolic.

Casualties

It is very difficult to predict the level of Iranian military and civilian casualties but two points may be made. The first is that it took many months for the high level of civilian casualties in Iraq in the first three intense weeks of the war to come to light. During that part of the war, press reports indicated the possibility of hundreds of civilian deaths, but that revised upwards substantially to several thousand in the months that followed.

In any action against Iran, military deaths in the first wave of attacks would be expected to be in the thousands, especially with attacks on air bases and Revolutionary Guard facilities. Civilian deaths would be in the many hundreds, particularly with the requirement to target technical support for the Iranian nuclear and missile infrastructure, with many of the factories being located in urban areas. If the war evolved into a wider conflict, primarily to pre-empt or counter Iranian responses, then casualties would eventually be much higher. Reports of civilian casualties would be widely disseminated by the Iranian media and by commercial media networks such as al-Jazeera elsewhere in the region.

Iranian responses

Given the small size and largely obsolete nature of the Iranian Air Force and air defence systems, Iran would be able to offer little direct opposition to the kind of US attack outlined above. Moreover, US action would have been designed to destroy what limited capability might be available.

US action to pre-empt obvious Iranian responses, such as affecting tanker traffic through the Straits of Hormuz or moving Revolutionary Guard elements

into parts of Iraq, could well mean that there would be immediate if apparent indications of comprehensive US military success in doing serious damage both to Iran's presumed nuclear weapons development potential and in countering immediate Iranian responses. This could turn out to be as misleading as the early apparent successes in Iraq following regime termination within three weeks of the start of that war in March 2003. In fact, Iran has many options available in response, even if they are not options of immediate effect.

Redevelopment of nuclear programme

However badly Iran's nuclear infrastructure was damaged in an attack, an immediate response would be to reconstitute the infrastructure and work rapidly and in secret towards a clear nuclear weapons capability. This would probably involve giving formal notice of withdrawal from the Non-Proliferation Treaty, followed by the immediate reconstitution of the nuclear infrastructure, developing it wherever possible in a more survivable manner. This would include systems redundancy, dispersal of research, development and production capabilities, and the use of deep underground facilities for future work wherever feasible.

Furthermore, there may already be elements of redundancy built in to the Iranian civil nuclear programme, and there may be elements of which the United States is unaware. If so, this would aid the reconstitution of capabilities. More generally, any hope of negotiating away Iran's suspected nuclear weapons programme in the years after a US attack would vanish, undermining global non-proliferation efforts. Rather than living with an Iran that had the potential to produce nuclear weapons, the US action would almost certainly guarantee an overtly nuclear-armed Iran for decades to come or, alternatively, further instances of military action.

Hezbollah

Iran would be likely to encourage more militant action by Hezbollah in Southern Lebanon. Given that Hezbollah now has large quantities of surface-to-surface missiles of a range sufficient to reach Haifa and other population centres in the north of Israel, a vigorous Israeli response should be expected, further adding to an atmosphere of crisis. It is true that Hezbollah is currently undergoing a period of substantial political transformation, moving more firmly into the social and political arenas, so that major military action against Israel would be a regression to previous patterns. This is to be expected, though, given the likely extent of the popular support for Iran resulting from US military action.

Any action from Hezbollah would result in substantial Israeli military responses. At the very least these would involve air strikes, the use of artillery and battlefield missiles, and naval bombardment. They might extend to cross-border operations by infantry and armoured units.

Straits of Hormuz

While one major aim of any US military action would be to forestall Iranian interference with Gulf oil exports, this would have to be near total in its effect on Iranian capabilities. This would be difficult if not impossible to achieve, leading to a fear of attack, which alone would have a formidable impact on oil markets.

Western Gulf oil facilities

Furthermore, it would be possible for paramilitary units linked to Iran to develop the ability to sabotage oil export facilities in western Gulf states such as Kuwait, Saudi Arabia and the United Arab Emirates. High levels of security would undoubtedly be maintained in these states, yet determined paramilitary groups would be difficult to control with certainty. Even one or two incidents of sabotage would raise tensions and further affect oil markets.

Revolutionary Guard

The Revolutionary Guard remains a strong if largely free-standing component of the Iranian defence system. While its facilities on the Persian Gulf coast and close to the border with Iran might be damaged in the early waves of US attacks, there would also be a very substantial base of support for the Guard, expressed by immediate improvements in morale, a greatly enhanced ability to recruit, and a determination to respond. Although US military action against Guard facilities might be undertaken to 'warn off' the Guard from interfering in Iraq, the effect would almost certainly be short-lived, and the numerous links that already exist between Guard units and Iraqi Shi'a militias would be activated rapidly. Such demonstrable Iranian involvement in the Iraqi insurgency would result in an escalating US military response involving cross-border attacks on Iranian logistics. This would increase Iranian civilian casualties, cause economic disruption and also further increase internal Iranian support for the current regime.

Overall, and given the nature of the Iran–Iraq border, Iran would be in a very strong position to aid elements of the Iraqi insurgency in numerous ways, providing a wide range of armaments as well as personnel. This would give a substantial boost to an insurgency that, even three years after the termination of the old regime, is as active as ever.

International support

Given the 2005 major long-term economic agreements between Iran and China, and also between Iran and India, as well as close links with Russia, a US attack would attract major criticisms, including from two of the five

permanent members of the UN Security Council – China and Russia. The current Russian administration might prefer privately to see US military action avoided, but it would be in a very difficult position in relation to many of its neighbouring allies if it were not to condemn US military action against Iran most strongly, especially if this escalated to a protracted conflict.

Wider responses

The consequences described above relate to the immediate responses from within Iran or from associates in Lebanon. Probably the most difficult response to predict would be the effect of a military confrontation with Iran on the attitudes and reactions from within wider Islamic communities. Although there is an uneasy relationship between Iran and the al-Qaida movement, and between Iran and the Arab world, any attack on such a significant Islamic republic would inevitably increase the anti-American mood in the region and beyond, giving greater impetus to a movement that is already a global phenomenon.

One of the most significant developments between 2002 and 2006 has been the ability of the al-Qaida movement and its associates to survive and thrive in an intensely antagonistic environment. Since 9/11, the movement has experienced the loss of many key leadership elements, either killed or detained, has lost its main operating areas in Afghanistan and has seen over 70,000 people detained for lengthy periods. Even so, the level of activity in those past four years has actually been substantially higher than in the four years prior to the 9/11 attacks.

Of particular significance has been the evolution of suicide bombing. Historically, this phenomenon has been widespread and has not been restricted to radical Islamist groups, but individual campaigns involving suicide bombing have been narrow in their geographical focus. These have included the Tamil Tigers, LTTE, in Sri Lanka, Kurdish separatists in Turkey, Hezbollah supporters in Southern Lebanon and Palestinian radicals in Israel/Palestine. These have all been directed at responding to occupation and perceived oppression in a localised region.

For the first time, at least on a substantial scale, suicide bombing has gone transnational, often involving well-educated individuals who are motivated to respond not to their known immediate circumstances but to the wider circumstances of co-religionists. They are aided by the huge increase in information now available through satellite TV news channels and the internet, and may be prepared to travel substantial distances to undertake their actions.

If the United States is prepared to extend its current military operations in Iraq and Afghanistan to Iran, this trend should be expected to get a substantial further boost, with consequences that are difficult to predict. It will certainly be yet another example of a reaction that will serve to damage US security interests in the region and beyond.

Israeli military action

If action against Iranian nuclear facilities was undertaken by Israel rather than the United States, it would be on a smaller scale although still far more substantial than the Israeli attack on the Iraqi Osiraq nuclear reactor in 1981. Israeli military action would be concentrated on all of the nuclear research, development and support facilities, especially personnel, and on the Iranian missile forces, their production and development. There would be less concern with the Revolutionary Guard or with protection of Gulf oil facilities.

Iran, on the other hand, would see any Israeli action as being done in close collaboration with the United States, and would respond against US and Gulf oil interests in much the same way as if the attacks had been conducted by the United States itself. This would, in turn, bring US forces into the confrontation as the United States reacted to such moves. Any such escalation of the war would be of value to Israel as it would tend to weaken the wider military capabilities of Iran. Thus, Israeli action would be intended to severely damage Iranian nuclear potential while being likely to bring the United States into the conflict – two results for the price of one.

Iran's more direct reaction to Israeli military action might be to put substantial emphasis on encouraging Hezbollah to act against Israel, possibly through missile attacks into Northern Israel. This, too, would be advantageous to the Israeli government of the day, whatever its complexion, as it has military forces that could stage very substantial action against Hezbollah, especially through air strikes into Southern Lebanon. Such strikes would be aimed, in particular, at targeting the stores of the longer-range Katyusha-type rockets acquired by Hezbollah.

While Israel would gain in the short term from an attack on Iran, the longer-term consequences would be far less positive. In addition to the problems created for the United States in Iraq, causing tensions between Israel and its closest ally, Israel would be faced with Iran determined to develop a nuclear weapons capability in the shortest possible time in a regional climate in which opposition to the State of Israel would have been substantially enhanced.

Conclusion

A US military attack on Iranian nuclear infrastructure would be the start of a protracted military confrontation that would probably involve Iraq, Israel and Lebanon as well as the United States and Iran, with the possibility of western Gulf states being involved as well. An attack by Israel, although initially on a smaller scale, would almost certainly escalate to involve the United States, and would also mark the start of a protracted conflict.

Although an attack by either state could seriously damage Iran's nuclear development potential, numerous responses would be possible making a protracted and highly unstable conflict virtually certain. Moreover, Iran would

be expected to withdraw from the Non-Proliferation Treaty and engage in a nuclear weapons programme as rapidly as possible. This would lead to further military action against Iran, establishing a highly dangerous cycle of violence.

The termination of the Saddam Hussein regime was expected to bring about a free-market client state in Iraq. Instead it has produced a deeply unstable and costly conflict with no end in sight. That may not prevent a US or an Israeli attack on Iran even though it should be expected that the consequences would be substantially greater. What this analysis does conclude is that a military response to the current crisis in relations with Iran is a particularly dangerous option and should not be considered further – alternative approaches must be sought, however difficult these may be.

Part V

An illusion of control

Introduction

The following chapters attempt two tasks. The first is to review the development of President Bush's 'global war on terror' over its first five years, examining the outcome of the forceful US military response to the atrocities, first in Afghanistan and later in Iraq. The second places this in a wider global context. In examining the 9/11 response, the first chapter places the war in the context of a particularly vigorous security paradigm that had come to the fore in the United States by mid-2001 and was discussed in Chapter 9, but the core of the chapter is an analysis of the manner in which the war that has resulted from that paradigm has gone so badly wrong for the United States.

One of the central issues, given the formidable problems in Afghanistan and Iraq, and the failure to curb the disparate yet active al-Qaida movement, is whether it is possible for the United States and its more fervent coalition partners to develop very different approaches to their conduct of the war. Is it more or less inevitable that the war on terror will transmute into the 'Long War' and extend for some decades, or is there some possibility that there will be a fundamental reassessment leading even to the transition to a new security paradigm?

The second chapter extends the specific analysis of the war on terror to embrace some of the much wider issues of international security, returning to the theme developed in Chapter 6. This was written prior to 9/11 at a time when there were clear indications of the rise of radical social movements coupled with evident vulnerabilities of urban industrial societies. It suggested that the combination of marginalisation and radicalisation could lead to a new axis of conflict – 'the new barbarians versus the self-styled custodians of civilised values'.

Nearly a decade later, it can be argued that the vigorous and violent military response to the 9/11 atrocities from the custodians of civilised values is a clear example of 'liddism', the need to keep the lid on insecurity and maintain control of an unstable world in the face of extremism. As such, it is the natural extension of the need to tame that jungle full of poisonous snakes (Chapter 5) but its evolving failure may actually present an opportunity to develop a security paradigm that goes well beyond the immediate response

to the 9/11 attacks. If that is so, then the period through to around 2020 may well determine whether the underlying global security challenges – deepening socio-economic divisions and environmental constraints – can gain a response from elite communities that embraces sustainable security rather than the maintenance of the status quo.

11 The war on terror

The first five years

Introduction

Within minutes of the first plane hitting the North Tower of the World Trade Center, just before 9 am on 11 September 2001, television networks were showing live pictures of the burning building. As word spread of the catastrophe, millions of people across the United States and in many other countries tuned in and saw the second plane hit the South Tower. That building was more badly damaged than the North Tower and by the time it collapsed, many tens of millions of people across the United States saw it happen. A few minutes later, the North Tower also collapsed.

While the impact across the world was considerable, the effect in the United States was visceral. It was obvious that thousands of people had died and this alone had a profound impact, but it is also the case that the twin towers themselves were such evident symbols of US business success in a competitive international environment that their loss caused a particular shock.

The 9/11 attacks are frequently compared with the Pearl Harbour attack of December 1941, but there are several key differences. One is that Pearl Harbour was in distant Hawaii whereas the World Trade Center was in central Manhattan and far better known to most Americans. A second difference is that Pearl Harbour was a military attack by a known opponent on US military forces, meaning that a very clear-cut military response against Japan was both inevitable and immediate. By contrast, the 9/11 attacks were by a sub-state group of unknown potential and were carried out using the simplest of techniques.

As such they represented an extreme form of asymmetric warfare that induced a sense of vulnerability, exacerbated a few weeks later by the 'anthrax letters' incidents. Finally, the visual sharing of the actual events across the United States had a long-lasting effect that can still be utilised, some years later, when political circumstances demand a sense of national purpose in the pursuit of the war on terror.

Chapter 9 analysed the political context of the immediate response to the 9/11 attacks and pointed to the expansion of the aims of the war on terror in President Bush's January 2002 *State of the Union* address to encompass

a much wider range of actions against an 'axis of evil' focused on Iraq, Iran and North Korea. Not long after, his West Point speech further extended the conduct of that war to include the possibility of pre-emptive military action in the face of perceived threats.

This extension came at a time when the focus of administration security concerns was already on the Saddam Hussein regime in Iraq and was the cause of increasing unease among a number of US allies, especially in Western Europe. Such unease was in marked contrast to the exceptional support that the United States had received in the immediate aftermath of the 9/11 atrocities, exemplified by the famous *Le Monde* headline 'We Are All Americans Now'. During the course of the latter part of 2002, that unease grew markedly, even though some European allies such as the governments of Britain, Italy and Spain remained resolutely in support of the United States as the move towards a confrontation with Iraq became more evident.

War aims

In reviewing the first five years of President Bush's war on terror, it is useful to compare the aims of the main actions with the outcomes, specifically in the case of Afghanistan, Iraq and the al-Qaida movement. Writing this in the autumn of 2006, there is a widespread recognition that the war on terror has not developed in the manner that was expected and planned by its proponents, but that only becomes really clear when a contrast is drawn between the original expectations and the outcomes after five years.

Afghanistan

The decision to terminate the Taliban regime in Afghanistan was taken very rapidly and was achieved within a matter of weeks. The intention of the action was threefold – to destroy a regime that harboured the al-Qaida movement, to seriously damage that movement by removing its main area of training, logistics and operations, and to see Afghanistan make a political and economic transformation to a Western-orientated market economy state, closely allied to the United States and hosting US military facilities, these subsequently being centred on two bases, Bagram and Kandahar. It was not anticipated that a major presence of US combat troops would be necessary and although the two bases were likely to be substantial, their combined strength would almost certainly be just a few thousand personnel. Given the military capabilities involved, though, and the potential for emergency resupply, this would be quite enough to ensure the survival and stability of a client administration in Kabul, given that the Taliban had been eliminated.

While Afghanistan might not be of huge importance in terms of its overall economy or its resource base, its location in Central Asia was of potential value to the United States because of that wider region's energy resources. Furthermore, the very act of terminating the regime required facilities in

neighbouring countries and there was considerable value in using the actions in Afghanistan to develop a more extensive military presence across Central Asia. The end result of regime termination would therefore be substantially increased US influence across much of the region.

Iraq

Looking then at Iraq, the stated aim of regime termination was to remove a threat both from weapons of mass destruction and purported Iraqi links with al-Qaida, but the actual outcome of termination and subsequent occupation would have much wider value. It was expected that regime termination would be achieved with ease, with widespread anticipation of a brief 'shock and awe' air assault operation. This would be followed by a sustained welcome from a thankful population that had been so oppressed by the old regime. This, in turn, would lead on to a markedly pro-American Iraqi administration that would follow strongly free-market economic patterns organised by the Coalition Provisional Authority (CPA) under Paul Bremer.

It is worth recalling the extent to which the Iraqi economy would be transformed into a system that would have a far more 'free' economy even than that of the United States. The Coalition Provisional Authority, with its extraordinarily wide remit would ensure an economic system that would allow for comprehensive privatisation of state enterprises, a flat rate tax system and a minimum of state interference. Privatisation would be geared to encourage foreign investment in Iraq, especially from transnational corporations with strong US connections. It would even allow the involvement of Israeli companies.

Although the insurgency was already developing in the period of CPA control through to mid-2004, the attempts to continue the comprehensive remodelling of the Iraqi economy continued after the CPA had handed over to the interim administration of Iyad Allawi. Mr Allawi, who was appointed by Mr Bremer, had authority over two key posts – the national security adviser and the head of national intelligence – but these were to serve a five-year term of office whatever government eventually took power.

One of Mr Bremer's last edicts was to place his own nominees as inspectors-general in every Iraqi government ministry, also for five-year terms. Thus Mr Allawi, with his previous CIA links and heading a cabinet with several members holding US citizenship, would oversee an administration permeated by a shadow inspectorate that had been established by the departing head of the CPA. In cementing this relationship, the world's largest embassy would be built in Baghdad, with an initial construction budget of $480 million and a staff of around 1,700 including 1,000 Americans. The embassy would establish four major diplomatic missions across the country in Basra, Mosul, Kirkuk and Hilla and there would be five further regional diplomatic teams as well as 200 advisers working with Iraqi ministries.

Within a couple of weeks of the fall of the Saddam Hussein regime it was reported that the US military planners expected to draw down the occupation forces to no more than 70,000 troops by September 2003, a halving of the force levels within six months of the start of the operation. At the same time, there were clear indications that the Bush administration planned to develop four sizeable military bases at key strategic locations within the country. There would be one base, probably the largest, close to Baghdad, one adjacent to the major oilfields down towards Basra and a third close to the northern oilfields on the Kirkuk/Mosul axis. The fourth and final base was expected to be developed in the west of Iraq where it would serve two purposes. One would be to cover the sparsely populated region around the border with Syria and the other would be its proximity to oil reserves that were confidently expected to be developed in the western desert.

US troop levels might eventually be drawn down to no more than 20,000 at the four bases, but they would ensure the security of a future Iraqi administration, provided it retained close links with Washington.

For the United States, the transformation of Iraq into a free-market economy and a client regime dependent on US forces for its security had long-term advantages that greatly exceeded the immediate impact of regime change. As argued in Chapters 4 and 6, the Persian Gulf oil supplies are of fundamental economic importance to the entire world economy and have a particular resonance for Washington given that both the United States and its potential rival, China, are increasingly dependent on imported oil.

For the United States, the continuing antipathy to the Islamic Republic of Iran was one major cause of concern in the region, but the uncertainty over its relationship with Saudi Arabia was an added factor. Put bluntly, it was quite unacceptable to have the three countries with the world's largest oil reserves, Iran, Iraq and Saudi Arabia, not under the firm influence of Washington. Thus by transforming Iraq into a client state, Saudi Arabia's significance was diminished and, more importantly, Iran would be hugely constrained in its regional ambitions. Moreover, Iran would be bordered by two states, Afghanistan to the east as well as Iraq to the west, that would both be client regimes of the United States. The transformative potential of regime termination in the two countries was therefore obvious and hugely attractive.

Al-Qaida

At the start of the war on terror, the al-Qaida movement was viewed as a relatively hierarchical organisation centred on Afghanistan and headed by a newly designated Public Enemy Number One, Osama Bin Laden. He was placed ahead of the next most-wanted individual, the Taliban leader Mullah Omar, and one of the early war aims was the killing or capture of these two individuals. It was not clear whether the termination of the Taliban regime in Afghanistan would fully cripple the al-Qaida movement but there was

great confidence that it would be hugely reduced in potential as a result of three substantial developments.

One would be the removal of Afghanistan as its main base of operations, greatly limiting the organisation's ability to train its cadres and dispersing its operations across a number of countries, thereby creating numerous logistical and organisational problems. The second would be the killing or detention of large numbers of al-Qaida paramilitaries and their associates in Afghanistan, Pakistan and elsewhere. Removing a substantial part of the movement's key personnel would set it back by some years. Finally, the transition to markedly pro-Western regimes in Afghanistan and Iraq, coupled with strengthened counter-terrorism laws in many of America's allies, would make it abundantly clear that the United States had influence that greatly exceeded that of a dispersed and largely incoherent al-Qaida movement. Even if it had once succeeded in an audacious attack on its 'far enemy' and might still have had some capability for staging attacks, it would be in marked retreat.

A war to be won

Putting these expectations together, it was reasonable to predict that a war on terror stretching over three years would have produced an international security environment in which the United States and its close coalition partners would have largely regained control after the extraordinary shock of the 9/11 attacks. This would largely have been achieved by the end of 2003, within nine months of the termination of the Saddam Hussein regime. Allowing for any minor difficulties, it would certainly have been achieved within three years of 9/11. Afghanistan would be a client state undergoing a slow but steady transformation to a market economy. It would have a US military presence ensuring the security of a pro-American government and US influence would be far stronger across Central Asia than it had been prior to 2001. The al-Qaida movement would be dispersed and greatly weakened. It might still be capable of some actions, but these would be diminishing in extent.

Iraq would be in the process of transformation – rapidly moving towards a free-market economy with heavy investment from overseas, especially the United States, and a client government in Baghdad supported by a substantial US military presence capable of extensive reinforcement. A pro-Western Iraq would transform the security environment in the Persian Gulf, not least in limiting the influence of Iran. It would be a beacon for regime transformation that could certainly extend to Syria.

Some problems would remain. There would be questions over Pakistan's reliability, especially in terms of the Islamabad regime's control over the districts bordering Afghanistan, and the transformation of Iraq would not necessarily lead to an improving relationship with Saudi Arabia. There would be continuing issues with Iran, even if the Tehran administration felt constrained by the presence of pro-Western regimes to its east and west.

Finally, the war on terror would not necessarily have had any impact in limiting the North Korean regime, although even there the demonstration of US power in the Middle East and Central Asia would be a powerful reminder of the determination of the world's sole superpower to face down perceived threats to its security.

These might all be substantial issues, but they would be set against the clearly demonstrated successes of the war on terror, with the military power of the United States only too evident. The jungle might not have been fully tamed but was now coming under control, and the project for a New American Century would most certainly be back on track.

If these were the expectations than the realities have turned out to be radically different. In all three major respects – Afghanistan, Iraq and the al-Qaida movement – the outcomes have been close to disastrous for the United States and its coalition partners, with the global war on terror now being transformed into a potentially decades-long war with Islamofascism that is being claimed to be the defining feature of the first several decades of the twenty-first century, much as the Cold War defined the second half of the twentieth century.

Afghanistan

Regime termination in Afghanistan did not take the form of a comprehensive military defeat of the Taliban. Although there was bitter conflict with the Northern Alliance in some of the northern cities, and some engagement with US forces in the east, for the most part the Taliban militias simply melted away in the face of superior forces, returning to their towns and villages in Afghanistan and across the border in Pakistan. In part this was because of the manner in which the US military chose to fight this war.

It may well have been an intention of al-Qaida planners that the 9/11 atrocities would have produced such a strong reaction that the United States would have engaged in a full-scale invasion and occupation of Afghanistan. From an al-Qaida perspective this could then have provided the potential for a long-lasting guerrilla war of attrition involving the Taliban, al-Qaidi militias and jihadists from around the world determined to evict the occupiers and resulting in a profound defeat for the 'far enemy' just as the Soviet Union had been defeated in the late 1980s. Indeed, since that defeat could be seen as contributing greatly to the collapse of the Soviet Union, so an American defeat in Afghanistan might have a similarly profound political impact.

In practice, though, regime termination was achieved by quite different means, as outlined in Chapter 9. First, small numbers of troops were deployed to Afghanistan, but these were very largely drawn from Special Forces units and were charged with tasks such as target acquisition, reconnaissance and the purchasing of support from warlords and others. Second, air power was used on a very substantial scale, using both precision guided munitions and area bombing. Finally, and most significant of all, US policy was to

alter the entire balance of the existing Afghan civil war between the Taliban and the Northern Alliance. That the Alliance had a human rights record scarcely better than the Taliban was of little account, since the Northern Alliance had not harboured al-Qaida. The US policy was therefore to finance and otherwise aid the immediate and substantial re-arming of the Northern Alliance, enabling it to engage with and defeat the Taliban.

In the face of a reinvigorated Northern Alliance and US air power, Taliban units systematically withdrew, most famously in Kabul where the city was emptied of militias overnight. The result, though, was to leave a security vacuum which, at the time, was identified by UN and other specialists as being of great potential danger. In early 2002 there were calls for a very substantial peace-keeping force to be deployed in Afghanistan with up to 30,000 personnel. Such a force would ensure stability for the several years that it would take for the Afghans to begin to rebuild their country and society after decades of conflict. Such post-conflict peace-building might present Afghanistan with a positive future but the resources were not put in place.

An International Security Assistance Force (ISAF) drawn from NATO member states was assembled, but with barely 5,000 personnel it had little effect outside of Kabul and some northern cities. Meanwhile, the US forces in some parts of Southeastern Afghanistan were beginning to find themselves facing guerrilla actions to the extent that many thousands of combat troops were having to be deployed within a year of regime termination. Even these warning signs were largely ignored as US attention turned to Iraq, and by the summer of 2005 there was abundant evidence of a Taliban revival.

During the course of 2006 Taliban and other militias gained influence and a measure of control across much of southern Afghanistan despite an enlarged ISAF presence of over 15,000 troops. A sizeable British contingent deployed to Helmand Province in what was expected to be a 'hearts and minds' operation turned rapidly into a large-scale counterinsurgency operation requiring extensive close air support. By late 2006 there were close to 40,000 ISAF and US troops in the country but these have been unable to control a renewed insurgency that threatens the peace of much of the country.

Two particular factors are adding to the problems of insecurity in Afghanistan – production of opium and the state of insecurity in western Pakistan. The 2005–6 opium poppy growing season has proved to be the largest ever in terms of area under cultivation, bringing in substantial revenues to warlords, local criminal elements, drug traffickers and Taliban militias. Moreover, there has been a subtle but important change in the nature of the illicit drug industry. In the 1990s, it was common for about one quarter of the raw opium produced in Afghanistan to be processed within the country into heroin, or, less commonly, morphine. Such processing was a lucrative source of additional income within the country as the smuggling in of precursor chemicals and the export of high value heroin was far more profitable than straightforward export of raw opium. By contrast, about three-quarters of opium production is now refined in-country, adding hugely to the financial

inflow, much of it available to the Taliban for financing food, weapons, transport and other supplies and even for the paying of irregular fighters.

The second factor is the state of insecurity in border districts of Pakistan, especially North and South Waziristan and parts of Baluchistan. The writ of the Pakistani government no longer runs in any effective manner in Waziristan, the end result being that Taliban, al-Qaida and other elements have what amounts to a zone of refuge, consolidation, training and support. Furthermore, there remains controversy over the extent to which Pakistani intelligence services aid the Taliban as part of a process of ensuring influence in a future Afghanistan, as they have certainly done in the past.

In overall terms, then, Afghanistan five years after 9/11 is a radically different environment to the original expectations by the Bush administration. While the United States does retain bases in Central Asian countries and in Afghanistan itself, the transition of the country to a stable pro-Western democracy with radical Islamists such as the Taliban thoroughly marginalized is far away from reality. Instead a Taliban resurgence means that, at the very least, a long and bitter conflict stretching over some years is in prospect.

Iraq

The first three years after the termination of the Saddam Hussein regime in April 2003 saw the persistent and grievous decline of post-Saddam Iraq into violence and widespread insecurity. Commencing with an evolving insurgency, the violence underwent a transformation into a complex intermixing of insurgency, sectarian conflict and the involvement of foreign paramilitaries. By late 2006, estimates of Iraqi civilian casualties varied from a baseline figure gathered from press reports of 50,000 people killed through to Iraqi Ministry of Health figures of up to 150,000 and survey evidence suggesting even higher levels.

By October 2006, the civilian death rate was exceeding the total losses in the 9/11 attacks every month. In relation to the occupying forces, the British had little or no control in Basra or large parts of Southeast Iraq, and the US forces had largely lost control of the key Anbar Province west of Baghdad, including the cities of Fallujah and Ramadi. Baghdad itself was experiencing a level of disorder, criminality and extreme sectarian violence that was the worst since the termination of the old regime.

There have been repeated claims since mid-2003, and President Bush's famous 'mission accomplished' speech on the deck of the USS *Abraham Lincoln*, that specific events would lead to a curbing of the insurgency. Among others they have included the deaths of Uday and Qusay Hussein in July 2003, the detention of Saddam Hussein the following December, the handover from the CPA to the provisional government of Mr Allawi in mid-2004, the assault on Fallujah in November of that year, and various elections and constitutional developments in the following two years. None of these has had any lasting impact.

Moreover, three factors further illustrate the problems for the US military. One is the growing regional influence of Iran. Even though the Tehran regime does not control the Shi'a militias or political parties in Iraq, the confessional relationship is sufficiently strong to provide Iran with substantial influence, including the ability to provide a range of logistic support. Furthermore, the defeat of the Israeli Defence Forces by the Hezbollah militia in Southern Lebanon in mid-2006 has resulted in an enhancement of Iran's position in the region-wide confrontation with Israel.

The second factor is the extent of US military casualties. At the time of writing these include almost 3,000 killed, but concentration on these losses disguises the very substantial numbers of American personnel who have been wounded. In October 2006 this passed the 20,000 mark for combat injuries with at least half of these sustaining serious injuries, many being maimed for life. Furthermore at least 10,000 more service personnel have been evacuated back to the United States as a result of accidental injuries or physical or mental ill-health.

The strain on the volunteer army has been serious and is one of the reasons for the decline in domestic support for the war. The Bush administration has tended to avoid giving publicity to the deaths and injuries, and these aspects of the war have not therefore achieved prominence in the national media. At the same time, though, individual deaths and serious injuries have been commonly reported in local newspapers and the broadcast media, cumulatively stimulating a nationwide change of mood, whatever the federal neglect of the issue. This is analogous to the effect of the French losses in the Indo-China War of the early 1950s, which was to lead to a collapse of domestic support for that war by early 1954. The domestic mood in the United States is not at that level but the possibility of an incident akin to the fall of Dien Bien Phu in May 1954 having a similar effect on US domestic opinion should not be discounted.

Although the security situation across much of Iraq was deteriorating throughout 2006, and the bipartisan Baker/Hamilton *Iraq Study Group* was intended to provide independent advice on policy changes, the recognition of the problems in Iraq had reached the most senior military figures during 2005. In April 2005, for example, the Chair of the US Joint Chiefs of Staff, General Richard Myers, acknowledged that the insurgency was maintaining its intensity of the previous year in spite of numerous policy developments by the US armed forces[1].

Perhaps even more significant was a statement of the Defence Secretary, Donald Rumsfeld, on BBC TV's *Newsnight* programme on 14 June 2005:

> This insurgency is going to be defeated not by the coalition – it's going to be defeated by the Iraqi security forces, and that is going to happen as the Iraq people begin to believe that they've got a future in that country.

Shortly after this, Mr Rumsfeld said that insurgencies such as that in Iraq could take a decade or more to overcome. What was remarkable about this was the acknowledgement that the insurgency had developed to such a level within two years despite the presence of some of the key combat elements of the world's most powerful army.

However the Iraq War develops in the coming decade, it is probable that 2005 will be seen as the pivotal year, partly because it was in that year that the insurgency became thoroughly embedded, partly because of the increased role of foreign paramilitaries entering Iraq, especially those motivated for martyrdom, and also because of the increase in inter-communal tensions, even if these were to get far worse in the following year.

Even in 2005, an authoritative independent assessment of the insurgency was that:

> The government faces an insurgency estimated between 20,000 and 50,000 strong. These fighters are organised in as many as 70 cells, operating largely independently and at best with attenuated coordination. With no coherent centre of gravity and no overall leadership, the insurgency cannot be defeated merely by the application of brute force.[2]

Another assessment at broadly the same time sought to put the insurgency in a wider perspective:

> They have a lot of money, stashed before the fall of Saddam Hussein; they have legions of former Republican Guard and Mukhabarat (intelligence) officers (the guerrillas have at least 40,000 active members, plus a supporting cast of 80,000); they have loads of weapons (at least 250,000 tons remaining); they can enjoy a non-stop flow of financing, especially from Saudi Arabia and the Gulf; and they can count on crucial tactical support by a few hundred Arab jihadis.[3]

By the end of 2006, the combination of insurgency and sectarian violence had reached such a level that it was widely accepted that the disorder, insecurity and sheer human suffering was at a level that far exceeded that of the later years of the Saddam Hussein regime, however brutal and autocratic that was.

Al-Qaida

Al-Qaida may now be characterised much more as a diffuse movement involving many different elements with varying intensities of interconnection. Insofar as there was a somewhat more narrowly hierarchical structure in 2001 that was certainly dispersed, with many elements of leadership killed or detained. New cohorts of leadership and expertise have now emerged into a highly dispersed movement, with its changed characteristics making it far

more difficult for Western intelligence and security agencies to track and penetrate. This is in spite of substantial increases in counter-terrorism budgets and the passing of rigorous new anti-terror legislation in many countries.

In the five years since 9/11 the movement has been far more active than in the previous five years. In addition to the major attacks in Madrid, London and Bali, there have been multiple attacks in Sinai, Morocco, Istanbul, Amman, Karachi and Djakarta as well as other attacks in Tunisia, Saudi Arabia, Yemen, Kenya and Jordan. There have also been interceptions of planned attacks in France, the United States, Britain, Italy and Singapore. Support for the al-Qaida movement and its associates is stronger than five years ago, and the level of anti-Americanism is more intense across much of the majority world.

This vitalisation of the movement has almost certainly been aided by some key aspects of the war on terror, not least in how it has been conducted in Afghanistan and Iraq. Civilian casualties in those two countries together have certainly been at least 100,000 people killed and some hundreds of thousands injured, the death rate being at least thirty times the size of that of the original 9/11 attacks. This loss of life has been almost exclusively experienced by Moslem communities. It is reported in persistent detail by popular satellite TV news channels such as Al-Jazeera and is also subject to far greater direct propaganda in the form of DVD, video and web distributions.

Since 9/11, around 100,000 people have been detained for varying lengths of time. Some have been detained without trial for close to five years and fewer than a thousand have been tried in court and then sentenced. At any one time, at least 15,000 people are detained without trial, mainly in Iraq and Afghanistan. Torture and lesser forms of prisoner abuse are widespread, as is rendition. All of this is far better known among communities across the Middle East than it is in the United States. The effect is cumulative – increasing support for movements such as al-Qaida and associated groups.

Although the al-Qaida movement is viewed from the perspective of the Bush administration as an Islamofascist entity with little more than a nihilist ideology, this ignores the reality of a more subtle and sophisticated quasi-revolutionary movement with distinct aims. It operates broadly over two timescales – with short-term aims stretching over a few decades and an overarching aim that may take up to a century. Among the more immediate aims are the removal of foreign occupier forces from the Islamic heartland of the Middle East, with the recent US military withdrawal from Saudi Arabia being an early success. The House of Saud is singled out as being an entirely unacceptable Keeper of the Two Holy Places because of its elitist, corrupt and pro-Western orientation. It, and other regimes across the Middle East and Southwest Asia, especially Egypt, Iraq, Jordan, Iraq, Afghanistan and Pakistan, all require regime transformation and their progressive transition to Islamist governance.

Al-Qaida has embraced the Palestinian cause since 2002, often to the dislike of Palestinians, but the status of Jerusalem and the activities of Israeli governments since 2000 have made this a worthwhile addition to its aims

in terms of seeking wider support. Similarly, the movement will embrace individual movements such as Chechen rebels and separatists in southern Thailand.

In the longer term, the movement seeks the re-establishment of an Islamic Caliphate, which might be far more rigorously Islamist than historic caliphates. Even so, the movement can point to early caliphates, especially the Abbasids, as examples of flowering of Islamic culture. Indeed, the Abbasids can be singled out for particular attention and symbolism, given that the historic centre of that caliphate, Baghdad, can now be said to be occupied by neo-Christian crusader forces and their Zionist allies.

The situation in Iraq is complex for al-Qaida in that the movement might well seek a role in the expulsion of foreign forces but, at the same time, Iraq is acquiring an immensely valuable role in two respects. One is the level of violence against civilians, which can be put down to the occupiers even if that is only partly true. The other is that Iraq is developing a substantial role as a combat training zone for young foreign jihadists, much as Afghanistan was against the Soviets in the 1980s and against the Northern Alliance in the 1990s. In Islamic culture, though, Iraq is much more significant as an example of foreign occupation. Moreover, the combat training is against some of the best-equipped forces of the world's only superpower in a largely urban environment. This is highly valuable training that should help to produce a new cadre of paramilitaries with potential for action over many years and in different zones of conflict, as the al-Qaida movement pursues its aims. It may therefore be the case that a US withdrawal from Iraq would actually be a setback to the movement.

Changing policy

While there may not yet have been another mass casualty attack in the United States, in just about every other respect the conduct of the war on terror has been deeply and persistently counterproductive. The al-Qaida movement remains active, Iraq is disastrously insecure, much of Afghanistan is mired in conflict, and the Israeli defeat in Lebanon, in an operation backed fully by the Bush administration, has seriously damaged Israel's posture of deterrence through military strength as much as it has increased the status of Iran.

If there was to be a substantive change in US policy, it would have to address the principle aims of al-Qaida, seeking to remove them as motivators for the wider movement. As well as an intense effort to ensure a just and lasting peace for Israel and Palestine, a disengagement in Iraq and strong support for improved governance and socio-economic and political reforms across much of the Middle East and Southwest Asia would be required. For quite other reasons, not least the consequences of climate change, a rapid decrease in reliance on Persian Gulf oil would be essential.

On present trends, such a policy transformation is highly unlikely. Factors such as Gulf oil dependency, the influence of Christian Zionism and the more general pursuit of the New American Century all militate against such a transformation. Instead, the Long War against Islamofascism is now the construct, with that term embracing everything from the Taliban, al-Qaida, Hezbollah and Hamas through even to the Tehran regime – all of them subsumed into a single enemy.

On present trends, therefore, it is probably wise to assume that the war on terror will not soon be resolved and that further insecurity will result. At some stage in the period through to 2020, a substantial change of outlook, leading to a different security paradigm may be embraced, and this may extend well beyond the immediate issue of the war on terror to include the substantive global issues of socio-economic divisions and environmental constraints discussed in Chapter 12. If that were to happen, and a paradigm of sustainable security were to emerge, than the failure of the war on terror in the years after 2001 might well be the major stimulus required to effect that change.

12 The long war and the illusion of control

A consensus view

Looked at from a Western elite perspective, there are substantial problems in the international system but these are manageable, even when the 9/11 attacks and their increasingly difficult aftermath are included. The global economy is making progress, with quite impressive levels of growth being achieved across most continents. The Asian downturn of the late 1990s was certainly a concern but that was more of a temporary setback than anything else, and while sub-Saharan Africa remains mired in poverty it is not significant for the world economy as a whole.

Much more positively, from an elite perspective, there has been impressive economic growth in South and East Asia, and Russia is well on the way to recovering from the setbacks of the early 1990s. There may be concerns over the re-emergence of a strong Russia, but it is also a state with which the West can do business. Meanwhile, Europe is edging further towards integration, key countries such as France, Germany, Spain and Britain continue to expand their economies and even those annoying unwashed activists in the anti-globalisation movement now cause few problems.

From this perspective, 9/11 was certainly a shock, not just to the United States but also to political and business leaders across much of the Western world and beyond, and the subsequent war on terror has not gone remotely as well as might have been expected. Even so, while substantial adjustments may have to be made, there remains little doubt that real power still lies with the United States and a small group of knowledgeable, sensible, civilised and essentially like-minded states. The Long War can be won; it may be more difficult than originally expected but control must and can be maintained.

There are also longer-term problems to be faced, with energy resources and climate change being two of the main issues. Vigorous pursuit of new oil and gas fields across Africa and Latin America combined with maintaining control in the Persian Gulf should provide a response to the former, and nuclear power and some modest controls of carbon emissions should at least stave off the latter. In any case, the doomwatchers always tend to exaggerate and the available evidence suggests that the major impacts of climate change

will include a warming of the northern latitudes, affecting countries with powerful economies that should be well able to cope. Indeed, a warmer Canada, Britain and Russia would be no bad thing.

Overall, from this perspective, we may have some substantial difficulties in Iraq and Afghanistan, and the continued viability of al-Qaida may be an unexpected problem, but these are not in any sense serious threats to a stable international system given the overwhelming military power of the United States and its allies. Furthermore, as we enter once more into an era of rising defences budgets, a positive environment for defence industries emerges once again.

Assurance and uncertainty

Such a world view might be ascribed to most political and business leaders and civil servants, and even intellectual communities across the countries of the Atlantic community, but it will extend to similar elites in many countries across the world – in the Middle East, India, Japan and across Latin America. Individual politicians may not always entirely embrace this view and there may be some suspicion of the Western liberal approach, especially from outside the Atlantic community when it extends to notions of a New American Century, but the extent of the consensus should not be underestimated. One of the features of the past 40 years has been the growth and consolidation of a substantial wealthy elite in countries that might still be termed the 'third world', and there is now a stratum of commercial success and elitism that is positively global.

So far in this brief discussion the use of the term 'Western elite perspective' has been taken to mean the traditional view of a relatively narrow sector of perhaps a few hundred thousand people, the 'movers and shakers' who have the greatest influence and power. Within this community, the increase in wealth in the past 30 years has been remarkable, even more so at the very top. In 2006 all of the *Fortune* list of the richest 500 Americans were, for the first time, billionaires. Even so, 'Western' is still misleading in that the global elite is so much more truly transnational. Indeed, some of the most impressive accretions of individual wealth since 1980 have been in Asia – the watering holes of the elite such as Davos, Aspen, Bilderberg and others are far more cosmopolitan than in the 1980s.

If we then go on to use the term 'elite' in a wider sense, to encompass the billion or more people who have benefited quite consistently from the economic growth of the past three decades, then we find that this is also far more transnational than it was. There may be well over 200 million people in India and China that would now be described as 'middle class', with millions more in countries such as Brazil, Mexico and even Egypt. These may all be minorities in their own states whereas in the US, Britain, Australia, Spain, Italy and other OECD (Organisation for Economic Cooperation and

Development) countries they will be in the majority, even if there are sizeable minorities on the margins of those wealthy states.

In broad terms, this much wider elite has also much to be satisfied with, having experienced a protracted improvement in living standards, even with the minor setbacks of the 1970s 'stagflation' and the 1990s Asian downturn. In spite of this, though, there is some sense of growing unease on issues such as the war on terror, the pressures of migration and global environmental problems such as climate change, but only minorities within this wider elite see a need for any substantial response. All might not be entirely well with the world but for most people, including the intellectual, political and economic leaderships, the liberal model is the essence of what we are about and that is how things will continue. The Washington consensus holds good and there is no alternative, even if modest adjustments may have to be made from time to time. There really is only one game in town.

The majority world

This book has sought to offer a rather different perspective, one that might actually be more in tune with what might be termed the majority world. It starts with a radically different assessment of the Cold War. This was a 45-year period of an extraordinary diversion of intellectual and financial resources away from human well-being. Proxy wars cost the lives of at least 10 million people across the world, with tens of millions more injured, many maimed for life. An unbelievable nuclear arms race peaked with 70,000 nuclear warheads available, enough to destroy the world many times over. Seriously minded planners developed schemes for fighting and winning nuclear wars. Furthermore, the Cold War left in its wake a legacy of militarisation, not least in the perceived utility of weapons of mass destruction and a cascading of conventional weapons across continents. In short, it was an era of absurdity.

The Cold War confrontation ended with Western states predominant, especially the United States, and much of the 1990s was taken up with ensuring that the international financial institutions further developed the structures for a global liberal market economy. That decade also witnessed a slow but steady transformation of military power towards systems that owed less to the superpower confrontation of the Cold War era and more to responding to a disparate security environment in which smaller threats – the poisonous snakes of that unpredictable jungle – could be controlled.

In reality, though, the global liberal market was delivering patchy economic growth but was signally failing to deliver economic and social justice, with a rapidly growing divide between an elite of perhaps a billion people and a substantial marginalised majority that was more educated, literate and increasingly aware of its own marginalisation. Chapter 6, written in 1999, argued that this combination of marginalisation and awareness was one of the key global trends, along with the development of environmental constraints

on human activity, most notably through the existing issues of resource security and the longer-term and potentially dominant problem of climate change.

While pointing to likely conflicts over Persian Gulf oil resources and the possibility of international rivalries involving the United States and rising 'middle kingdoms' such as China and India, it also argued that a key development was the rise of radical social movements, essentially anti-elite and potentially transnational in impact. It was argued that they 'may have recourse to political, religious, nationalistic or ethnic justifications, with these frequently being fundamentalist, simplistic and radical'. The conclusion was that, 'on present trends, anti-elite action will be a core feature of the next 30 years – not so much a clash of civilisations, more an age of insurgencies'.

Since that was written there have been both national and transnational examples of such a trend. In Nepal, a vigorous and powerful neo-Maoist insurgency has acquired influence at a rate that has been as rapid as it has been unexpected, and in India a Naxalite revival has been just as great a surprise, now involving insurgent actions in a third of India's states. In China, too, substantial civil disturbances have been continual if little reported features of society away from the booming coastal cities.

Beyond these, though, has been the rise of radical Islamic movements, especially al-Qaida, and the impact of such movements, in particular before and after the 9/11 attacks. There is a general assumption that the al-Qaida phenomenon is an entity quite different from other radical and extreme social movements but this may well be mistaken. In essence, al-Qaida is best seen as a transnational revolutionary movement with religious context and a very strong anti-elite undercurrent that aims not just at the 'far enemy' of the United States and its allies but at the 'near enemy' – the controlling elites in Egypt, Saudi Arabia, Pakistan and elsewhere across the Islamic world.

While most Western security analysts may be preoccupied with seeing the al-Qaida movement as a well-defined Islamist construct, highly important yet isolated in a particular religious environment, its real significance may be much more as a symptom of a wider global development, a revolt from the margins that may be increasingly paralleled by other radical social movements with roots in ethnic, political or other identities. Much as the anti-colonial movements of the 1950s were as disparate as they were pervasive, so al-Qaida may come to be seen as forming one part of an anti-elite phenomenon in the early twenty-first century.

In that sense, the rise of al-Qaida and the current and alternative responses to it represent a model for much more broad issues of international security. In Chapter 11 it was argued that responding to al-Qaida should best concern the circumstances that has made the movement so attractive. Requirements therefore include an enduring commitment to the rule of law, a just and lasting Palestinian settlement, ending regional occupations, substantial moves towards socio-economic justice and the reform of governance in key elite states, especially across the Middle East. This would be in contrast to the

current policies of the rigorous use of military force, mass detentions and support for regional elites.

While there is little immediate prospect of such a transformation, it is becoming increasingly obvious that current policies are not working. Earlier chapters in this book, especially Chapter 8, have pointed to the potential vulnerabilities of elite societies, with an evolving ability by radical paramilitary movements to engage in actions that are as effective as they are asymmetric. What is even more surprising is the manner in which such movements have engaged with the most advanced military forces in the world and have rendered them ineffectual.

The Lebanon War in July–August 2006 was one notable example leading to the defeat of the Israeli Defence Forces by a few thousand determined Hezbollah guerrillas. In Iraq, the persistent ability of insurgents to wreck any reconstruction of the Iraqi economy, especially the oil industry, has been a constant surprise, given the presence of over 300,000 US, coalition and Iraqi security forces. In both Iraq and Afghanistan, insurgents armed with basic weapons have proved difficult if not impossible to control. The al-Qaida movement and its affiliates have repeatedly demonstrated their capacity for actions using deeply asymmetric techniques. Even without the use of more advanced systems of destruction they have demonstrated their own abilities and, in the process, the potential for future radical movements as yet unknown. Given the transformation of the US military towards taming the jungle, the extraordinary result is the ability of the jungle to bite back. Far from achieving 'full spectrum dominance' the predicament for the United States and its allies is more one of edging towards full spectrum vulnerability.

Similarly, on a global scale and looking towards the 2020s, the key issue is the combination of deep socio-economic divisions with an aware but marginalised majority in an environmentally constrained world. Powerful communities may engage in a vigorous desire to maintain control but this is proving to be a desire that is as misplaced as it is unworkable, given the inbuilt vulnerabilities of the modern elite state.

An alternative concept of sustainable security looks to addressing the underlying factors. In socio-economic terms these include fundamental international trade reforms that enable poorer communities to engage in trade without the restrictions and injustices that are as pervasive as they are persistent (Chapter 6). They include a comprehensive response to indebtedness and a transformation in development assistance towards a far greater commitment to gendered and sustainable development. The meeting of UN targets of 0.7 per cent of GNP in development assistance would be no more than a start.

In responding to the potentially existential threat from climate change they require a rapid transition away from carbon emissions in elite countries, certainly down to 40 per cent of current levels by 2020. Such a transition to energy conservation and renewables can, under those circumstances, be legitimately expected also of the newly industrialising countries. Moreover,

curbing the excessive addiction to oil will also greatly reduce the potential for conflict in regions such as the Persian Gulf. Finally, responding to the underlying problems also requires a commitment to the many elements of disarmament, demilitarisation and peace-building embodied in the UN Agenda for Peace.

While such a radical prescription may appear transformative to an extent that renders it almost unimaginable, it can be argued that it is a fundamentally rational response to current and future predicaments. Moreover, it is increasingly apparent that current policies are not adding to security, with the conduct of the war on terror being the most obvious example. Instead, they are deeply ineffective and add powerfully to an insecure world.

Prophecy may be defined as 'suggesting the possible' in the sense of the need to think through the mode of transition to sustainable security. In that regard, the work of academics, activists and others may be singularly important, both in critiquing current approaches and suggesting viable alternatives. Given the experience of the first few years of the twenty-first century, with the imposition of such a profoundly counterproductive and increasingly redundant security paradigm, it may well be that the second decade through to 2020 might prove to be the pivotal decade for much of the rest of the century. Over the next decade or more, the opportunity should present itself to challenge the 'control paradigm' to the extent that it becomes evidently and terminally obsolete.

Notes

Introduction

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> In the future, capabilities based in the continental United States will likely become the primary means for crisis response and power projection as long-range air- and space-based assets increasingly fill the requirements of the Global Attack core competency.
> John A. Tirpak, 'Global Engagement', *Air Force Magazine,* January 1997

For more general assessments of the future of US manned bombers, see: Robert Wall, 'US Bomber Plans Focus in Upgrades', *Aviation Week and Space Technology,* 8 March 1999; John A. Tirpak, 'The Bomber Road Map', *Air Force Magazine,* June 1999; Bryan Bender, 'The Long Run, Planning the Future for US Strategic Bombers', *Jane's Defence Weekly,* 25 August 1999.
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6 The new security paradigm (2000)

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 3 Palmer Newbould, 'The Global Ecosystem', in Anthony Vann and Paul Rogers (eds) *Human Ecology and World Development,* Plenum Press, London and New York, 1974.
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 5 Film interview in 1971, quoted in: Nance Lui Fyson, *The Development Puzzle,* Voluntary Committee in Overseas Aid and Development, London, 1972.
 6 'Problems of Raw Materials and Development' *UNCTAD Document TD/B/488*, UNCTAD, Geneva, 1974).
 7 An informed history of the UNCTAD process is Nassau A. Adams, *Worlds Apart: The North-South Divide and the International System,* Zed Press, London and New Jersey, 1993.
 8 There were, and are, several requirements for a group of commodity-producing states to be able to exercise 'producer power'. The states concerned must maintain a high degree of unity of action, they must control a large proportion of trade in that commodity and, if it is non-renewable, they must control most of the reserves. Large stockpiles must not be available in consuming countries, the commodity must not be capable of rapid substitution with an alternative, and the group of states exercising producer power must have sufficient commercial and financial resilience to be able to survive any action attempted by consuming countries. OPEC achieved all of these requirements in 1973/4, but its unity of purpose collapsed by the end of the decade, heralding a period of low oil prices from the mid-1980s. It regained some unity of purpose in the late 1990s, leading to production cuts and buoyant oil prices in the winter of 1999–2000. No other countries or groups have been able to emulate OPEC, though Morocco had a sufficient dominance in phosphate trade to double export prices in 1973/4. The Association of Natural Rubber Producers has, on occasions, been reasonably successful in maintaining export prices, not least because it is dominated by just three countries, Malaysia, Thailand and Indonesia, and copper and bauxite producers had occasional limited success in the 1970s. For a full discussion of the links between trade and poverty, see: Belinda Coote, *The Trade Trap: Poverty and the Global Commodity Markets,* Oxfam Publications, Oxford, 1992. See also: Kevin Watkins, *Fixing the Rules,* CIIR, London, 1992 dealing with more detailed North–South trade issues. A more general account of the links between resources, development and international relations is: Paul Rogers,

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27 Loren Thompson, 'Give Airborne Laser Fair Shot at Missile Defense Role', *Defense News,* 11 October 1999.
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8 Economic targeting and asymmetric warfare (2001)

1 Although the Northern Ireland conflict played little part in the 1992 general election, the previous six months had seen a substantial number of incidents. On 15 November 1991, two members of PIRA were killed when a bomb exploded prematurely while it was being planted near a concert hall in St Albans where a military band was scheduled to play. There were a number of shootings in Northern Ireland throughout the period, as well as a disruptive bomb at London Bridge railway station in February 1992.

2 An overall assessment of long-term republican strategy up to the 1994 ceasefire is to be found in M. L. R. Smith, *Fighting for Ireland: The Military Strategy of the Irish Republican Movement,* Routledge, London and New York, 1995.

3 See Smith op. cit.

4 In the 1992 general election, the Sinn Fein president, Gerry Adams, lost his seat to a candidate from the Social and Democratic Labour Party, and Sinn Fein as a whole saw its share of the vote in Northern Ireland decline to about 10 per cent.

5 Retaliation was a long-standing feature of the Northern Ireland conflict. For example, on 17 January 1992, a PIRA bomb killed eight Protestant men in a minibus at Teebane Cross in County Tyrone, the action being taken because their employer was contracted to elements of the security forces for maintenance work. Three weeks later, on 5 February, a unionist paramilitary group, the Ulster Freedom Fighters, killed five Catholics in a betting shop in the Ormeau Road district of Belfast in direct retaliation.

6 Among the loyalist paramilitary organisations are the Ulster Defence Association, the Ulster Freedom Fighters and the Ulster Volunteer Force. Succinct accounts of the history of these and other loyalist groups are in: Sean Anderson and Stephen Sloan, *Historical Dictionary of Terrorism*, The Scarecrow Press, Metuchen, NJ and London, 1995. Smith, op. cit., provides a detailed chronology of the Northern Ireland conflict up to the 1994 ceasefire.

7 The use of small disruptive bombs, especially those aimed at railway and underground stations, was not a new policy. It had been used over a number of years in Britain and Ireland and it was also common practice to parallel such bombs with a larger number of false alarms, using code words known to the authorities to establish authenticity.

8 The Baltic Exchange bomb targeted that part of the City of London that was home to many of the major insurance companies, although it is not clear that this was the intention of PIRA. For a detailed assessment of the immediate effects of the bomb and the disruption caused, see: Liz Fisher, 'Bloodied, but not Beaten', *Accountancy,* August 1992, pp. 34–7. The title is indicative of the attitude of the business professions, and Taylor's article (see Note 9) is also useful in giving a comprehensive account of the manner in which substantial efforts were made to minimise the commercial impact of the bomb in its immediate aftermath.

9 One of the buildings damaged by the bomb was the tallest office block in the City of London, the 200-metre NatWest Tower. After the attack, the tower underwent a comprehensive repair and renovation process lasting nearly three years. About half of the £100 million cost related to bomb damage and was likely to be covered by insurance. One part of the process was the installation of toughened laminated double glazing to replace the original glass cladding that had been used in the original construction of the building, prior to any concern about paramilitary action. See: Andrew Taylor, 'City landmark's towering achievement', *Financial Times,* London, 2 December 1999.

10 Press reports during the period did focus on the problems being created by the PIRA campaign. According to *The Times*:

> The IRA, in deploying massive amounts of explosive against targets like the Baltic Exchange or Canary Wharf, is trying to demonstrate that it is not only the provincial towns of Ulster and Belfast that must pay the price for British rule in Northern Ireland. The London bombs are supposed to remind the British people that, in the IRA's view, a war is being fought in their name on the other side of the Irish Sea and there is an everyday cost for them in continuing. . . . There appear to be two principal objectives to this kind of violence. If the IRA can sustain a campaign of this kind, albeit intermittently, over a number of years, it can substantially increase the already high price the British taxpayer pays for remaining in the province. The second objective is to try and push British public opinion into actively supporting a withdrawal from Ulster. The past twenty years have demonstrated that this will be difficult to achieve, given the indifference that has characterised public opinion on the Irish question.
>
> *The Times,* p. 3, 17 November 1992

Business trade journals at this time, especially those published overseas, were quick to point to the impact of the London bombs on British confidence. For example:

> The explosion which ripped into the City on a quiet Saturday earlier this spring, killed one person and injured four, but the strategic damage the IRA seems to have wanted to inflict – and succeeded – is seriously sapping the world financial community's confidence in the Brits' ability to keep the financial district safe for business. The fact that the blast occurred on the first anniversary of another such outrage is being interpreted as a message to foreign banks that the IRA can come and go in England with impunity.
>
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11 Ralph Atkins, 'The Cost of Terrorism', *Financial Times – Survey of Insurance,* 27 March 1996, p.II.

12 Malcolm Brown, 'The Disaster Business', *Management Today*, October 1993, pp. 43–8.

13 Smith, op. cit.

14 *Evening Standard,* London, 25 April 1996.

15 'News Digest for June 1996', *Keesing's Record of World Events,* pp. 41159–60; David Hayward, 'Manchester Engineers Lead Bomb Damage Recovery', *New Civil Engineer,* 20 June 1996, pp. 4–5.

16 Hayward, op. cit. The reconstruction of the bombed area of the city was completed in time for the Christmas shopping season of 1999, nearly thirty months after the bomb. The project formed part of a regeneration programme aiming to enable the city to compete for retail customers against new shopping malls:

> Rebuilding Manchester has so far cost £550m, with business providing the bulk of the cash following an initial injection of £84m from the government, the EU, and the millennium fund. But by early next century the bill could easily top £1bn, with big retailers, leisure companies, developers and house builders queuing up to invest in a city which has reinvented itself – and, significantly, turned the tide against big out of town shopping centres.
>
> Peter Hetherington, 'Rebirth of bombed city centre', *The Guardian,* London, 22 November 1999.

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35 Desmond Ball, 'US Strategic Forces: How Would They be Used?', *International Security,* Vol. 6, 1982, pp. 31–60; Desmond Ball, 'Targeting for Strategic Deterrence', *Adelphi Paper No. 185,* International Institute for Strategic Studies, London, 1983.
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10 Iran (2006): consequences of a war

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3 Barbara Opal-Rome, 'Seeking Urban Ops Answers in Israel', *Defense News,* 14 June 2004.
4 A *Nimitz*-class aircraft carrier typically carries seventy-two fixed-wing aircraft and six helicopters, including thirty-six F/A-18E Super Hornet strike aircraft. A carrier battle group may normally include a cruiser, two destroyers and an attack submarine, all equipped with sea-launched cruise missiles.
5 Because of the nature of its radar-absorbing surfaces, the B-2A aircraft requires special climate-controlled hangars. These were previously available only at its home base in the United States and at Diego Garcia, the US base on a UK-owned atoll in the Indian Ocean. Two shelters at RAF Fairford were completed and became operational in early 2005. Given the capabilities of the aircraft, both Fairford and Diego Garcia would be essential operating locations for any attack on Iran, thus involving the UK, at least indirectly, in the operation.
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11 The war on terror: the first five years

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