CONFIDENTIAL

THIS DOCUMENT IS THE PROPERTY OF HER BRITANNIC MAJESTY'S GOVERNMENT

C(87) 5

COPY NO 80

26 March 1987

CABINET

STATEMENT ON THE DEFENCE ESTIMATES 1987

Memorandum by the Secretary of State for Defence

I attach the draft of my 1987 Statement on the Defence Estimates, which I propose to present to Parliament on Wednesday 6 May. It has been amended to take account both of comments made in discussion at the meeting of the Defence and Oversea Policy Committee on 18 March, and received since. In addition, two key paragraphs on the defence budget (601 and 603) have been redrafted to take account of the revised inflation forecast in the Financial Statement and Budget Report.

2. This year's Statement has a strong nuclear flavour, reflecting developments in arms control negotiations and the debate at home on NATO strategy and Trident. Other topical themes reflected are public uncertainty about the reality of the Soviet threat (increasing in proportion to Mr Gorbachev's initiatives); and questioning in some European quarters of the United States nuclear presence in Europe. The underlying theme is continuity of policy.

3. Chapter 1 sets our policy in the context of the international strategic situation, and in particular the United States/Soviet arms control negotiations; it cautions against either unilaterally delivering, or negotiating, ourselves into a less secure world. Chapter 2 chronicles developments in arms control negotiations. Chapter 3 records developments in NATO and in European security co-operation. Chapter 4 describes our forces, their roles and equipment. Chapter 5 sets out procurement policy, including our efforts to secure better value for money through competition and international collaboration. Chapter 6 deals with the management of defence resources, and in particular repeats and reinforces the message of last year's Statement that the ending of the period of real growth in the defence budget will necessitate difficult decisions in reconciling aspirations with the money available. Annex A describes the military strengths of East and West.

4. As usual the Statement contains several self-contained essays on aspects of policy. Four out of five essays this year reflect the topical issues mentioned in paragraph 2. 'Nuclear Weapons and NATO Strategy' explains the NATO policy of deterrence, while 'The Minimum Deterrent' sets out the case for an independent British deterrent and for acquiring Trident rather than any alternative. '70 Years On: A Country or a Cause?' marks the anniversary of the Bolshevik revolution with an analysis of the

CONFIDENTIAL

historical and ideological roots of Soviet policies and actions. 'The American Pillar' explains the importance of the United States contribution to NATO and of the presence of United States forces in Europe. There are, as usual, a number of smaller 'boxes' on subjects of special interest, illustrations and photographs, all serving to break up the text.

5. I shall aim to remove the last two remaining square brackets by the time Cabinet meets on 2 April.

6. I invite the Cabinet to agree to the publication of the 1987 Statement on the Defence Estimates.

G Y

Ministry of Defence

26 March 1987

Statement on the Defence Estimates 1987

1

Presented to Parliament by the Secretary of State for Defence by Command of Her Majesty 1987

LONDON
HER MAJESTY'S STATIONERY OFFICE

£5.00 net

Cm 101-I

CONTENTS

TABLES

DIAGRAMS

PHOTOGRAPHS

GLOSSARY

ABM	Anti-Ballistic Missile
ADE	Armoured Division Equivalent
ADP	Automatic Data Processing
ADV	Air Defence Variant
AEW	Airborne Early Warning
ALCM	Air-Launched Cruise Missile
AOR	Auxiliary Oiler Replenishment Vessel
ARRV	Armoured Repair and Recovery Vehicle
ASROC	Anti-Submarine Rocket
ASW	Anti-Submarine Warfare
ATF	Air Transport Force
AWACS	Airborne Warning and Control System
BAOR	British Army of the Rhine
BATES	Battlefield Artillery Target Engagement System
CD	Conference on Disarmament
CDE	Conference on Disarmament in Europe
CDI	Conventional Defence Improvements
CNAD	Conference of National Armament Directors
CSCE	Conference on Security and Cooperation in Europe
CTB	Comprehensive Test Ban
C3	Command, Control and Communications
CW	Chemical Warfare
DES	Defence Engineering Service
DESO	Defence Export Services Organisation
DPC	Defence Planning Committee
DROPS	Demountable Rack Off-Load and Pick-Up System
DTE	Defence Technology Enterprises Ltd
ECM	Electronic Countermeasures
EH101	European Helicopter 101

EOD	Explosive Ordnance Disposal
ERB	Executive Responsibility Budget
FPDA	Five Power Defence Agreement
FPMG	Financial Planning and Management Group
GLCM	Ground-Launched Cruise Missile
ICBM	Intercontinental Ballistic Missile
IEPG	Independent European Programme Group
INF	Intermediate Nuclear Forces
JFHQ	Joint Force Headquarters
LAW 80	Light Anti-Tank Weapon 1980
LRINF	Long-Range Intermediate Nuclear Forces
MBFR	Mutual and Balanced Force Reductions
MCM	Mine Countermeasures
MCMV	Mine Countermeasures Vessel
MDE	Manpower Division Equivalent
MDP	Ministry of Defence Police
MICV	Mechanised Infantry Combat Vehicle
MINIS	Management Information System for Ministers
MIRV	Multiple Independently-Targetable Re-entry Vehicle
MLRS	Multiple-Launch Rocket System
MP	Maritime Patrol
MRT	Mountain Rescue Team
NATO	North Atlantic Treaty Organisation
NORTHAG	Northern Army Group
NPG	Nuclear Planning Group
NST	Nuclear and Space Talks
PE	Procurement Executive
R&D	Research and Development
RFA	Royal Fleet Auxiliary

RM	Royal Marines
RMAS	Royal Military Academy, Sandhurst
RUC	Royal Ulster Constabulary
SACEUR	Supreme Allied Commander Europe
SA80	Small Arms for the Eighties
SALT	Strategic Arms Limitation Talks
SAM	Surface-to-Air Missile
SBA	Sovereign Base Area
SDI	Strategic Defence Initiative
SDIPO	Strategic Defence Initiative Participation Office
SLBM	Submarine-Launched Ballistic Missile
SLCM	Sea-Launched Cruise Missile
SRB	Staff Responsibility Budget
SRBM	Short-Range Surface-to-Surface Ballistic Missile
SRINF	Shorter-Range Intermediate Nuclear Forces
SRMH	Single-Role Mine Hunter
SSBN	Ballistic Missile Nuclear Submarine
STOVL	Short Take-Off Vertical Landing
STUFT	Ships Taken Up From Trade
SUBROC	Submarine Rocket
TA	Territorial Army
TOW	Tube-Launched Optically-Tracked Wire-Guided Missile
2 ATAF	Second Allied Tactical Air Force
UDR	Ulster Defence Regiment
UKMF	United Kingdom Mobile Force
WEU	Western European Union
WP	Warsaw Pact

CHAPTER ONE: MAINTAINING SECURITY

NATO - THE DUAL APPROACH

101. 1986 was an eventful year in the field of international security. September saw the signature of the first major arms control agreement since 1979: on Confidence- and Security-Building Measures in Europe. In October, the radical proposals discussed at the meeting in Reykjavik between President Reagan and Mr Gorbachev gave a new stimulus to the debate that was already taking place about the best means of providing for Western security in the years ahead, and, in particular, focused renewed attention on the role of nuclear weapons in NATO strategy.

102. These were among the issues faced by the Prime Minister and President Reagan when they met in November at Camp David to discuss the way forward on arms control after Reykjavik: a meeting that successfully established the basis of an Alliance strategy for pursuing the opportunities for progress. The two leaders agreed that priority should be given to an agreement on intermediate nuclear forces, with restraints on shorter-range systems; a reduction of 50% over five years in US and Soviet strategic offensive weapons; and a ban on chemical weapons. In all three cases, effective verification would be an essential element. The main features of this approach were endorsed both by Eurogroup Ministers and by NATO Ministers collectively in December. Further details are given in Chapter 2.

103. Whether there is now an opportunity to secure major reductions in nuclear armouries remains to be seen. But in seeking to exploit any opportunity we must keep our eyes fixed firmly on the fundamental objective set out in the preamble to the North Atlantic Treaty and reproduced [below]. For taking steps that may at first sight seem desirable in themselves will be to no avail if their result is to jeopardise the peace and freedom that we have now enjoyed for over 40 years.

'The Parties to this Treaty ..... are determined to safeguard the freedom, common heritage and civilisation of their peoples, founded on the principles of democracy, individual liberty and the rule of law.'

Preamble to The North Atlantic Treaty,
Washington D.C.,
5 April, 1949,

---

104. Maintaining security is ultimately a political and diplomatic as much as a military problem. That is why NATO has always taken a dual approach, seeking political dialogue and greater understanding alongside deterrence and defence. For real security cannot exist where distrust and suspicion reign. Our ultimate aim must be a relationship with the East that is not merely proof against all possible threats, but free of such threats. The British Government has therefore welcomed the steps taken by President Reagan and Mr Gorbachev to build a relationship of greater understanding between East and West. But we recognise that this search will be a gradual process; for the Soviet Union and Western countries start from such different standpoints.

THE CHALLENGE FOR NATO

105. As we argue on page [ ], it has always been an illusion to believe that the Soviet Union is basically motivated by the same aims as Western nations: Soviet history and, above all, Marxist-Leninist ideology have over the years caused Soviet leaders to adopt a very different approach to international relations from that taken in the West. Mr Gorbachev's 'new thinking' is a welcome development; but it is not yet clear how far it will be reflected in Soviet behaviour in the foreign policy field.

106. There is nothing to suggest that Soviet leaders have any desire for war in Europe. Indeed, rather the reverse; for the risk of military failure remains too high. But although they may have no wish to promote war, they do seek by other means constantly to weaken NATO and to expand Soviet influence in our continent, taking full advantage of the freedoms enjoyed by Western societies to achieve their aims. And their activities in this field are backed by an enormous, and constantly expanding, military might, which they have frequently been ready to use in support of political ends, both directly and indirectly, as events in East Germany, Hungary, Czechoslovakia, Poland and Afghanistan have demonstrated.

107. This expanding Soviet military might has been financed by defence expenditure that increased by about 50% in real terms between 1970 and 1985 - substantially more than the increase in NATO expenditure over the same period. During that time, while a broad parity has been maintained in US and Soviet strategic nuclear capabilities, the Soviet Union has increased and enhanced its theatre nuclear systems in Europe. The 1970s saw the introduction of a range of improved Soviet ballistic missiles: the SS-21 in 1975; the modified Scaleboard (SS-22) and the extremely capable SS-20 in 1977; and the SS-23, tested in 1979 and deployed in 1985. This capability, which directly threatens

Western Europe, was unmatched by NATO until the deployment of Western ground-launched cruise missiles and Pershing II in 1983. Even now, as Annex A demonstrates, the Soviet Union has a 3:1 superiority in warheads on longer-range intermediate nuclear missiles, a 9:1 advantage in shorter-range missile launchers and an 8:1 advantage in short-range missile launchers.

108. The build-up of Soviet and other Warsaw Pact conventional forces over the last ten to fifteen years has been no less marked. During that period the Soviet Navy has acquired an ocean-going fleet, which includes three Kiev class aircraft carriers, some 36 cruisers, 60 or so destroyers and about 200 nuclear-powered submarines; of the latter, over 60 carry nuclear ballistic missiles, as well as having a developing land-attack capability from submarine-launched cruise missiles. Warsaw Pact land forces west of the Urals have expanded from 165 divisions in the early 1970s to nearly 190 divisions now. During the same period, the Pact deployed some 10,000 additional tanks and some 15,000 additional and larger-calibre artillery pieces with enhanced capabilities, while NATO's numbers in these categories increased only slightly. The Warsaw Pact has continued to update its air forces with the introduction of new fighter, bomber and support aircraft.

109. The result, as Annex A shows, is that in Europe the Soviet Union and its allies enjoy considerable advantages over NATO in conventional forces. They have the potential to bring to bear substantial numbers of fighting men in a relatively short period. Perhaps more significantly, they enjoy considerable numerical superiority over NATO in several key categories of weapon system. For example, on the Central Front they have twice as many aircraft and tanks and three times as many artillery pieces. They enjoy similar superiorities in other key categories of equipment, such as infantry fighting vehicles and helicopters. In combination, and taken together with the forward deployment of the forces concerned, these represent significant advantages for the Warsaw Pact.

110. Against this background, it is vital that, whatever we may assess current Soviet intentions to be, the West should not lower its guard. For, given the association of an expansionist history and a hostile ideology with an immense military power, we cannot presume - notwithstanding the encouraging developments that are taking place in Moscow under Mr Gorbachev's leadership - that the Soviet Union will never again resort to force, whether in Europe or elsewhere.

'If there is an elephant in your neighbour's garden, there is much to be said for studying its intentions. But, however friendly you may think it to be, there is equally much to be said for having a stout fence to protect your flower beds.'

Lord Carrington,
Secretary General, NATO,
Oslo University,
April, 1985

NATO'S MILITARY STRATEGY

111. NATO's aim is both to deter the direct use of force, and to prevent other, indirect, uses of Soviet military power, such as the application of unacceptable political pressures on the political and economic life of our free Western states. We meet the military challenge by seeking to convince the Warsaw Pact that, if it did resort to force, it would not succeed easily or quickly in achieving its military objectives. Hence NATO's need for the full spectrum of modern conventional weaponry to check and, if possible, repulse an attack.

112. But history, too often repeated, has shown that this traditional kind of defence cannot always be relied on to deter an attacker, even when the defender has a superiority in conventional forces - a position that is certainly not true of Western Europe. The aggressor might miscalculate the likely response. Or he might calculate that he could fight from start to finish on the territory of others: in such circumstances even if he lost, the destruction and suffering would be largely visited on his military forces, while his homeland remained a sanctuary. And his political and economic reasons for initiating aggression might be quite strong enough for him to take that risk. That is why a wholly 'defensive defence' posture, such as some have recommended for NATO, would not be sufficient to provide full security for the West.

113. It is also the reason - quite apart from the Soviet Union's own massive nuclear armoury - why NATO must retain nuclear weapons. In order effectively to deter a potential aggressor, it is important for him to calculate that he would run real risk of suffering unacceptable damage to his own territory and to his own people if he were to attack. Only nuclear weapons can threaten him with that risk. The nuclear contribution to our defence is therefore essential to effective deterrence. For the risks of nuclear war will always be such that it would never be a rational act to provoke it. A fuller discussion of the place of nuclear weapons in NATO strategy is included on page [ ].

'Be careful above all things not to let go of the atomic weapon until you are sure, and more than sure, that other means of preserving peace are in your hands.'

Sir Winston Churchill,
Address to a Joint Session of the US Congress,
January, 1952

114. NATO's policy of deterrence has served our purpose well for nearly 40 years. We cannot prove that it has been the sole factor preventing major war, or the spread of Soviet influence, in Europe during that time. But nor can its opponents prove that the alternatives they propose would be as certain of maintaining peace, while at the same time preserving those aspects of our society that we most value. It would be the height of folly now to abandon a strategy that has been tried and tested, for alternatives that provide no sure guarantee of giving us equal security.

BRITISH DEFENCE POLICY

115. Britain plays a major role in the NATO Alliance. As we describe in Chapter 3, we are the only European member to contribute to all three elements of NATO's triad of forces. The substantial contribution made by the three Services to each of our four NATO roles is considered in Chapter 4; while on page [ ] we look at our activities outside the NATO area. The resources that Britain allocates to defence - £18,782 million in 1987-88 - put us near the top of the NATO league, whether measured in absolute terms, as a percentage of gross domestic product or per capita. We continue to plan substantial investment in each of our main defence roles. And, as we describe in Chapters 5 and 6, we are energetically pursuing improvements in efficiency, so as to achieve better value for the money that we spend on defence.

116. At the same time, and in line with NATO's dual approach, we are working to reduce East-West tension and the risk of conflict. Britain is playing a very active role in this field. The Lord President of the Council led a parliamentary delegation to Moscow early in 1986; the Soviet Foreign Minister came to London last July; and in the spring of this year the Prime Minister and Foreign Secretary visited Moscow - the first official Prime Ministerial visit since 1975.

117. Our hope and aim is that both East and West should pursue with energy and vision the new possibilities for arms control that have recently opened up, and that we should make progress towards a world of greater security and cooperation. We do not expect dramatic results overnight. But, thanks in no small part to the cohesion and determination that NATO has shown in its dealings with the Warsaw Pact, the prospects look better now than they have done for many years.

118. We must ensure that nothing is done to damage those prospects; and that we do not, through impatience, either negotiate - or unilaterally deliver - ourselves into a less secure world. Now is a time for steady nerves; realism in assessing the opportunities for progress; and readiness to grasp them where they exist. By such means we are working to provide a better future for ourselves and our children, and to ensure that the benefits of peace, prosperity and freedom with security may be shared by all.

ESSAY

---

70 YEARS ON: A COUNTRY OR A CAUSE?

1. 1987 marks the 70th anniversary of the Bolshevik revolution, which brought the Soviet Union into being. So it is timely to ask: what is the Soviet Union today? Is it a country with values and concerns much as our own - to live in freedom and prosperity and in harmony with its neighbours? The friendly face that Soviet leaders under Mr Gorbachev present to the world has encouraged some to take that view. Or is it an implacable opponent, bent only on increasing its influence at the expense of Western interests and values? Which of these two pictures is nearer to the truth?

2. It is important that we try to understand what Soviet aims and intentions are because they must in some degree determine our own policies. The massive military potential that successive Soviet leaders have developed and have chosen to deploy facing, or to target on, Western Europe is indisputable. But we have to ask ourselves whether these capabilities are merely insurance against attack; or whether they might also have aggressive purposes. For if harmonious co-existence were the real long-term Soviet aim, and if Soviet military strength were - and would remain - merely an insurance, then the West might conceivably reduce its armaments with no fear of the consequences. If, on the other hand, expansion or the extension of Soviet influence were even a partial Soviet motive there would be a very strong argument for exercising caution in our dealings with the Soviet Union.

3. Russia has always been a difficult country for the West to understand. 'Secrecy presides over everything' was a Western view of Russia 150 years ago, and in this respect little has changed since then. The new Soviet leadership, with its policy of glasnost' (openness), has begun to lift the veil; but there is still a very long way to go. The secrecy has spawned a small industry in the West analysing Soviet ideology, actions, motives and intentions, with predictable scope for disagreement about the results. There is nonetheless much common ground, and this includes the importance of Russian history and of Marxist-Leninist ideology in shaping Soviet thinking and policies.

---

4. The Russian view of the world has always emphasised that security can only be achieved from a position of military strength. Until the 18th century Russia had no clearly defined natural frontiers to east or west; in the west this is still largely the case. Russian rulers back to the 15th century and earlier were therefore obsessed by their vulnerability to invasion and encirclement. Their way of meeting the danger was both to build up large forces to impress and frighten off potential enemies; and periodically to extend their territory. This can be seen in the seven-fold expansion of the Russian Empire between the 16th and 19th centuries, when it reached something like the size and shape of the Soviet Union today. In more recent times, Western intervention during the Russian civil war and, later, the Nazi invasion of the Soviet Union, with its appalling toll of 20 million Soviet dead, reinforced the obsession.

5. But in 1917 a new element was superimposed on the traditional Russian obsession with security: Marxist-Leninist ideology. From his seat in the British Museum, Marx had earlier posited that under 'capitalism', social relations were based on an antagonistic relationship between those who owned the means of production and those whose only possession was their ability to work. Conflict between the two was inevitable. Capitalism, however, contained the seeds of its own downfall: Marx took the view that the working class would eventually overthrow the capitalist class and establish a classless society based on production for use rather than for profit. Marx expected such revolutions to occur first in the industrialised countries of Western Europe.

6. Lenin, the practical revolutionary, added two important elements to this theory. The first was the concept of an elite band of revolutionaries - the Party - who would lead the masses to a new society. He thus provided an instrument to speed the destruction of the existing order in Russia without having to wait for history to take its course. His second contribution was to take Marx's concept of the 'exploiting' and 'exploited' classes and extend it to the relationship between nations. Lenin proposed 'imperialism' as the last stage of capitalism and argued that this 'exploitation' would eventually lead colonial peoples to drive out the imperialists.

7. With the success of the Bolshevik revolution Lenin thus established in power a Party whose view was of a world divided into two implacably opposed systems, each struggling to shift the global balance of power in its own favour; a Party which held it as a scientific truth that communism would triumph in the end; and which saw its duty as giving history a helping hand wherever possible.

8. In the early days of the Second World War the Soviet Union provided a graphic demonstration of this by taking over the three independent Baltic states, Latvia, Lithuania and Estonia - formerly part of the Tsarist Empire - by agreement with Hitler under the terms of the Nazi-Soviet Pact. At the same time, eastern Poland and parts of Romania, Czechoslovakia and Finland were annexed. After the war this expansion continued, with the establishment of Soviet control over the East European countries of East Germany, Poland, Hungary, Czechoslovakia, Romania and Bulgaria. The Soviet claim that the communist regimes in these states are the product of popular national and inevitable revolution is false, since most of them were installed by means of rigged elections or manipulation, facilitated by the presence of Soviet troops; and attempts to change the situation have usually been crushed by force of arms, as in East Germany in 1953, Hungary in 1956, Czechoslovakia in 1968 and, indirectly, Poland in 1981.

9. In large part the establishment of communist regimes in these countries served as a buffer both against political 'contamination' from the West - for the existence of Western democracies in Europe is a constant reproach to the Soviet totalitarian system - and against the risk that any future conventional war might be fought on Soviet territory. Some have argued that this somehow justifies the Soviet hold over Eastern Europe. Some go on to suggest that the Soviet Union has no intention of extending its reach any further westwards into Europe. On the first point, most people would profoundly disagree that national insecurity is a fair excuse for the curtailment of others' national and individual freedoms. The second point is the nub of this essay.

10. Faced with such an assertion, we are bound to ask: can you be absolutely certain? For although we have no reason to believe that the Soviet Union would run the risk - as long as NATO remains strong and united - of a direct military

incursion into Western Europe, we cannot ignore the evidence of past Russian and Soviet history, which has been living proof of the idea that the best form of defence is expansion. And even if Soviet leaders are not actively seeking further territorial expansion, the events of recent years suggest that they are always ready to extend Soviet political influence wherever possible, often using military means to that end.

11. Nor should we forget the basic tenets of Marxist-Leninist ideology. In 1916, for example, Lenin wrote:

> 'Socialists cannot, without ceasing to be socialists, be opposed to all war ... Only after we have overthrown, finally defeated and expropriated the bourgeoisie of the entire world ... will wars become impossible.'

Although - as the development of nuclear weapons made the very prospect of conflict between East and West horrendous - Soviet leaders ceased to regard a final war between communism and capitalism as inevitable, the Marxist-Leninist view of the continuing and inevitable struggle between the two systems remained unchanged. The liberal democratic idea of harmony between states is foreign to traditional Soviet thought. For Soviet leaders, peaceful coexistence has been seen not as a permanent condition but as a period of transition, on the way to the ultimate triumph of communism.

12. Mr Gorbachev, like his predecessors, has testified his adherence to the tenets of Marxism-Leninism. Consider, for example, this extract from his report to the 27th Soviet Party Congress in February, 1986:

> 'World developments confirm the fundamental Marxist-Leninist conclusion that the history of society is ..... a law-governed onward process. Not only do its contradictions pass sentence on the old world, on everything that impedes advance; they are also the source, the driving force behind the social progress that is taking place in conditions of a struggle that is inevitable so long as exploitation and exploiting classes still exist.'

13. On the other hand, at the Party Congress and elsewhere, Mr Gorbachev has spoken of 'a growing tendency towards interdependence of the countries of the world community' and of the need for 'new thinking' in the nuclear and space age. He has argued that the task of ensuring security can only be resolved by political, not military, means; that security between states can only be mutual; and that in the present situation 'confrontation between capitalism and socialism can proceed only and exclusively in the forms of peaceful competition and peaceful rivalry'. This is a welcome evolution of Soviet political thinking; but it is not yet clear how much weight it will be given, as opposed to traditional Marxism-Leninism, which in some ways it contradicts.

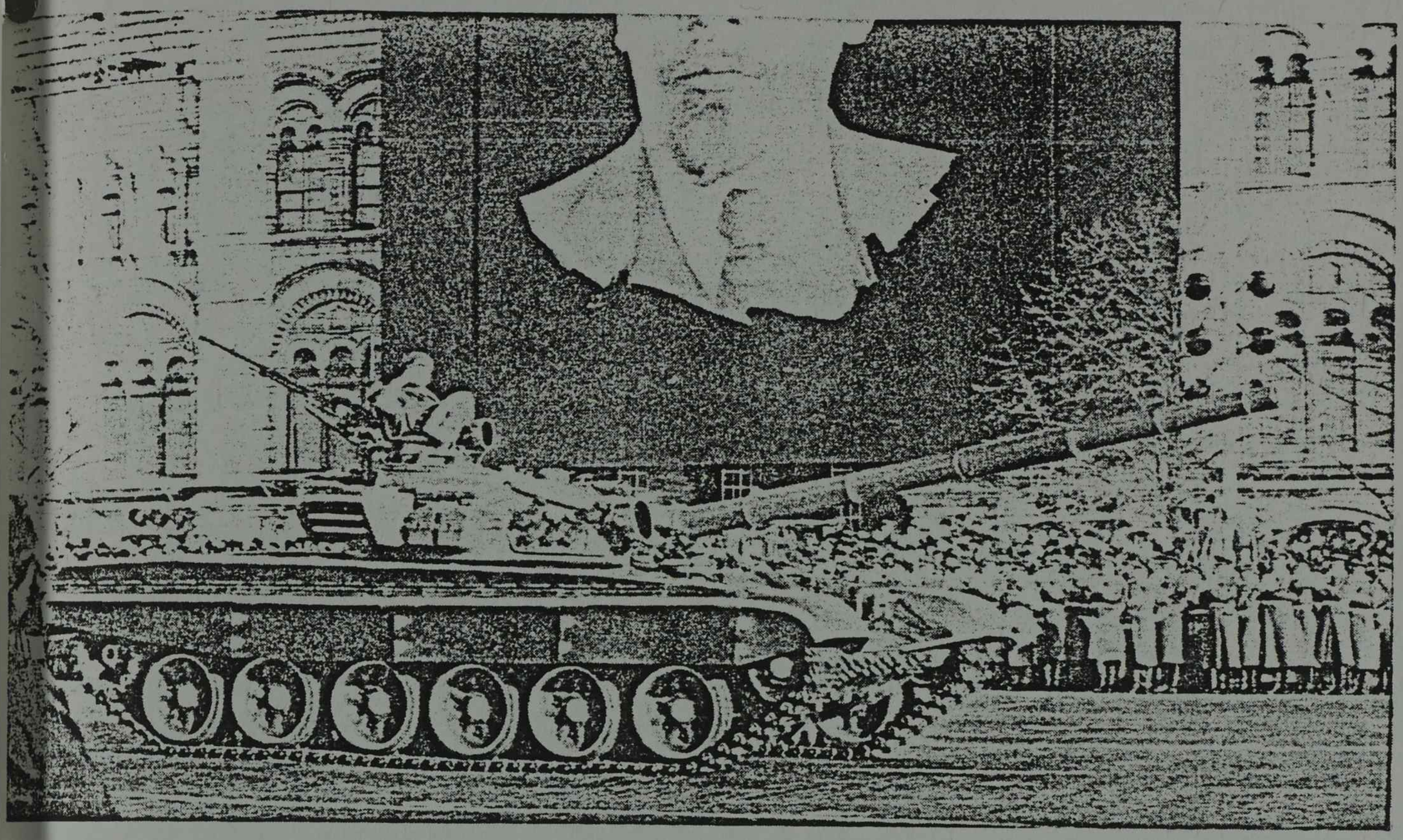
14. Recent moves towards a more open and humane Soviet Union are also welcome. But we should not forget that Mr Gorbachev's talk of 'democratisation' does not mean democracy in the Western sense; no weakening of the Communist Party's control over all areas of Soviet life is intended. And although Mr Gorbachev has made encouraging steps towards freeing the Soviet Union from the ideological shackles of a theory of permanent confrontation between capitalist and communist systems, the weight of ideology still bears heavily both on Soviet theory and on Soviet practice. Moreover, the institutions of Soviet society have stayed unaltered. It remains to be seen, therefore, whether the 'new thinking' will be accompanied by changes in the objectives of Soviet foreign policy.

15. No Soviet leader has yet been prepared clearly to renounce the idea of the global struggle against capitalism. That struggle continues today. In the West it is conducted primarily by means of propaganda, appeals to Western peoples over the heads of their elected representatives, and attempts to sow division between Western Governments; as well as by clandestine efforts to influence Western public opinion. All this is backed up by the potentially intimidating threat of the vast might of Soviet arms. Elsewhere, the concept has been put into practice by means of Soviet support for insurrections and revolution in Asia, Africa, Central and South America; and by direct invasion of Afghanistan.

16. So we return to the real questions raised by those who suggest that the West could unilaterally reduce its armaments in safety. Are the Soviet Union's intentions purely defensive? Is the strength of its nuclear and conventional forces merely over-insurance? Even if the answer to these questions were positive beyond a doubt, could we be certain that the Soviet Union would in future refrain from pursuing its own security at the expense of others'? Or that Soviet leaders would not attempt to use Soviet military potential to exercise political domination over a weakened and demoralised Western Europe? Or is there sufficient evidence to the contrary to give us pause for thought?

17. As we have sought to show, the combination of vast Soviet military might, together with a history of expansion and an adversarial ideology, must place on those who would take Soviet assurances on trust the burden of proof in demonstrating that the Soviet Union's intentions towards the West are - and will remain - as peaceful as its new leaders would wish us to believe. There is enough in this combination of factors to raise legitimate questions about how the Soviet Union might behave if it were not deterred by Western capability and will to resist any aggression. In the absence of unmistakable evidence of a change in long-term Soviet objectives - evidence that has not yet been forthcoming - a prudent policy for the West must remain one of caution.

18. At the same time, we must be ready to engage in dialogue with the Soviet Union to establish what scope Soviet policies allow for progress in East-West relations. And we must be prepared to respond to signs of change, as well as to opportunities for achieving serious arms control measures that will enhance security and stability, and so help to bring about the improvement in East-West relations that we all desire.



Soviet T-72 tank driving through Red Square

CHAPTER TWO : ARMS CONTROL

201. The search for balanced and verifiable arms control agreements, which provide for security at lower levels of weapons, is a central element of our security policy. This chapter chronicles significant developments during the last year, which has seen major advances in a number of areas, not least at the October summit in Reykjavik between the leaders of the two superpowers (see paragraphs [205-208]). Clear priorities for the pursuit of arms control were subsequently set by the Prime Minister and President Reagan at Camp David in November; these are described in paragraph [209].

NUCLEAR ARMS CONTROL

US-Soviet Negotiations

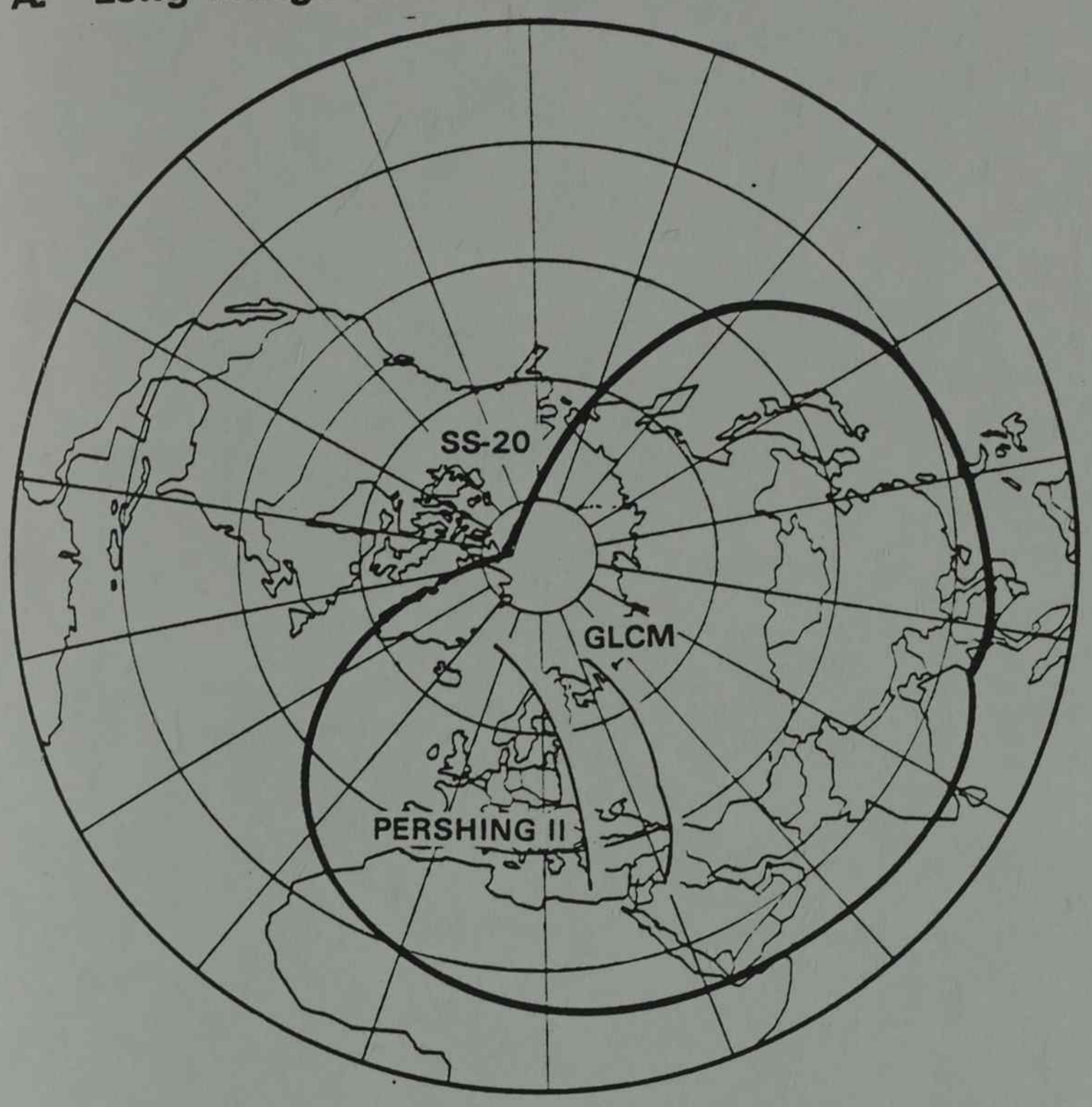
202. In the **strategic** area the United States, with the full support of the United Kingdom and the NATO allies, has continued to seek deep cuts in US and Soviet arsenals. To that end, in November 1985 the US Administration had tabled proposals for 50% cuts. Notwithstanding Mr Gorbachev's proposal in January 1986 for the complete elimination of nuclear weapons by the year 2000, these stayed unanswered until June, when the Soviet Union made proposals for cuts of approximately 30%, conditional on: tight new constraints on the US Strategic Defence Initiative (SDI); an extension of the period of notice of withdrawal from the Anti-Ballistic Missile (ABM) Treaty to 15 years; and constraints on US forces based in Europe. Although aspects of the Soviet proposals were unacceptable, they did include one positive advance, in moving away from the previous one-sided definition of the strategic weapons to be covered.

203. In July 1986, President Reagan responded with a letter to Mr Gorbachev in which he made clear that, while the United States would prefer 50% reductions in strategic weapons, lesser reductions could also be accepted as an interim step. In September, the United States accordingly tabled further detailed proposals at Geneva.

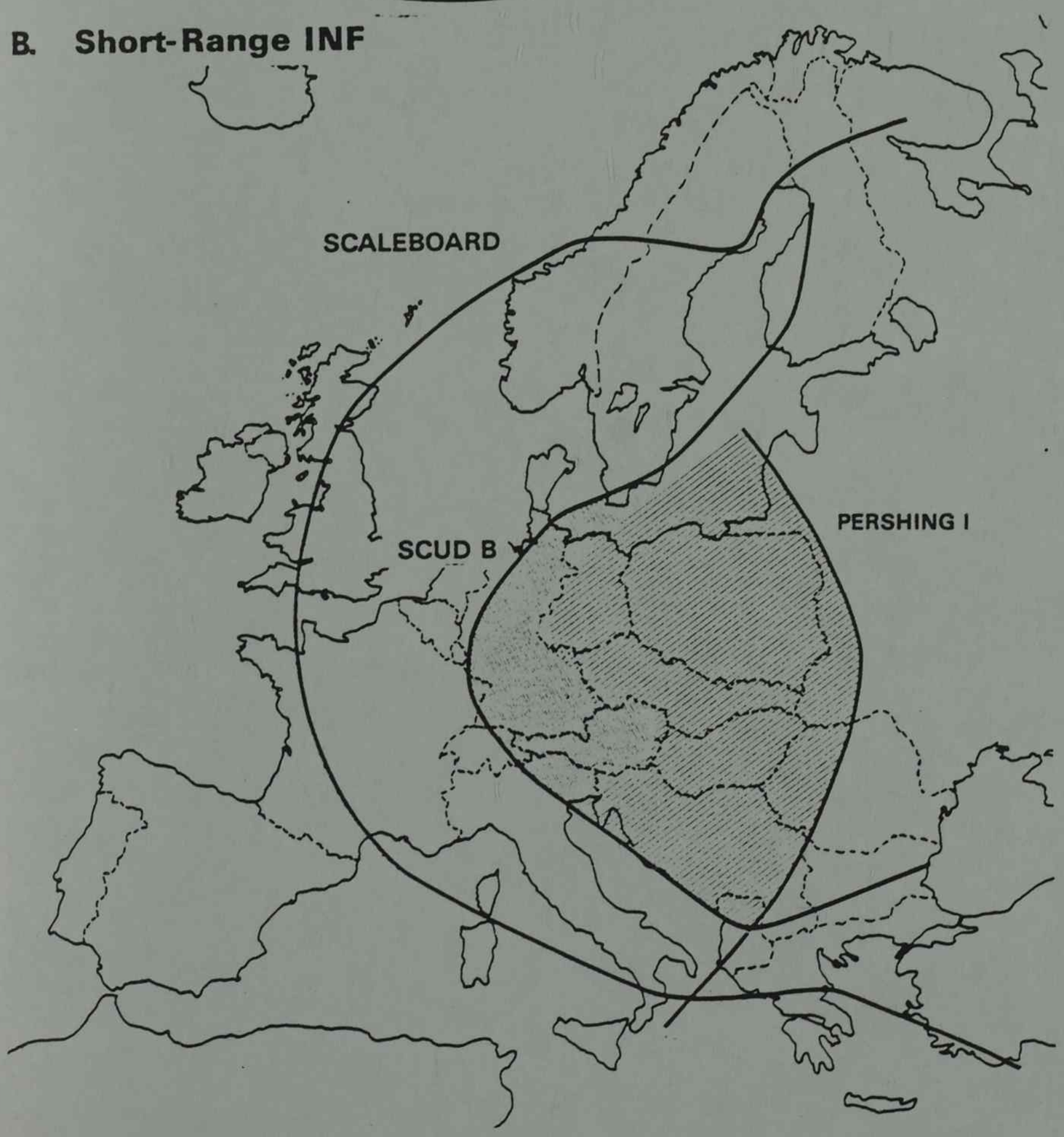
204. There was also movement on **intermediate-range nuclear forces** (INF). The US proposal in February 1986 had sought a phased elimination of long-range INF (LRINF) missiles; while previous proposals for an interim agreement, some missiles being retained by each side, remained on the table. In September 1986 Soviet

Figure 1 Ranges of Intermediate Nuclear Systems (from current deployment areas)

A. Long-Range INF



B. Short-Range INF



negotiators indicated interest in an interim agreement that would leave 100 missile warheads on each side in Europe. This offered some hope of further progress towards an agreement embodying the Alliance goals of equal global ceilings for US and Soviet systems.

205. These developments were taken significantly further at the meeting in Reykjavik between President Reagan and Mr Gorbachev. For some time attention had focused on the prospects for a second US-Soviet summit meeting, which at the 1985 (Geneva) summit it had been agreed should be held in the United States. The two leaders eventually decided in late September, at short notice, to meet at Reykjavik on October 11-12.

206. This meeting was not initially intended to negotiate major arms control agreements. But in the event substantial progress was made on strategic, INF and other issues. In the strategic arms group, the two sides reached provisional agreement on 50% cuts leading to equal ceilings of 1,600 strategic nuclear delivery vehicles and 6,000 warheads; and the Soviet Union agreed to cuts in its heavy intercontinental ballistic missiles. The Soviet Union tabled a proposal for the elimination of all strategic nuclear weapons within ten years; the United States responded with a proposal linking the elimination of all offensive ballistic missiles to a ten-year non-withdrawal period from the ABM Treaty. In addition, the two sides moved closer together on the outline of an INF agreement, involving zero deployments of LRINF missiles in Europe, and 100 warheads on each side elsewhere - the Soviet missiles to be stationed in Soviet Asia and the American missiles in the continental United States.

207. A major stumbling-block to agreement on reductions in both INF and strategic systems was, however, Soviet insistence on a linkage to SDI research programmes, as a condition for agreement. The Soviet Union sought severe new constraints on the SDI, while the scope of its own activities in this area remained still unacknowledged. President Reagan made clear that he was not prepared to accept such constraints, although he would agree to the extension of the withdrawal period of the ABM Treaty for up to ten years while reductions in strategic weapons took place. The Soviet side also sought to impose a new linkage to agreement on nuclear testing issues. Because of Soviet insistence on these linkages - even as regards INF, which the Soviet Union had previously stated could be settled independently - it was not possible to reach agreement. In February of this year, in the face of Western refusal to accept this illogical linkage, the Soviet

Figure 2 A Guide to Nuclear Weapons

Strategic Nuclear Forces — Typical System Range: over 5500 Kms

Intercontinental Ballistic Missiles (ICBM)

US	USSR	
Titan II	SS-11	SS-18
Minuteman II	SS-13	SS-19
Minuteman III	SS-17	SS-25
MX		

Bombers

US	USSR
B52	Bear
FB 111	Bison
B1	

Submarine-Launched Ballistic Missiles (SLBM)

US	USSR	
Poseidon	SS-N-6	SS-N-17
Trident	SS-N-8	SS-N-18
	SS-N-23	SS-N-20
UK		
Polaris		

Land-Based Intermediate-Range Nuclear Forces (INF) — Range: 150 to 5500 Kms

Missiles

NATO	Warsaw Pact
GLCM	SS-20
Pershing I	SS-4
Pershing II	Scaleboard (SS-22)
	Scud
	SS-23

Aircraft

NATO		Warsaw Pact	
F4	F111	Backfire	Fishbed
F16	Tornado	Badger	Flogger
F104		Blinder	Fencer
		Fitter	Fulcrum

Land-Based Short-Range Nuclear Forces — Range: under 150 Kms

Missiles

NATO	Warsaw Pact
Lance	Frog
	SS-21

Artillery

NATO	Warsaw Pact
155 mm	152mm
203 mm	203mm
	240mm

Union finally accepted the US offer to negotiate a separate agreement on INF. The United Kingdom has welcomed this step, and we hope that the Soviet Union will address the remaining issues constructively, including verification.

208. One particular issue that remained unresolved at Reykjavik was the question of constraints on shorter-range INF missiles (SRINF) (of 150km to 1,000km range). It had long been part of NATO's position that any INF agreement would need to include adequate constraints on Soviet Scaleboard (SS-22) and SS-23 SRINF missiles, which could otherwise undercut an INF agreement on cruise, Pershing II and SS-20 missiles. It is also important that an INF agreement is followed by negotiations aimed at addressing the imbalance in SRINF forces, and at dealing further with LRINF. We are discussing with our allies how these should be handled. The Soviet Union's position on SRINF is unclear, although it has indicated willingness to freeze missiles in Europe with ranges below 1,000 km and thereafter to discuss reductions below present numbers.

Camp David Meeting

209. Following the Reykjavik summit, the Prime Minister met President Reagan at Camp David in November to discuss the way forward. They agreed that:

- priority in the search for arms control agreements should be given to:

  . an INF agreement with restraints on shorter-range systems;

  . a 50% cut in US and Soviet strategic offensive weapons; and

  . a ban on chemical weapons;

- in all three cases effective verification would be an essential element;

- NATO strategy would continue to need effective nuclear deterrence, based on a mix of systems, and reductions in nuclear weapons would increase the importance of eliminating conventional disparities;

- nuclear weapons could not be dealt with in isolation, given the need for a stable balance at all times;

- the SDI research programme which is permitted by the ABM Treaty should continue; and

- these matters should continue to be subject to close consultation within the Alliance.

The President also reaffirmed that the United States was proceeding with its strategic modernisation programme, including Trident, and confirmed his full support for the British acquisition of the system. The priorities agreed at that meeting were endorsed by the Ministerial meetings of the Eurogroup and of NATO's Defence Planning Committee and North Atlantic Council in December 1986. They reflect a considered view on the most practical possibilities for progress.

The British and French Deterrents

210. Throughout the last year the United Kingdom and the NATO allies had continued to insist that they would not accept Soviet attempts to involve the British and French national deterrents in the Geneva negotiations. The condition was, however, dropped by Mr Gorbachev at his press conference at Reykjavik, when he said:

> 'We decided today ..... to withdraw completely the question of French and British missiles in general, to leave it to one side. And let them remain as an independent force, let them increase and be further improved.'

211. This was a welcome step. Alliance cohesion had revealed the Soviet condition for the tactical ploy it always was. The Soviet acknowledgement of this will have helped the negotiations to concentrate on the most important priority - reductions in US and Soviet arsenals, which far outweigh the United Kingdom's minimum deterrent, or that of France. The Government has, however, made clear that our conditions for involving the British deterrent in arms control remain unchanged: if US and Soviet strategic arsenals were to be very substantially reduced, and no significant change had occurred in Soviet defensive capabilities, Britain would review its position and consider how best to contribute to arms control in the light of the reduced threat.

Nuclear Testing

212. While our first priority is reductions in nuclear weapons, the United Kingdom remains committed to progress towards a **Comprehensive Test Ban** (CTB). Despite many claims to the contrary, important verification problems remain unresolved, and the United Kingdom is working for their resolution at the Geneva Conference on Disarmament.

213. A CTB is clearly not a near-term prospect. Nonetheless, more limited steps are possible, and some welcome progress was made during the year. After a series of US invitations for Soviet observers to inspect a US test, so as to improve verification techniques, the two superpowers began a series of bilateral discussions on verification issues. In September, President Reagan outlined at the United Nations General Assembly the proposals he had put to the Soviet Union. These were that: the United States was ready to move forward on the ratification of the threshold nuclear testing treaties signed in the 1970s, and would put them into effect once agreement had been reached on improved verification techniques; and that the two sides would then go on to discuss a step-by-step programme of further limiting nuclear tests, in association with the reduction of nuclear weapons. The United Kingdom has very much welcomed this practical approach to constraints on testing. President Reagan has now taken the first step in this process by requesting the US Senate's advice and consent to the ratification of the threshold treaties, subject to the verification improvements referred to above.

214. The Soviet Union continued with its announced moratorium on nuclear testing for most of the year, declaring its end with a test in February 1987. It also continued with its advocacy of an immediate CTB, while refusing to accept the practical proposals put forward by the West to help resolve the verification issues. At Reykjavik Soviet leaders appeared to endorse the US proposal for a step-by-step approach; subsequently, however, they moved back from this position and proposed simultaneous negotiations on all elements in the US phased approach, including immediate negotiation of the CTB. We hope that Soviet leaders will re-confirm their acceptance of the step-by-step approach and agree to practical steps to follow it up.

SDI

215. Early this year the United States opened discussions with the United Kingdom and the other NATO allies on the future of SDI, and, in particular, whether it should be carried out within the broad, rather than the narrow, interpretation of the ABM Treaty, and whether early development decisions needed to be taken on some SDI research projects. Such a decision would have important implications for the consideration of the future place of ballistic missile defences in the strategic relationship, for arms control, and for the conduct of British participation in SDI research (see paragraphs [524-528]). Allied consultations are continuing.

CHEMICAL WEAPONS AND ARMS CONTROL

The Warsaw Pact Capability

1. The Warsaw Pact has the capability to conduct chemical warfare (CW) against NATO forces on a very large scale, and produces and stockpiles a range of lethal agents and incapacitants. The lethal agents currently produced and stockpiled include nerve, blister, blood and choking agents. Research into new agents continues, including in areas that will blur the distinction between chemical and biological weapons. The Warsaw Pact has troops who specialise in CW, and the ordinary Serviceman is trained in CW doctrine and tactics.

2. Warsaw Pact forces have various means of delivering chemical attacks by land- and sea-based systems and from missiles and bombs. The variety of delivery systems, together with the range both in type and persistency of chemical weapons, would allow Warsaw Pact forces to use chemical weapons very flexibly.

The NATO Response

3. The United Kingdom gave up its CW capability in the late 1950s, and no change to that policy is planned. Our research effort is now devoted entirely to defensive and protective measures, to which all NATO allies attach considerable importance. Given the Soviet capability, we place the highest priority on the negotiation of a verifiable and comprehensive worldwide ban on chemical weapons. The United States has produced no such weapons since 1969. We believe that the United States' moves towards modernising its limited retaliatory CW capability, outlined in last year's Statement, will underline to the Soviet Union the benefits of reaching early agreement on such a ban. Thus we supported NATO's adoption in May 1986 of a Force Goal inviting the United States to modernise its chemical weapon stocks with binary munitions. In the event that it is not possible to achieve the ban we desire, modernisation of US chemical weapons would contribute to upholding NATO's deterrent strategy of flexible response.

4. The US Government has said that it has no plans to base binary chemical munitions in any foreign country in peacetime. We have not been approached about the possible contingency deployment of chemical weapons specifically to this country, and we have made clear that, if such a request were ever to be received,

it would be a matter for decision by the Government of the day, in the light of all the circumstances prevailing at the time. Any deployment of chemical weapons to the United Kingdom at any time would require the consent of the British Government.

Progress towards a Ban

5. The past year has seen good progress in the Conference on Disarmament in Geneva towards negotiating a ban on the production, stockpiling and deployment of chemical weapons. The United Kingdom held the chairmanship of the Ad Hoc Committee on chemical weapons for the 1986 session. The talks gathered momentum during the session, and agreement on some aspects of the Convention was achieved. As with other arms control agreements, provisions for verification will be the key to an effective chemical weapons convention. The 1986 session saw movement on some aspects of verification. Agreement in principle was reached on inspection of the destruction of chemical weapon stockpiles and on inspection of production facilities, as well as of the civil chemical industry. A major outstanding issue remains the question of arrangements for special inspection on challenge, when one party believes that a breach of the Convention has occurred.

6. In an attempt to unblock this impasse, the United Kingdom last July launched an important initiative on 'challenge inspection'. The British proposals require the state that is challenged to demonstrate that it is complying with its obligations within a specified timescale. These proposals are now under discussion.

7. The need for a comprehensive global ban on chemical weapons has been reinforced by evidence of their use by Iraq in the war with Iran. The British Government, in an attempt to make proliferation more difficult, has imposed export controls on a range of chemicals; and in addition has issued an extensive warning list of chemicals to assist British industry in detecting any orders that may potentially be misused for the production of chemical weapons. Although these measures help to reduce the risk of proliferation, we firmly believe that a global, verifiable and comprehensive ban on chemical weapons is the only real solution.

CONVENTIONAL ARMS CONTROL

216. Progress in nuclear disarmament increases the importance of achieving matching progress in the area of conventional forces, where the balance, as Annex A shows, is very much in favour of the Warsaw Pact - a central fact that the Warsaw Pact's Budapest Appeal, issued on 11 June 1986, ignored in proposing equal reductions by each Alliance. On 11 December NATO Foreign Ministers issued the **Brussels Declaration,** based on the report of the high level task force set up at the meeting of NATO Foreign Ministers in Halifax the previous May. This calls for two sets of distinct negotiations on conventional arms control in the whole of Europe from the Atlantic to the Urals: one set to build on and expand the Confidence- and

Security-Building Measures agreed in Stockholm in September (see [below]); and the other focusing on the conventional forces of NATO and the Warsaw Pact from the Atlantic to the Urals.

217. The Brussels Declaration notes that, for such negotiations to succeed, there must be recognition of the facts and common understandings on objectives and methods. The objectives should be:

- the establishment of a stable and secure level of forces, geared to the elimination of disparities;

- a negotiating process that proceeds step by step, and which guarantees the undiminished security of all concerned at each stage;

- to focus on the elimination of the capability for surprise attack and initiation of large-scale offensive action;

- measures to build confidence;

- application to the whole of Europe, taking account of regional imbalances; and

- an effective verification regime.

The Brussels Declaration demonstrates NATO's commitment to conventional arms control in Europe, and provides an opportunity and a basis for progress in establishing stability at lower levels of forces. Contacts between representatives of NATO and Warsaw Pact countries on a mandate for these negotiations began on 17 February in Vienna.

218. Meanwhile, at the **Mutual and Balanced Force Reductions** (MBFR) talks in Vienna, we and our NATO allies continue to seek an agreement on reduced levels of forces in Central Europe. The Western proposal, tabled in December 1985 by the United Kingdom, was designed to offer a constructive way forward. In particular, to meet Eastern objections the West proposed, as an important concession, that agreement on the current size of either side's forces - for long the major stumbling-block to progress - be deferred while an initial reduction in US and Soviet forces was made. So far the East has failed to respond seriously.

CONFIDENCE-BUILDING MEASURES

1. Creating a basis of trust between East and West is just as important as securing arms control agreements. We cannot achieve real security so long as either side lacks confidence in the other, or the risk of war through accident or misunderstanding exists. That is why NATO attaches importance to the process launched by the Helsinki **Conference on Security and Cooperation in Europe** (CSCE) in 1975, and subsequently in the Stockholm **Conference on Disarmament in Europe** (CDE), described in Figure 3.

2. An important achievement last September was agreement in CDE on a substantial package of Confidence- and Security-Building Measures. This accord, known as the Stockholm Document, is the first major arms control agreement since SALT II was signed in 1979. It promises to bring a greater degree of openness and predictability to military activities in the whole of Europe from the Atlantic to the Urals, thereby reducing tension, mistrust and the risk of military confrontation through accident or misunderstanding. Its most significant elements are:

- notification, 42 days in advance, of military activities in Europe from the Atlantic to the Urals involving at least 13,000 troops or 300 tanks. Amphibious or airborne activities involving at least 3,000 troops to be similarly notified;

- observers from all 35 CSCE states to be invited to all notifiable activities involving at least 17,000 land forces, or at least 5,000 amphibious or airborne troops;

- the exchange by 15 November each year of annual calendars of notifiable military activities expected to take place during the following year. Signatory states have agreed that exercises involving at least 40,000 personnel must be included in these calendars, otherwise they will not be permitted;

- inspection arrangements giving each participating state the right to conduct inspections on the territory of other participating states if there should be doubts about compliance.

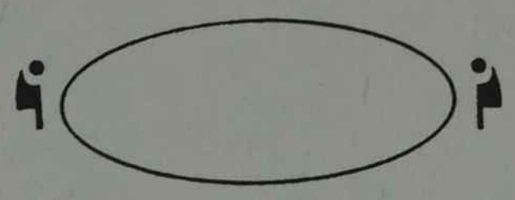
The accord came into force on 1 January this year and represents an important political commitment by all 35 participating states. Its success will depend, however, on its being implemented fully in the spirit of that commitment.

3. The latest of the CSCE Follow-up Meetings opened in Vienna on 4 November 1986. The 35 participating states have formally reviewed their records of compliance with the Helsinki Final Act and Madrid Concluding Document, and are considering ways in which the CSCE process might be developed in future. The British Government's aim is to press the East for real progress on compliance, especially on human rights commitments, and to seek balanced progress between the military, security, political, economic and human dimensions of the process.

219. The **Biological Weapons Convention** of 1972 represents an important international commitment to the elimination of this horrendous form of warfare. The Second Review Conference of the Convention was held in Geneva in September 1986. It ended successfully, with the unanimous adoption of a series of confidence-building measures that strengthened the authority of the Convention.

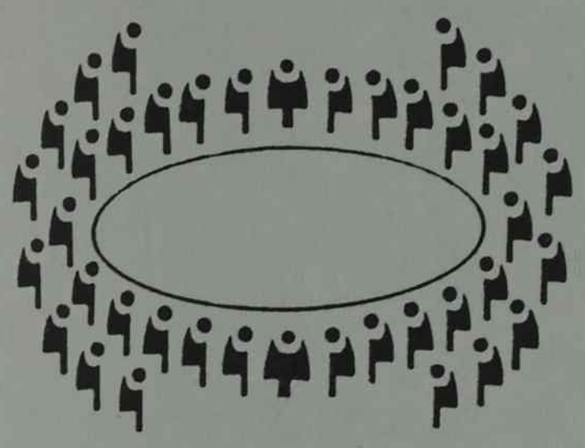
Figure 3

ARMS CONTROL FORA



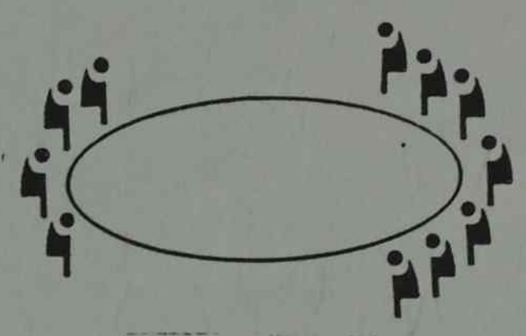
1. Nuclear and Space Talks (NST)

US-Soviet negotiations on nuclear and space arms control opened in Geneva in March 1985. Their agreed aim is to work out effective arrangements for preventing an arms race in space and terminating it on earth; for limiting and reducing nuclear arms; and for strengthening strategic stability. The negotiations are divided into three groups: on space and defence; strategic arms; and intermediate-range nuclear forces (INF).



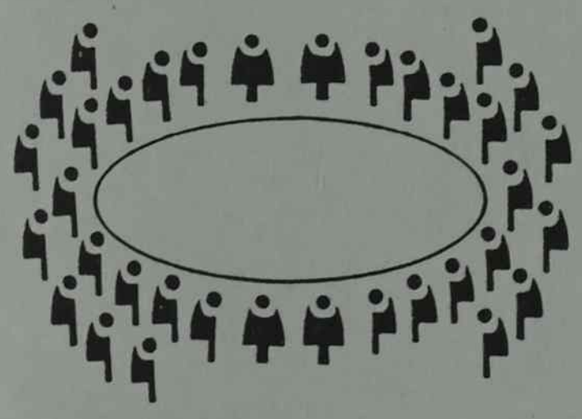
2. Conference on Disarmament (CD)

CD meets in Geneva under the auspices of the United Nations. 40 nations participate (and were listed in last year's Statement). The Conference covers a wide range of arms control issues, of which the most important involves negotiations on a worldwide ban on chemical weapons. The CD reports annually to the General Assembly of the United Nations.



3. Mutual and Balanced Force Reductions (MBFR)

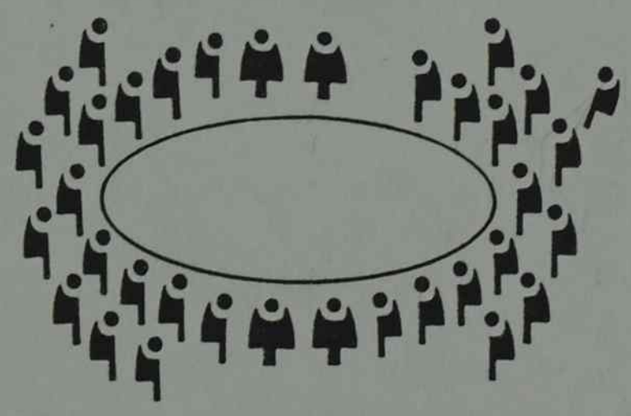
These talks began in Vienna in 1973. Their aim is 'to contribute towards a more stable relationship and to the strengthening of peace and security in Europe by the mutual reduction of armed forces and armaments and associated measures in Central Europe' — an area defined as East and West Germany, Belgium, the Netherlands and Luxembourg, Poland and Czechoslovakia. The direct participants in the talks are those countries (excluding France) that have forces in this area — the United States, Britain, Canada, the Federal Republic of Germany, Belgium, the Netherlands, Luxembourg, the Soviet Union, the German Democratic Republic, Poland and Czechoslovakia (but other members of NATO and the Warsaw Pact are 'indirect participants').



4. Conference on Security and Cooperation in Europe (CSCE)

Meeting in Helsinki in 1975 this conference agreed what has become known as the Helsinki Final Act, under which participants accepted obligations covering security, political, economic and humanitarian issues. Compliance with the Final Act, and subsequently with the Madrid Concluding Document, has been reviewed at Follow-up Meetings in Belgrade (1977-78); Madrid (1980-83); and Vienna (which began in November 1986 and is still under way).

The 35 participating states are all European countries, except Albania, plus the United States and Canada.



5. Conference on Disarmament in Europe (CDE)

CDE opened in Stockholm in January 1984 with the same 35-nation membership as CSCE. Its mandate, given by the Madrid CSCE Follow-up Meeting, was to extend the scope of security obligations under the Helsinki Final Act, and thus to reduce still further the risk of war, by agreeing Confidence- and Security-Building Measures that were militarily significant, politically binding, verifiable and covered all Europe from the Atlantic to the Urals. Agreement was reached in September 1986.

ESSAY

NUCLEAR WEAPONS AND NATO STRATEGY

1. The basic principle at the heart of NATO strategy, supported for nearly 40 years by all members of the North Atlantic Alliance, has been nuclear deterrence. At once simple and yet paradoxical, it is based on the idea that the surest way to preserve peace between East and West, without jeopardising the freedom of our peoples, is to face a potential aggressor with a clear risk that the costs of aggression would amply outweigh any conceivable gain; and that the use of force is hence no longer a rational option. Thus, the purpose of NATO's possession of nuclear forces is to ensure that circumstances never arise when we might have to consider using them.

2. NATO could not achieve such deterrence by conventional weapons alone. An adversary who no longer faced the risk of nuclear retaliation might once again regard force as a usable option, since the costs of aggression might no longer appear prohibitively high. Moreover, a defence based solely on conventional weapons would have no prospect of success against a nuclear-armed adversary. For it would always be open to an adversary who retained his nuclear weapons to use them, or threaten their use, to overcome any conventional resistance. Indeed, the more successful the conventional defence, the greater the incentive might be for a nuclear-armed power to resort to nuclear weapons. NATO's one-sided abandonment of such weapons might therefore increase the risk not merely of conventional war but also of nuclear use against NATO.

3. In 1987 it is easy to forget that in the first half of this century the world was twice plunged into immensely destructive global conventional war, precipitated on both occasions by a state numerically weaker than the combination of states that faced it. In the last century Europe was torn asunder by several major wars. By contrast, in the 40 years since the end of the Second World War - 40 years of nuclear deterrence - there has been no war in Western Europe, either conventional or nuclear, in spite of deep ideological hostility between East and West. This is a striking achievement, which those opposed to nuclear weapons, whether on moral or other grounds, would do well to ponder. They must explain how it is morally preferable to make Europe once again 'safe' for conventional war - a war in which modern weapons could bring destruction on a scale never seen before, and which could in the end provoke the very use of nuclear weapons that they seek to avoid.

---

4. Nuclear weapons on their own are not, however, sufficient for a credible deterrence strategy. Indeed the nature and scope of the nuclear component of the Alliance's deterrence forces have varied over time. In the early 1950s, faced with massive conventional forces in Eastern Europe, the NATO countries relied principally on the ability of the United States to inflict a massive nuclear strike on the Soviet Union. But the growth of the Soviet nuclear arsenal in the late 1950s and 1960s - and in particular the Soviet acquisition of long-range nuclear weapons capable of striking the United States - meant that NATO needed to widen its options for responding to either a conventional or a nuclear attack. So NATO evolved in the 1960s a new strategy of 'flexible response'; and this remains its strategy today.

5. For the strategy to work requires the existence of the US nuclear guarantee, backed by a strong US conventional presence in Europe. But it is a fundamental principle of the Alliance that the risks and benefits of a collective security policy be fully shared. In the nuclear field, concrete expression is given to this by the direct participation of European nations in the provision of the Alliance's deterrent forces. Belgium, the Federal Republic of Germany, Greece, Italy, the Netherlands, Turkey and the United Kingdom, all provide delivery systems and units trained in nuclear operations for the delivery of weapons that remain under US custodial control. Among these are dual-capable aircraft and artillery, and nuclear-dedicated systems such as Lance and Pershing missiles. The United Kingdom also assigns all its own nuclear forces to the Alliance, including both our strategic deterrent and theatre air-delivered weapons for aircraft and ship-borne anti-submarine helicopters. In addition, Alliance nations provide base facilities for US nuclear-delivery units, which are part of US forces in Europe. These include bases for US Poseidon submarines and the US Air Force in the United Kingdom, and US Air Force and Army units in the Central and Southern Regions of Allied Command Europe.

6. For a country to reject NATO nuclear strategy, while continuing (as NATO membership implies) to accept US nuclear protection through the Alliance, offers no moral merit. Nor would it offer the United Kingdom greater safety, for whether nuclear weapons are based here or not, our country's size and location

make it militarily crucial to NATO and so an attractive target in war. A 'nuclear free' Britain would mean a weaker NATO, weaker deterrence, and a greater risk of war; and if war broke out we would if anything be more likely, not less, to come under nuclear attack.

7. To implement a strategy of nuclear deterrence, NATO has to maintain an effective stockpile of nuclear weapons. But deterrence does not require ever-increasing numbers of such weapons. On the contrary, NATO is firmly committed to deploying only enough nuclear weapons to ensure deterrence, while at the same time seeking to negotiate deep reductions in the stockpiles of both sides.

8. This was demonstrated by the decision of NATO Ministers in October 1983 at Montebello to withdraw 1,400 warheads from the land-based nuclear stockpile in Western Europe in the period up to the end of 1988. The decision, taken together with the withdrawal of 1,000 warheads that had already taken place before October 1983, brought the total number of warheads to be removed from Europe since 1979 to 2,400. Furthermore, one existing warhead is being removed for each Pershing II or cruise missile deployed to Western Europe, so that such deployment results in no further net increase. Critics of this decision have argued that it is of little import, since the warheads withdrawn were in any event obsolescent. This is not only untrue - many of the weapons being withdrawn are still very effective - but misses the point: for NATO might have decided to retain a larger stockpile and subsequently to replace these weapons with equal numbers of modernised versions.

9. This reduction by NATO was unreciprocated by the Warsaw Pact. Deterrence could be assured at lower levels of armaments provided the Soviet Union were prepared to reduce, too, so that there were balance between the two sides and both were assured of their own security. For many years the search for balanced, equitable and verifiable measures of arms control has been a slow one; but over the past 12 months real progress has been made, as we describe in Chapter 2.

10. As we record there, however, nuclear weapons cannot be treated in isolation. It is also necessary to consider the wider balance of forces between East and West and the Warsaw Pact's massive superiority in chemical and conventional weapons. The ever-increasing strength of these Soviet armaments casts a shadow over Western Europe. Reductions in nuclear weapons increase the importance of

eliminating these other disparities and ensuring a stable overall balance. But as long as the basic tensions between East and West are undiminished, NATO will need to continue to rely on a strategy of nuclear deterrence based on an effective mix of systems. Nuclear weapons will remain as vital for keeping the peace - for preventing conventional as well as nuclear war in Europe - as they have been for the past 40 years.

CHAPTER THREE : BRITISH DEFENCE POLICY

THE ATLANTIC ALLIANCE

301. The North Atlantic Treaty Organisation is the foundation of this country's defence and security policy. Indeed, we are convinced that this Alliance of 16 sovereign states, each freely a signatory to the North Atlantic Treaty, remains the only realistic way of providing for our defence. NATO's deterrence policy is encapsulated in the strategy of forward defence and flexible response. This strategy threatens no-one: NATO leaders have made clear that none of our weapons will ever be used except in response to an attack. Our primary aim remains the prevention of war; our secondary aim, should war occur, is to respond at the appropriate level to stop the aggressor in his attack and make him withdraw. We believe that this strategy is still serving us well.

302. It is towards maintaining the Alliance's ability to deter war that our defence effort is directed. Our contribution to NATO accounts, directly or indirectly, for more than 95% of our defence budget. The vast majority of our forces are committed to one or other of the three major NATO commands -Europe, Atlantic and Channel. The United Kingdom remains the only European NATO member to contribute to all three elements - strategic nuclear, theatre nuclear and conventional - of NATO's triad of forces. We are determined to continue making a full political and military contribution to the Alliance.

303. Our four main roles in NATO are:

- **the provision of nuclear forces,** including the maintenance of an independent strategic nuclear deterrent;

- **defence of the United Kingdom itself,** our homeland and a vital support base for the Alliance;

- **land and air forces based in Europe** and contributing to forward defence, together with the capability for massive reinforcement from the United Kingdom if required; and

- **maritime forces** in the Eastern Atlantic and Channel areas, and contributing to forward defence in the Norwegian Sea.

We also contribute specialist reinforcements with deployment options mainly on NATO's Northern Flank, which is of particular strategic importance for the United Kingdom. Some of the reinforcements that we provide for NATO's Supreme Allied Commander Europe (SACEUR) do, however, also have deployment options in the Southern Region of the Alliance. In addition, on the Southern Flank, the United Kingdom contributes to NATO's ability to control the strategically important Gibraltar Strait. British forces are based there for the defence of Gibraltar itself, and the Rock provides facilities for exercising in the region and naval and maritime air headquarters, which form part of the NATO command structure in the Mediterranean.

304. This country also retains important defence responsibilities and interests outside the NATO area. These are described on page [ ].

The European Pillar

305. Successive Statements on the Defence Estimates have used the analogy of twin pillars, European and North American, supporting a transatlantic bridge to illustrate how the Alliance depends on the partnership of the Old World and the New. To weaken either pillar would endanger the whole structure of deterrence on which our security is based. After a year in which voices have again been raised questioning the US presence in Europe, the paramount importance of maintaining the North American commitment to the Alliance is discussed on page [ ].

306. As we explain there, there can be no substitute for the contribution made to collective security by the presence of substantial US and Canadian forces in Europe. But the contribution made by the European members of the Alliance is also substantial and contributes significantly to the collective defence; it can be further strengthened by greater cooperation between us. The United Kingdom is therefore committed to the maintenance and development of bilateral relations with our European allies, and to playing a major part in the work of the main multilateral organisations devoted to European security cooperation and equipment collaboration.

307. The **Eurogroup's** collaborative sub-groups aim to concert members' policies and practices, at the working level, in the fields of logistics, communications, training, medicine and long-term operational concepts. The group also does valuable work in the United States to publicise the extent of European defence efforts. The six-monthly meetings of Eurogroup Defence Ministers both direct this work and provide an opportunity for informal discussion of defence issues. In October 1986, experts met in Odense to explore the difficulties faced in the management of defence budgets and ways of making better use of available resources. Eurogroup Ministers agreed last December that this work should be pursued.

THE WESTERN EUROPEAN UNION

1. The Western European Union (WEU) is founded in the revised Brussels Treaty of 1954, at the heart of which is the commitment in Article V whereby the signatories undertake to afford one another 'all the military and other aid in their power' should one of them be 'the object of an armed attack in Europe'. It is under the Brussels Treaty that the British Government maintains an army and air force on the continent of Europe in peacetime, an obligation that is historically unique. The Treaty thus embodies the United Kingdom's fundamental commitment to a collective security together with our partners, yet is set firmly within the framework of the Atlantic Alliance. The WEU thereby makes an important contribution to strengthening the European pillar of the Alliance.

2. Since its reactivation in 1984, the WEU has been the only European organisation in which both Defence and Foreign Ministers of the seven member countries (Belgium, France, the Federal Republic of Germany, Italy, Luxembourg, the Netherlands, and the United Kingdom) can meet to discuss defence and security issues of significance to Western Europe. The aim of these discussions is to stimulate clearer understanding of European security needs. But the WEU is not an operational forum, nor one in which collective decisions are reached. In its activities, it seeks to reinforce rather than duplicate work done in NATO, and to ensure that the European input into the Alliance is coordinated and coherent.

3. WEU Ministers met twice during 1986, in April and November at Venice and Luxembourg; their Luxembourg meeting presented a particularly useful opportunity to discuss issues of specific concern to Europe raised by the meeting between President Reagan and Mr Gorbachev at Reykjavik. They have also examined the progress made in WEU reactivation, and agreed that the organisation in its present re-structured form should run unhindered until the end of this year. They will then undertake a review with the object of sign-posting the way ahead. The aim should be to get the WEU established as a focal point of the European security identity and to ensure that its working methods are soundly based for this purpose.

4. Meanwhile, another important aspect of the WEU is its Assembly, which comprises representatives from the national Parliaments of WEU member countries. It is the only European Parliamentary body specifically empowered by Treaty to debate defence and security questions. As such, it has unique possibilities for stimulating informed debate, and for generating better public

understanding of the issues involved. Through dialogue with the Assembly, Governments' views can become more widely known and form an essential element of the debate. The Assembly will be important to the future of the WEU and of European security cooperation.

---

308. Equipment collaboration is an increasingly important aspect of efforts to strengthen NATO's European pillar. Defence equipment is expensive, and collaboration can help to share development costs and avoid wasteful duplication of effort; lower unit costs may make it possible to deploy a greater total number of equipments. Collaboration also helps to achieve standardisation and interoperability. The **Independent European Programme Group** (IEPG) seeks to make better use of the resources that members devote to defence procurement, and its progress during the past few years provides further tangible evidence of the European countries' willingness to work effectively together. Further details of progress in equipment collaboration, including the work of the IEPG, are given in Chapter 5.

309. We shall press on with our efforts in these fora. For we believe that a more cohesive Europe will be able to make a contribution to the Alliance that is far greater than the sum total of individual European contributions.

NATO DEFENCE PLANNING

Conventional Force Planning

310. A prerequisite of maintaining effective deterrent forces is successful forward planning. NATO has a highly developed and effective biennial defence planning process, which involves the Defence Ministers of all the countries participating in the integrated military structure. The purpose of this process is both to encourage nations to develop their national plans in directions beneficial to the Alliance as a whole, and to monitor the progress made by nations in meeting agreed Alliance goals.

311. These goals are developed every two years by the Major NATO Commanders on the basis of Guidance issued by Ministers (also biennially, in odd-numbered years), which sets out the political, economic, military and technological factors that could affect the development of NATO forces and their impact on NATO strategy. The goals are adopted by the Defence Planning Committee (DPC)

in the May of even-numbered years. Thus last May the DPC adopted Force Goals for the period 1987-92 based on Ministerial Guidance 1985. Member nations provided their first response to these Goals, recording their progress in implementing them, last autumn in reply to the annual Defence Planning Questionnaire. These responses were collated into a NATO five-year forward plan, which was considered by Ministers at the December 1986 DPC meeting. This May, Ministers will approve Ministerial Guidance 87, on which major NATO Commanders will base the development of their Force Goals for the period 1989-94, and which nations should use as a yardstick for constructing their forward programmes and plans.

312. For the past two years, NATO has devoted considerable effort to the Conventional Defence Improvements (CDI) exercise, described in greater detail [below]. One important aspect of this work has been the continuing development of a longer-term perspective, with a view to providing a coherent and coordinated framework looking up to 20 years ahead, within which national and international planning staffs can operate. For example, this year's Ministerial Guidance will draw on the Conceptual Military Framework developed by NATO's military authorities and provide improved guidance that looks further ahead. This will help to ensure that national planners receive guidance on NATO's military requirements at a stage when it can influence national planning of major new equipments.

CONVENTIONAL DEFENCE IMPROVEMENTS (CDI)

1. Ministers attending the NATO Defence Planning Committee (DPC) meeting in December 1984 called for proposals to improve NATO's conventional defence posture so as to address the imbalance of forces favouring the Warsaw Pact, and to avoid being put in a position of undue reliance on the early use of nuclear weapons. In response to this mandate, a report was put to Ministers at the DPC in May 1985. This identified key deficiencies in the Alliance's conventional capability and allowed Ministers to set work in hand in those areas where a special effort would provide the greatest return for our collective defence. This is a vital aspect of the CDI exercise: it aims to improve the credibility of NATO's conventional forces by the careful and selective use of the substantial resources that individual nations devote to defence.

2. The CDI exercise is not a radical departure from traditional Alliance policy. It builds on the considerable progress made during the late 1970s and early 1980s in improving allied conventional capabilities through greater sustainability, improved readiness, better training and additional funding for common infrastructure projects.

3. The exercise is, however, an indication of the collective Alliance determination to maintain strong conventional forces and to come to grips with the

rising real costs of equipment. In essence, it seeks greater focusing of national plans on collective Alliance needs; clearer military priorities; improvements in coordination between different planning areas; and greater emphasis on longer-term planning. As such, it was not intended to produce dramatic results quickly; sustained efforts will be necessary.

4. Steady progress is already being made in the field of force planning. The Force Goals for the period 1987-92, which were adopted by the DPC in May 1986, reflected priorities identified in the CDI exercise. Nations' responses to these force goals were considered by Ministers in the course of their Annual Defence Review at last December's DPC meeting. Ministers noted that considerable progress had been made towards a more effective conventional posture and expressed their determination to sustain the momentum of the exercise. Our own national equipment plans are well directed towards CDI highlighted areas.

Nuclear Planning

313. The nuclear component of the deterrent forces available to the Alliance receives special handling within the organisation. This is for a number of reasons: the special political sensitivity of nuclear issues, the special nature of the weapons themselves, and the recognition that, while there are only two nuclear weapon states participating in the integrated military structure, there is a need for broad Alliance cooperation and participation in the nuclear field. Out of this has grown NATO's Nuclear Planning Group (NPG).

314. Like the DPC, the NPG meets at both ministerial and ambassadorial level ; the Ministerial meeting in October 1986 was held at Gleneagles in Scotland. The Group fulfils the need for a forum in which all concerned with NATO's defence policy and planning can pursue fundamental questions, such as how many and what type of nuclear weapons are needed to maintain deterrence, how they should be deployed, what procedures are required to give effect to proper participation and consultation, and so on. Such a forum also provides the opportunity for Alliance nations who do not have their own nuclear weapons to discuss with the nuclear weapons states the issues they must confront in planning their own, and the Alliance's, forces, including issues such as force modernisation, testing, and nuclear safety and security, and the vital question of nuclear arms control.

ESSAY

THE AMERICAN PILLAR

"No-one of my generation can forget that America has been the principal architect of a peace in Europe which has lasted 40 years. Given this shield of the United States, we have been granted the opportunities to build a concept of Europe beyond the dreams of our fathers: a Europe which seemed unattainable amid the mud and slaughter of the First World War and the suffering and sacrifice of the Second."

The Prime Minister.
Speech to a joint session
of the US Congress, 20 February 1985

1. These words reflect the views of a generation of people, few of whom would question the paramount importance of the transatlantic alliance that was forged in the years following the Second World War. But today, more than 40 years on from the war, Europe has changed beyond recognition: a new generation has grown up which has known only peace and prosperity, and for whom the war and its immediate aftermath are a matter of history. So it is appropriate to consider here the foundations on which the transatlantic partnership were based and their relevance for today's world.

2. The roots of the relationship between Europe and America run deep. The majority of North Americans have their origins in this continent; personal ties, and ties of history, language and culture are strong. The economic links between the two sides of the Atlantic are extensive. Above all, Western Europe and America share the same political and social values, not least among them a deep commitment to the principles of democracy and freedom - a commitment that was well demonstrated during the last war, when those principles came under the fiercest attack ever, from Hitler's totalitarian Nazism. North America's military intervention at that time made it possible to restore the freedom of Western Europe.

3. In 1945 the United States might have withdrawn into isolation as it had done in 1918. It did not because relations between the Western allies and the Soviet Union deteriorated rapidly after the war, and the US Government recognised that its primary strategic interest lay in helping to keep Western Europe free of Soviet control. A combination of idealism and enlightened self-interest led to an

---

American commitment to counter the threat of communism wherever it occurred (the Truman Doctrine and the policy of 'containment') and to help the West European Governments implement their plans for post-war economic recovery (the European Recovery Programme, 1948-51). The continued Soviet military threat and, particularly, the events surrounding the Berlin blockade encouraged the Truman Administration, at the instigation of several West European countries, to commit the United States - in the North Atlantic Treaty of 1949 - to the defence of Western Europe.

4. The relationship has changed considerably in the past 40 years. Europe and the United States have drawn much closer together than they were before the last war. The genuine friendship that already existed between the two sides of the Atlantic has grown as personal contacts have increased. But we have not been without disputes and disagreements in the Alliance during that time. Americans have sometimes been irritated by the equivocation and confusion that has seemed to surround the Europeans' inability to 'get their act together', and by alleged European unwillingness to do more to defend themselves. There have been debates in Europe for some 25 years about the credibility of the US nuclear guarantee, and about the willingness of Americans to keep their troops in Europe. From President Eisenhower's day until now, there has been no lack of gloomy prophets on both sides of the Atlantic predicting the imminent end of the Atlantic relationship.

5. Today there is a new wave of unease and criticism. But the picture has been complicated by the fact that, to the traditional European anxiety about maintaining the US commitment to Europe, have been added opposite European voices who wish to see that commitment reduced.

6. Such questioning of the US presence in Europe requires an answer; for it throws into doubt the very foundations on which the Alliance has been based for so long. Behind it is often an implicit assumption that the Soviet Union no longer poses any threat, military or otherwise, to the West - an assumption that has little except wishful thinking to support it. In the first place, as we discuss on page [ ], we cannot ignore the ideological hostility of the Soviet Union towards the West; and secondly, the Soviet investment in military might, described in Annex A, has

increased enormously since the last war. Whatever Soviet intentions towards the West might, or might not be, it would be the height of folly simply to rely on Soviet goodwill towards us in such circumstances.

7. The American commitment to Western Europe is essential. NATO's defence posture depends critically on the United States' nuclear forces, together with its theatre nuclear and conventional forces based in Europe. Without them we would have no credible defence in the face of the massive Soviet nuclear, chemical and conventional threat. Certainly a Europe-only option would not provide a credible alternative, either in political or military terms.

8. The most visible proof of the American commitment is the 300,000 US Servicemen and women stationed in Western Europe. Successive US Governments have recognised that it is in Europe that the principal threat to the West lies, and it is therefore here that most of NATO's forces need to be deployed. Although Western Europe can rely on reinforcements from the United States these would take time to arrive, and ready forces are also required to meet those forces that the Soviet Union could bring quickly to bear in any conflict.

9. The presence of US forces here serves another purpose, too, by demonstrating the solidarity of the NATO Alliance. This is important because it is ultimately on Soviet perceptions of the strength and cohesion of the Alliance, and specifically the inevitable involvement of the United States in any conflict in Europe, that the success of NATO's strategy of deterrence depends. Evidence that the Soviet Union recognises the key importance of this cohesion can be seen in the efforts to which it has gone to divide Europe from the United States on such issues as the deployment of intermediate-range nuclear weapons and, more recently, on the Strategic Defence Initiative and arms control. Soviet efforts have failed, but not for want of skilful attempts to exploit particular European concerns.

10. A criticism sometimes heard is that the British Government has no control over US forces based in the United Kingdom. This is to ignore the understanding reaffirmed by Mr Churchill and President Truman in January 1952, which provided that use in an emergency of bases made available to the United States would be a

matter for joint decision by the two Governments in the light of the circumstances prevailing at the time. The understanding covers the use of these bases by US forces equipped with nuclear or conventional weapons.

11. It follows from the above that in the current international environment to seek the withdrawal - or even partial withdrawal - of US forces from this country would carry very grave risks. It would weaken the military posture of the Alliance and send entirely the wrong signal to the Soviet Union about NATO cohesion and solidarity. It would reduce the chances of achieving successful arms control agreements with the Soviet Union. It would undermine the strategic link between the United States and Europe and the credibility of the US strategic guarantee. It would lead our allies to question our continuing commitment to the Alliance and to the defence of Europe. It would fuel tendencies towards isolationism in the United States and encourage other European members of NATO to follow suit. In sum, it would be a wholly irresponsible move.

12. US forces are here because neither North America nor Western Europe could carry the full burden of maintaining its own security alone. Thanks to the Alliance we are able to achieve a level of deterrence that would otherwise be unattainable. Together we can ensure that deterrence is maintained, that the burden remains tolerable and that peace is preserved.

ESSAY

OUTSIDE THE NATO AREA

1. British defence policy is founded on the four major roles for which we commit forces to NATO. But we do have an additional range of commitments and activities, outside the NATO area, which are of quite a different type. They are not, to begin with, concerned with direct threats to the security of the United Kingdom: the forward defence of the Federal Republic of Germany may be the forward defence of Britain itself, but the forward defence of Hong Kong or Belize is not. Nor is our out-of-area policy primarily related to the threat from the Soviet Union: none of our out-of-area garrisons is constituted with Soviet aggression in mind, or even aggression by proxies of the Soviet Union. Why, then, do we need an out-of-area capability?

2. First, because of our history: we were a world power, and we retain some residual obligations dating from our imperial past. We are responsible for the defence of 13 dependent territories, ranging from Hong Kong to Pitcairn Island, as well as the Sovereign Base Areas of Cyprus. In addition, we have agreements with a range of former colonies and Gulf states.

3. Secondly, many thousands of British citizens are resident abroad. While their safety is primarily the responsibility of the Government of the country concerned, not all Governments are always in a position to protect it. Hence we have had occasion to use the armed forces to assist in evacuating British citizens in times of strife - notably from Cyprus in 1974, from Lebanon in 1984, and from Aden last year. Our interests lie, however, not in evacuating our citizens, but in regional stability, which enables them to live abroad in security.

4. Regional stability is important, too, because of our dependence on overseas commerce. Although some 80% of our visible trade is now with other developed countries, we are still vulnerable to interruptions in the supply of certain commodities, such as oil and strategic minerals, from remoter parts of the world.

Helping to maintain stability and ensure the free use of the seas is therefore very much in our interests.

5. These considerations, together with the contribution that our out-of-area capabilities can make to our wider foreign policy aims, all generate a defence dimension to our activities outside the NATO area. These take several forms:

Permanent Garrisons

. We plan to keep a military presence on the **Falkland Islands** and in the Protection Zone at the level necessary to deter aggression and defend the Islands. Mount Pleasant airport was completed last year, the remaining facilities will be completed shortly, and most of the garrison has already moved there. The Royal Engineers have cleared military debris from Stanley airfield, and the land will be returned to the Falkland Islands Government. The concentration of the garrison at Mount Pleasant, and the ability that the airport gives us for rapid reinforcement of the Islands if necessary, have permitted some force reductions. Force levels remain under continual review in the light of the threat.

. We shall retain responsibility for the defence and internal security of **Hong Kong** until 1997, when control of the territory passes to the Government of the People's Republic of China. At present the garrison consists of four infantry battalions - three Gurkha and one British - and supporting units, together with Royal Navy and RAF elements. As foreshadowed in last year's Statement, our confidence in the stability of Hong Kong enabled us to reduce the strength of the garrison by one battalion, leading to the disbandment of the 2nd Battalion, 7th Gurkha Rifles, on 15 January 1987. Nearer 1997, it is planned to reduce the strength of the garrison still further, as the Royal Hong Kong Police begin to carry out a higher proportion of the internal security and other

tasks currently carried out by the garrison. But all decisions will be taken in close consultation with the Hong Kong Government: we plan to maintain a garrison in the territory up to the date of transfer of authority in 1997. The Gurkhas will continue to have a role within the British Army after that date.

. A Gurkha battalion and supporting units are based in **Brunei,** at the request of His Majesty the Sultan. Brunei also provides exercise facilities for troops from the Hong Kong garrison; and home-based units take part in jungle training there.

. British forces are stationed in **Belize,** at the request of the Government, to protect the country from external aggression; and a Royal Navy guardship is permanently assigned to the Caribbean in support. The election of a civilian government in Guatemala was a hopeful sign for progress towards a settlement of the territorial dispute, as was President Cerezo's statement that he wishes to resolve the differences between Belize and Guatemala. The United Kingdom and Guatemala agreed to resume consular links in August 1986 after a gap of nearly five years, and full diplomatic relations were resumed on 29 December 1986.

. In **Cyprus** we maintain two Sovereign Base Areas (SBAs); the role of the 4,000-strong British Forces Cyprus is to protect the SBAs and our other Retained Sites, to operate their facilities, to maintain the SBAs and RAF Akrotiri as Forward Mounting Bases for operations in the area, to provide training facilities for Army and RAF detachments, and to support the United Nations forces in Cyprus and the Near East (see below), which themselves include nearly 1,000 British troops.

Reinforcement and Support

. All our garrisons need regular support in peacetime, and all might need to be reinforced rapidly in time of tension. The capacity to do this is provided by each of the three Services. Although we do not maintain forces exclusively for operations outside the NATO area, we can (after

consultation with our NATO allies) deploy substantial and well-balanced forces that could operate, if necessary, anywhere in the world.

. Ships of the **Royal Navy** are continuously deployed in the Arabian Sea area to assist British merchant shipping in the Gulf. The Navy also has vessels in Hong Kong, the West Indies and the South Atlantic, and an Ice Patrol Ship visits Antarctica during the summer. This coverage is supplemented by periodic Task Group deployments (see page [ ]) to many other parts of the world. Naval and amphibious operations could be sustained without shore support for a prolonged period by using the specialised replenishment vessels of the Royal Fleet Auxiliary, supplemented, if need be, by ships taken up from trade.

. Military forces for **land operations** outside the NATO area would probably be drawn from 5 Airborne Brigade and 3 Commando Brigade Royal Marines. The wartime tasks of these units remain respectively those of home defence and the reinforcement of NATO's Northern Flank; but either or both could be deployed worldwide at short notice, by air, sea or a combination of the two. 5 Airborne Brigade can launch a parachute assault at battalion group strength from Hercules aircraft.

. The **Royal Air Force** provides support for all our overseas garrisons, some garrisons having RAF aircraft permanently stationed. If necessary these can be reinforced by air defence and offensive support aircraft which, with air-to-air refuelling, can deploy at short notice and over very long ranges. The Air Transport Force (ATF) provides routine support for the garrisons, deployments and overseas exercises; and in an emergency could be called on to re-deploy forces worldwide. By the end of 1988, all ATF aircraft will be equipped for air-to-air refuelling and will, therefore, be less dependent on staging airfields or overflying rights.

Exercises, Deployments and Training

. The regular programme of overseas deployments carried out by all three Services does more than simply provide much-needed training opportunities in a wide variety of testing, and often hostile, environments. It also enables the armed forces to add their own unique contribution to the achievements of more conventional diplomacy. This contribution takes many forms: goodwill visits by the Royal Navy; exercises with the armed forces of other countries; displays by teams such as the RAF Red Arrows; demonstrations in support of defence sales, and so on. Exercises and deployments overseas in 1986, and some of those planned for 1987, are described on page [ ]. Exercise SAIF SAREEA, in particular, which was held last year in the Gulf, tested our capability to mount a strategic deployment rapidly by air and sea and provided an excellent opportunity to practise combined operations with a host nation.

Military Assistance Overseas

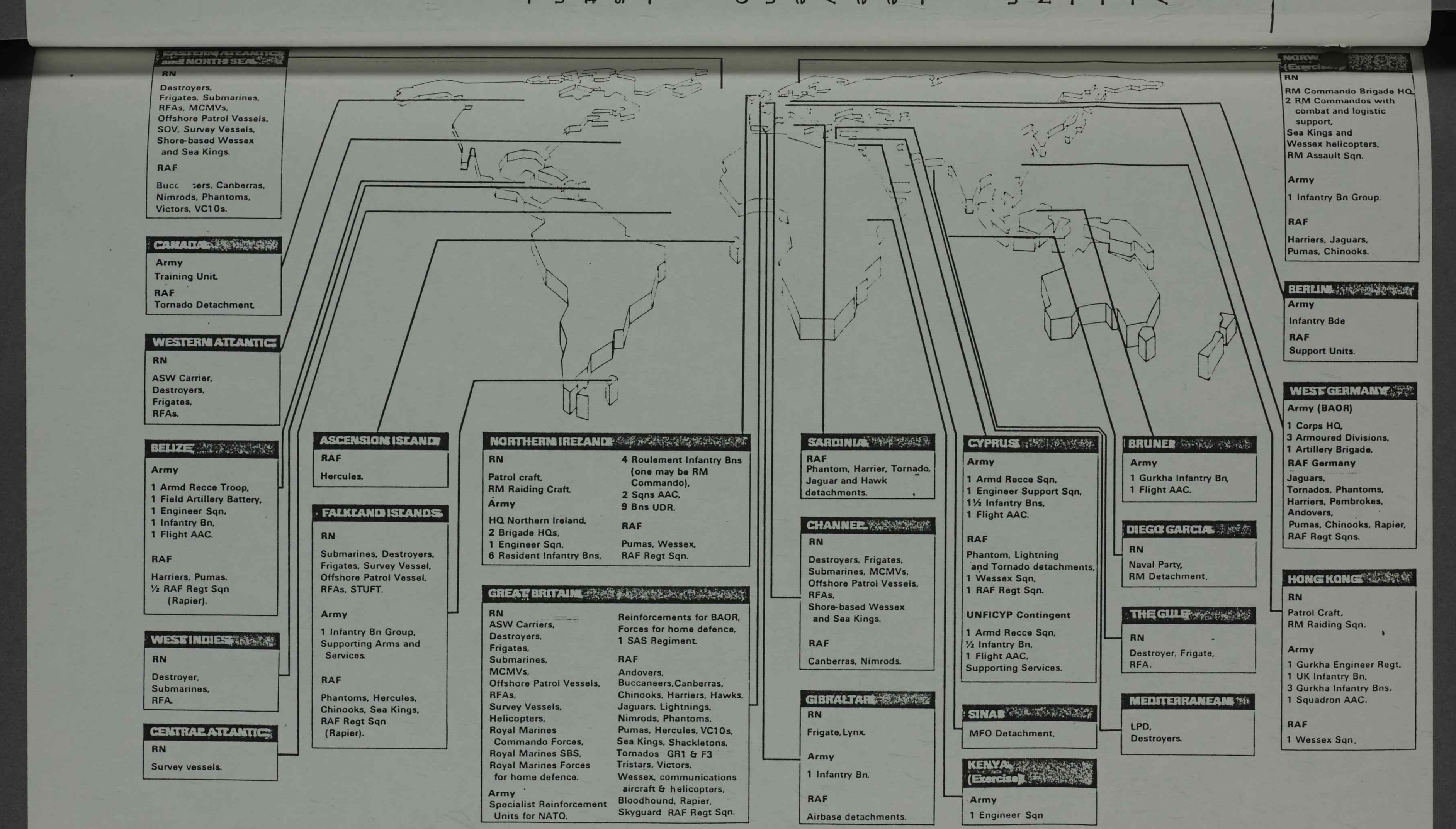
. A particularly popular, cost-effective and appreciated way of promoting stability and security in areas of the world important to Britain is by military assistance programmes designed to help friendly nations improve and maintain the effectiveness of their armed forces. We do not provide such assistance indiscriminately: as in the case of defence sales, there may be military or political difficulties, human rights issues or broader security considerations that argue against particular training commitments. But within these constraints, and those of available resources, our programme is wide-ranging: in 1985-86 over 650 Servicemen were on loan service to countries outside NATO, and over 3,600 students from such countries attended military training courses in Britain.

International Peacekeeping

- We support the principle of deploying multinational forces, normally under United Nations auspices, to participate in peacekeeping operations; and we are happy for British troops to take part in such operations where they can make a useful contribution. At present we contribute to the Multinational Force and Observers in Sinai and the UN Forces in Cyprus. We also provide logistic support to the UN Forces in Cyprus, in Lebanon, and on the Golan heights from the SBAs in Cyprus.

6. Some have argued that Britain can no longer afford to maintain all its out-of-area commitments and should tailor them or withdraw completely. But, as Figure 10 shows, our overseas defence commitments are not expensive. Apart from the garrison in the Falkland Islands - the cost of which is expected to fall substantially over the next few years - the sums involved are very small in proportion to the benefits they bring. And in a period of tension or war in Europe the Servicemen and equipment concerned could be brought back for deployment within the NATO area or on home defence tasks.

7. We must, of course, be realistic about what - in political, military and economic terms - we can afford to do. And we must aim to use our defence resources as effectively as we can in support of our interests throughout the world. The modest proportion of those resources that we devote to out-of-area activities is well worth the dividends earned in terms of national security and standing, and the international stability on which our future well-being depends.



EASTERN ATLANTIC and NORTH SEA

RN

Destroyers,
Frigates, Submarines,
RFAs, MCMVs,
Offshore Patrol Vessels,
SOV, Survey Vessels,
Shore-based Wessex
and Sea Kings.

RAF

Buccaneers, Canberras,
Nimrods, Phantoms,
Victors, VC10s.

CANADA

Army

Training Unit.

RAF

Tornado Detachment.

WESTERN ATLANTIC

RN

ASW Carrier,
Destroyers,
Frigates,
RFAs.

BELIZE

Army

1 Armd Recce Troop,
1 Field Artillery Battery,
1 Engineer Sqn,
1 Infantry Bn,
1 Flight AAC.

RAF

Harriers, Pumas.
½ RAF Regt Sqn
(Rapier).

WEST INDIES

RN

Destroyer,
Submarines,
RFA.

CENTRAL ATLANTIC

RN

Survey vessels.

ASCENSION ISLAND

RAF

Hercules.

FALKLAND ISLANDS

RN

Submarines, Destroyers,
Frigates, Survey Vessel,
Offshore Patrol Vessel,
RFAs, STUFT.

Army

1 Infantry Bn Group,
Supporting Arms and
Services.

RAF

Phantoms, Hercules,
Chinooks, Sea Kings,
RAF Regt Sqn
(Rapier).

NORTHERN IRELAND

RN

Patrol craft,
RM Raiding Craft.

Army

HQ Northern Ireland,
2 Brigade HQs,
1 Engineer Sqn,
6 Resident Infantry Bns,
4 Roulement Infantry Bns
(one may be RM
Commando),
2 Sqns AAC,
9 Bns UDR.

RAF

Pumas, Wessex,
RAF Regt Sqn.

GREAT BRITAIN

RN

ASW Carriers,
Destroyers,
Frigates,
Submarines,
MCMVs,
Offshore Patrol Vessels,
RFAs,
Survey Vessels,
Helicopters,
Royal Marines
Commando Forces,
Royal Marines SBS,
Royal Marines Forces
for home defence.

Army

Specialist Reinforcement
Units for NATO,
Reinforcements for BAOR,
Forces for home defence,
1 SAS Regiment.

RAF

Andovers,
Buccaneers, Canberras,
Chinooks, Harriers, Hawks,
Jaguars, Lightnings,
Nimrods, Phantoms,
Pumas, Hercules, VC10s,
Sea Kings, Shackletons,
Tornados GR1 & F3
Tristars, Victors,
Wessex, communications
aircraft & helicopters,
Bloodhound, Rapier,
Skyguard RAF Regt Sqn.

SARDINIA

RAF

Phantom, Harrier, Tornado,
Jaguar and Hawk
detachments.

CHANNEL

RN

Destroyers, Frigates,
Submarines, MCMVs,
Offshore Patrol Vessels,
RFAs,
Shore-based Wessex
and Sea Kings.

RAF

Canberras, Nimrods.

GIBRALTAR

RN

Frigate, Lynx.

Army

1 Infantry Bn.

RAF

Airbase detachments.

CYPRUS

Army

1 Armd Recce Sqn,
1 Engineer Support Sqn,
1½ Infantry Bns,
1 Flight AAC.

RAF

Phantom, Lightning
and Tornado detachments,
1 Wessex Sqn,
1 RAF Regt Sqn.

UNFICYP Contingent

1 Armd Recce Sqn,
½ Infantry Bn,
1 Flight AAC,
Supporting Services.

SINAI

MFO Detachment.

KENYA (Exercise)

Army

1 Engineer Sqn

BRUNEI

Army

1 Gurkha Infantry Bn,
1 Flight AAC.

DIEGO GARCIA

RN

Naval Party,
RM Detachment.

THE GULF

RN

Destroyer, Frigate,
RFA.

MEDITERRANEAN

LPD,
Destroyers.

NORWAY (Exercise)

RN

RM Commando Brigade HQ,
2 RM Commandos with
combat and logistic
support,
Sea Kings and
Wessex helicopters,
RM Assault Sqn.

Army

1 Infantry Bn Group.

RAF

Harriers, Jaguars,
Pumas, Chinooks.

BERLIN

Army

Infantry Bde

RAF

Support Units.

WEST GERMANY

Army (BAOR)

1 Corps HQ,
3 Armoured Divisions,
1 Artillery Brigade.

RAF Germany

Jaguars,
Tornados, Phantoms,
Harriers, Pembrokes,
Andovers,
Pumas, Chinooks, Rapier,
RAF Regt Sqns.

HONG KONG

RN

Patrol Craft,
RM Raiding Sqn.

Army

1 Gurkha Engineer Regt,
1 UK Infantry Bn,
3 Gurkha Infantry Bns,
1 Squadron AAC.

RAF

1 Wessex Sqn.

AAC	Army Air Corps	HQ	Headquarters	Recce	Reconnaissance	SOV	Seabed Operations Vessel
Arms	Armoured	LPD	Assault Ship	Regt	Regiment	Sqn	Squadron
ASW	Anti-Submarine Warfare	MCMV	Mine Countermeasures Vessel	RFA	Royal Fleet Auxiliary	STUFT	Ships Taken Up From Trade
BAOR	British Army of the Rhine	MFO	Multinational Force and Observers	SAS	Special Air Service	UDR	Ulster Defence Regiment
Bn	Battalion	RE	Royal Engineers	SBS	Special Boat Squadron	UNFICYP	United Nations Force in Cyprus

Note: This map does not include 599 loan service personnel deployed worldwide

CHAPTER FOUR : THE ARMED FORCES

401. This chapter describes the contribution made by the three Services to the United Kingdom's four NATO roles outlined in Chapter 3. Each of these - the nuclear role, defence of the United Kingdom, of the European mainland and of the Eastern Atlantic and Channel - is complementary to the others, forming the 'Seamless Robe' of deterrence discussed in last year's Statement. And while each Service's contribution is distinctive, what is described below is the part that each plays in a team effort.

402. The Services are also, of course, part of the wider community, and this chapter outlines some of the ways in which their skills are used, directly or indirectly, to help the civilian population both at home and abroad.

THE ROYAL NAVY

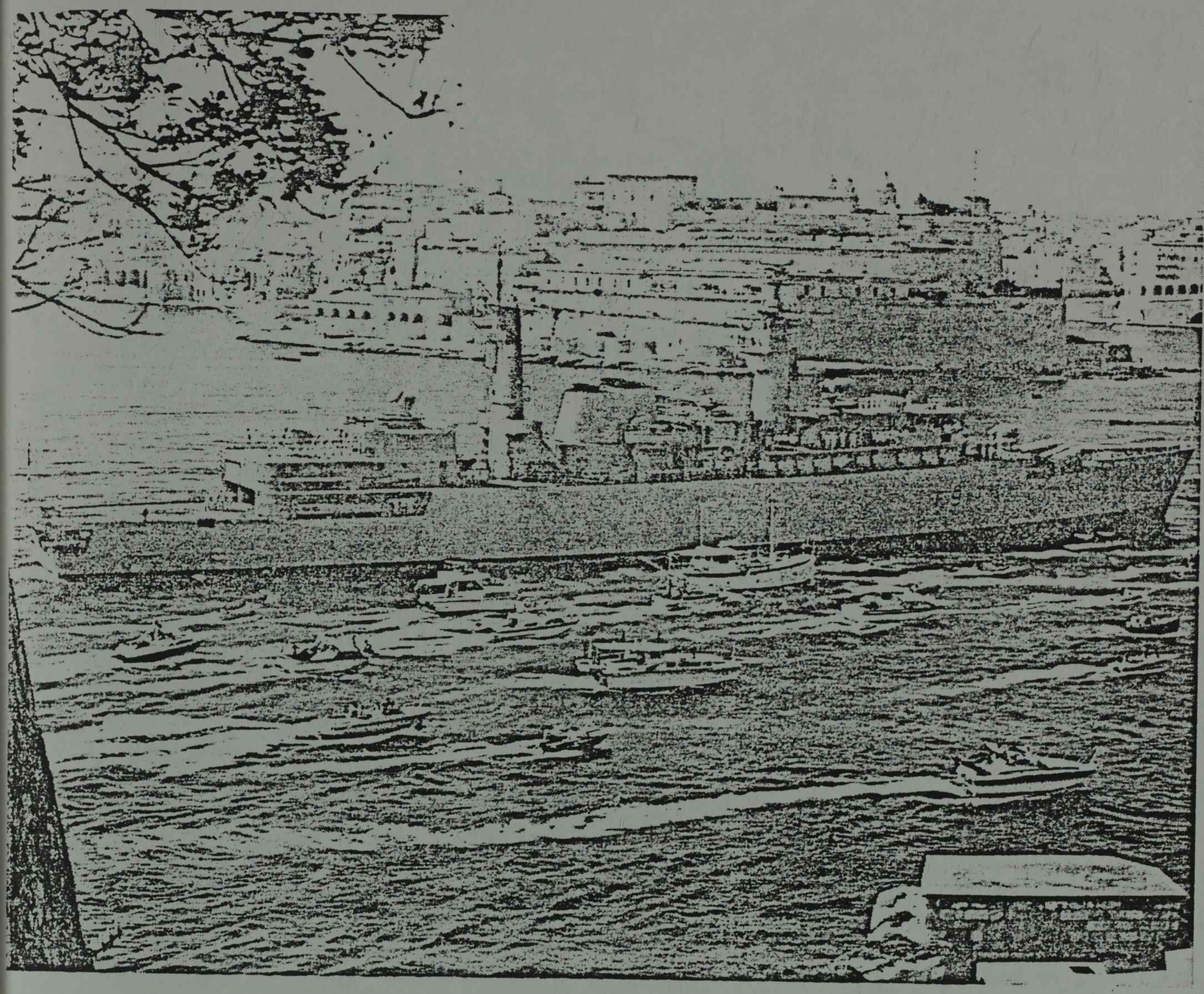
403. The Royal Navy is responsible for the deployment of the United Kingdom's independent **strategic nuclear deterrent**, provided since 1969 by our force of four Polaris submarines. The force will continue to remain effective until it is replaced by Trident in the mid-1990s (see page [ ]).

404. The defence of Western Europe depends on NATO's ability to ensure the safe passage of seaborne reinforcements and supplies across the **Atlantic, Channel** and **North Sea.** NATO therefore maintains powerful maritime forces in the Eastern Atlantic and Channel areas - nearly 70% of which are provided by the Royal Navy - ready to deploy early against the Soviet Northern Fleet, if necessary before the arrival of US naval reinforcements. In wartime, the Royal Navy would undertake a variety of tasks in the area:

- the interception and containment of Soviet forces in the Norwegian Sea;

- direct defence of reinforcement, re-supply and economic shipping, in conjunction with US and European maritime forces and supported by the RAF;

- anti-submarine defence of the NATO Striking Fleet Atlantic; and



HMS Brazen entering Grand Harbour, Valetta

- protection and deployment of the combined United Kingdom/Netherlands Amphibious Force to reinforce the Northern Flank of NATO.

405. Defence of the **United Kingdom** is, of course, vital to those of us who live here. But the geographical location of these islands also makes them essential to NATO. The Royal Navy contributes to the defence of this country by mine countermeasures (MCM) and defensive mining of home waters, by contributing additional layers of air defence, and, as a consequence of forward deployment operations in the Norwegian Sea, by helping to prevent the threat of attack from the north.

406. Defence of the **Northern Region** is of crucial importance to the United Kingdom. 3 Commando Brigade Royal Marines would be available at a time of tension or war to reinforce Norway, the Baltic Approaches or the Atlantic islands, the Royal Navy providing the specialist amphibious shipping and support ships required for its deployment. In November the Government announced in the House of Commons that it had decided to retain an amphibious capability in the longer term. The assault ships, HMS Fearless and Intrepid, which could be used in support of such operations, will remain in service until the mid-1990s. Feasibility studies to examine the possibility of extending their lives have begun and, later this year, we intend to begin studies into the alternative possibility of building new vessels. We are also considering the means of providing helicopter lift, including the possibility of an aviation support ship. Further support is provided by our six Landing Ships Logistic, one of which, the replacement Sir Galahad, is planned to come into service later this year.

407. The Royal Naval and Royal Marines **Reserves** play an important role in reinforcing our regular forces, as well as providing maritime home defence by carrying out MCM tasks and defending key points, ports and anchorages against attack. The Royal Marines Reserves will also augment the UK/Netherlands Amphibious Force. We maintain a strong organisation for naval control of shipping, run largely by the Royal Naval Reserve and the Royal Naval Auxiliary Service (this year celebrating its Silver Jubilee), which would be activated in a time of tension to assist the safe passage of allied merchant shipping both around the United Kingdom and worldwide.

408. The Navy's current strength is described at Annex B. Recent additions to its equipment programme are set out in Table 2. Because of the increasing size and capability of the Soviet submarine fleet, we place particular emphasis on our anti-submarine warfare (ASW) capability. Nuclear weapon systems deployed by the Royal Navy include nuclear depth-bombs for ASW, which can be carried by shipborne helicopters; and free-fall nuclear bombs, which can be delivered by carrier-launched Sea Harriers. We plan to increase the proportion of nuclear-powered vessels in our submarine force within broadly constant numbers overall. The diesel-electric submarines in service will consist of the new powerful and quiet Upholder class, four of which are now on order. The updating of our surface escort fleet is also continuing. Six Type 22 frigates are currently under construction, and orders have been placed for the first four of the new Type 23 ASW frigates: the first of class is planned to come into service around 1990. In last year's Statement we reported that the feasibility study for the NATO frigate replacement was completed. Negotiations for the next stage, project definition, are now under way. This ship, which in the British variant would have an anti-air warfare bias, could eventually replace our Type 42 destroyers. Last year we also ordered the first of the new Auxiliary Oiler Replenishment Vessels (AOR), and we are currently negotiating an order for the second. The AOR will need to be able to operate far from the main body of the Fleet, supporting towed-array vessels, and will be equipped with weapon systems to defend herself and the valuable cargo that she will carry. She will also provide helicopter maintenance facilities. The collaborative Anglo-Italian EH101 programme to develop a new ASW helicopter is proceeding, and the first prototype should fly shortly; an initial order of 50 aircraft is envisaged.

MERCHANT SHIPPING

1. Defence needs in time of war cannot just be met from the resources maintained by the armed forces in peacetime. The British merchant fleet will be essential for the transport of reinforcements to the regions of Allied Command Europe and across the North Atlantic, and for certain specialised tasks in support of the Royal Navy. The merchant fleets of our allies also have an essential part to play in the common defence.

2. Together with the Department of Transport, the Ministry of Defence is monitoring the availability of merchant shipping to meet the various needs of the armed forces. Over the last decade there has been a very substantial reduction in the number of ships on the United Kingdom register, and British shipowners are continuing to sell vessels or transfer them to dependent territory and foreign registers. This does not mean the ships are lost for defence purposes. The Government already has the power in time of tension or war to requisition ships on

dependent territory as well as United Kingdom registers - a power used quickly and effectively at the time of the Falklands conflict in 1982 - and it would be possible by legislation to extend this power to ships on foreign registers which are beneficially owned by British operators.

3. The number of available merchant vessels on the United Kingdom and dependent territory registers in the categories required to meet the needs of the armed forces is shown in Volume 2, Table 1.3. In general, these needs are well covered, except in the case of trawlers suitable for mine countermeasures purposes. Studies of other ways of meeting that requirement have shown that the task could be undertaken by suitably modified off-shore support vessels. As the shape and size of the merchant fleet continue to change, other plans may also need to be adjusted.

4. The previous paragraph relates only to the merchant shipping that is of direct concern to the Ministry of Defence: the shipping required by our armed forces for European reinforcement and operational support of the Royal Navy. In time of war, NATO nations would pool merchant ships not needed for national defence or coastal shipping purposes, and vessels required for transatlantic reinforcement and civil supply would be drawn from this pool. Because of concern about the possible effect of the decline of NATO's merchant fleets on such requirements, the Government has taken the initiative in pressing for a NATO-wide study to be made of the Alliance's ability to meet its needs for merchant shipping in time of emergency or war. NATO is considering this proposal.

5. The Government has also addressed the need for adequate trained and experienced crews to man the merchant ships required in crisis and war. We have announced our intention of contributing towards training and travel costs for British seafarers, thus encouraging the retention of British nationals on board British vessels; and of establishing a Merchant Navy Reserve to provide a pool of experienced seafarers in time of need. These proposals are being worked out in consultation with shipowners' and seamen's representatives. Parliament will be asked to grant any necessary powers. We continue to monitor the position and will take any further measures that may be necessary to ensure that the needs of the armed forces can be met.

THE ARMY

409. The centre-piece of the Army's contribution to NATO is its role in Europe's **Central Region.** Our land and air forces there demonstrate our positive commitment to the security of Europe and are the embodiment of the concept that the forward defence of the Federal Republic of Germany is the forward defence of the United Kingdom itself. The British Army of the Rhine (BAOR) consists of elements of a major combat force, 1(BR)Corps, together with its logistic support. Its peacetime establishment of 55,000, planned to increase to 56,000 by the end of the decade, includes three armoured division headquarters, seven armoured brigades, an air-mobile brigade and substantial corps troops. On mobilisation, numbers would rapidly be expanded to over 150,000 by the movement of 2nd Infantry Division headquarters, two Regular infantry brigades and two Territorial Army (TA)

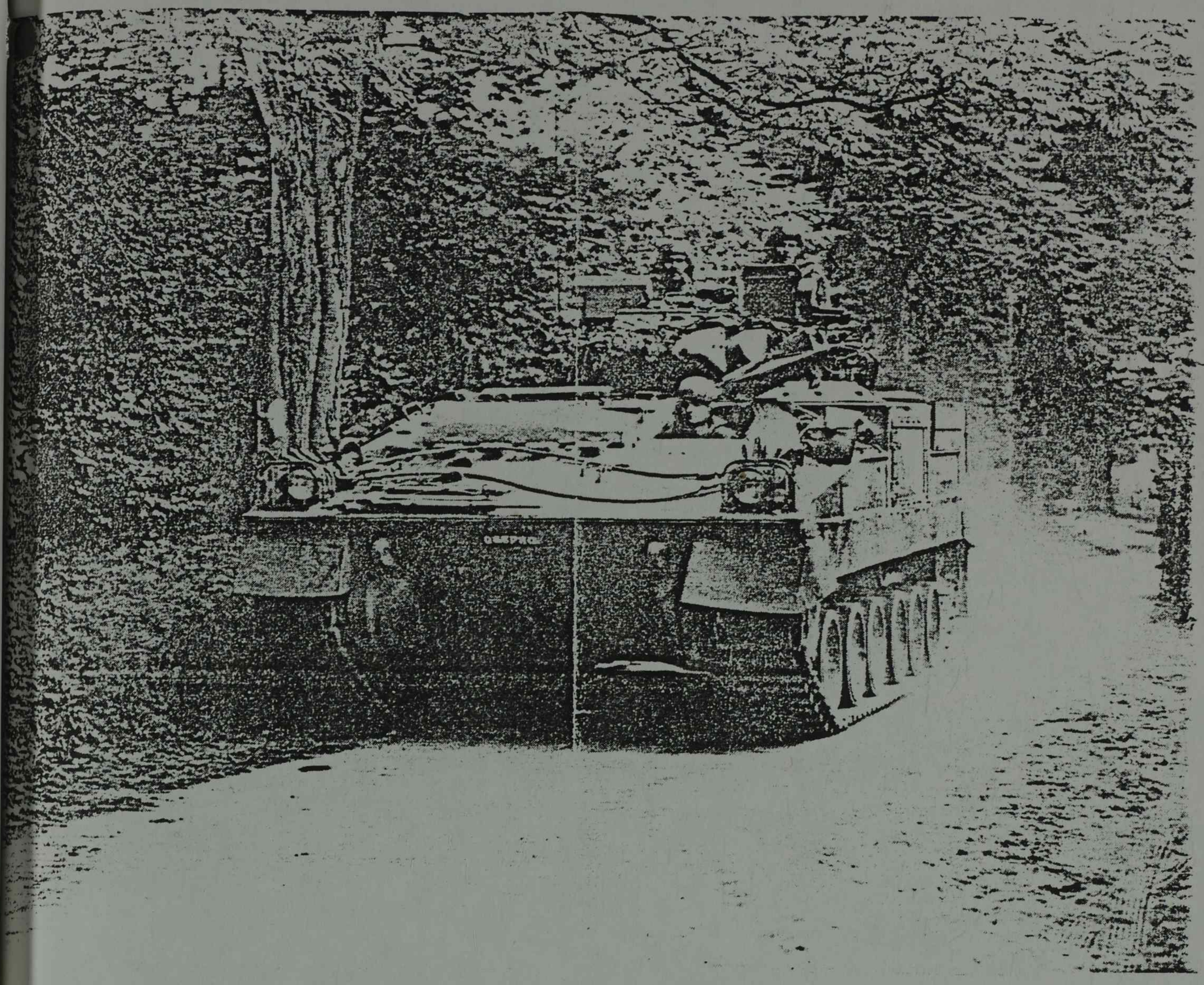
infantry brigades from the United Kingdom to the Federal Republic, together with a number of smaller units and individual regular and reservist personnel. In the Federal Republic the Army deploys one regiment of Lance surface-to-surface missiles and five regiments of artillery capable of firing nuclear warheads supplied by the United States.

410. Together with corps from Belgium, the Netherlands and the Federal Republic of Germany, 1(BR)Corps forms NATO's Northern Army Group (NORTHAG), which is responsible for the defence of the northern half of the Federal Republic from Cologne to the Elbe; within that area 1(BR)Corps has been allocated a 65km stretch of front. The NATO appointment of Commander NORTHAG is filled by the Commander-in-Chief BAOR. NORTHAG's plans and concepts of operations were revised during 1985, as outlined in last year's Statement.

411. We provide an infantry battalion, an armoured reconnaissance squadron and artillery, engineer, helicopter and logistic support for the Allied Command Europe Mobile Force (Land), which is available to SACEUR for deployment on either the **Northern** or **Southern Flanks** of NATO. Additionally, the United Kingdom Mobile Force (UKMF) is currently earmarked for rapid deployment in tension or war to the Baltic Approaches, where it would reinforce either Denmark or Schleswig-Holstein.

412. The Army provides the majority of the 100,000 ground forces available for the defence of the **United Kingdom**, including Regular, TA and reservist units. Their responsibilities include the protection from sabotage or attack of vital installations and bases.

413. As foreshadowed in last year's Statement, the second phase of the **Territorial Army's** expansion is now under way, with the formation of five of the six planned infantry battalions, three of which have home defence roles; two more Royal Engineer airfield damage repair squadrons, and an Army Air Corps squadron equipped with the Scout utility helicopter, also in home defence roles; and other supporting units. Recruiting for the Home Service Force, which is an integral part of the TA raised specifically for the home defence role, continues to go well. Planning is also under way to assign specific wartime roles to an additional 35,000 Regular Army reservists, in both the United Kingdom and BAOR. The reservists would either be assigned to reinforce existing units or formed into General Service Units, each of about company strength.



The Warrior Mechanised Infantry Combat Vehicle

414. The Army's commitment to countering the terrorist threat in **Northern Ireland** in support of the Royal Ulster Constabulary (RUC) remains undiminished, the other two Services continuing to provide support as required. Since the Services became actively involved in Northern Ireland in 1969 the nature of the task has changed, and the level of violence, which peaked in 1972, has declined considerably. This is reflected by the drop in the numbers of Regular Army personnel present in the Province, from a peak of some 22,000 in the early 1970s to the current level of just over 10,000 (including ten Regular infantry battalions). The Ulster Defence Regiment (UDR), which with its 6,500 personnel has continued to improve its professionalism and capablity, contributes a substantial proportion of the high level of support to the RUC that the Army still provides. Sadly, the cost in human lives remains high. 12 soldiers, including eight members of the UDR, were killed in 1986, bringing the total since 1969 to 545. Another 55 were injured. The dedication and bravery of all the members of the armed forces in the face of this toll of human lives is demonstrated by the fact that, during 1986, 120 gallantry awards were made, including three Military Medals, two George Medals and 17 Queen's Gallantry Medals.

415. The Army's current strength is given at Annex C. Recent additions to its equipment programme are set out in Table 3. Most significant for BAOR are the introduction of the Saxon armoured personnel carrier and the ordering of a seventh regiment of Challenger tanks. In addition, the new Warrior mechanised infantry combat vehicle (MICV) will enter service shortly. The re-mechanisation of 6(Airmobile) Brigade will begin in 1988 and when completed will significantly enhance the anti-armour capability of 1(BR)Corps. The brigade will eventually consist of one Challenger-equipped armoured regiment and two infantry battalions mounted in Warrior MICVs, and will constitute a fully capable mechanised formation, able to make an important contribution to the defence of the NORTHAG area. A third air defence regiment will also be formed, equipped with the new Starstreak high velocity missile, for which orders have recently been placed. Contracts have also been placed for the new DROPS logistic vehicle fleet and for the Rapier 2000 anti-aircraft missile system. Among the new equipments coming into service are the new SA80 infantry weapons, the S10 respirator and a range of battlefield thermal imager systems.

THE ROYAL ENGINEERS

1. 1987 is the 200th anniversary of the granting of the Royal Charter to the Royal Engineers, and is therefore an appropriate year to remember their contribution to the support of the armed forces and civil authorities.

2. The Sapper trains as a combat engineer, tradesman and infantry soldier. In war, Sappers provide combat engineering and construction skills. Their tasks include: preparation of the battlefield using explosive and other means, including minefields; demolition of bridges and roads to hinder the enemy's mobility; and bridging and other mobility support to enable the armoured formations of 1(BR)Corps to move and fight. The Sappers also support the RAF Harrier force in the Federal Republic of Germany, as well as providing the airfield damage repair capability on RAF airfields in both the Federal Republic and the United Kingdom.

3. The ability to meet the construction role is particularly well illustrated by recent work in Northern Ireland. Last year we reported that the Royal Engineers had begun assisting the Royal Ulster Constabulary (RUC) with urgent building work, in particular re-building RUC stations. In the face of persistent intimidation of contractors in the Province, the need for this help remains, and work began in February on re-building another two RUC stations.

4. The Royal Engineers have a special responsibility for bomb disposal (see paragraph [425]). Even now, some 42 years after the end of hostilities, they are required to deal with many Second World War bombs. Closely related to the clearance of explosives is the Sapper responsibility for searching for terrorist devices; this has grown into a highly developed science in the last decade.

5. Sappers also carry out long- and short-term engineering projects at home and abroad. During 1986, the Royal Engineers deployed on duty to some 33 countries. They are, for example, currently involved in construction tasks in Canada, Kenya, Norway and Zimbabwe. They have also, in the past year, helped with flood relief work in the United Kingdom and disaster relief in the Solomon Islands and El Salvador (see paragraph [427]).

THE ROYAL AIR FORCE

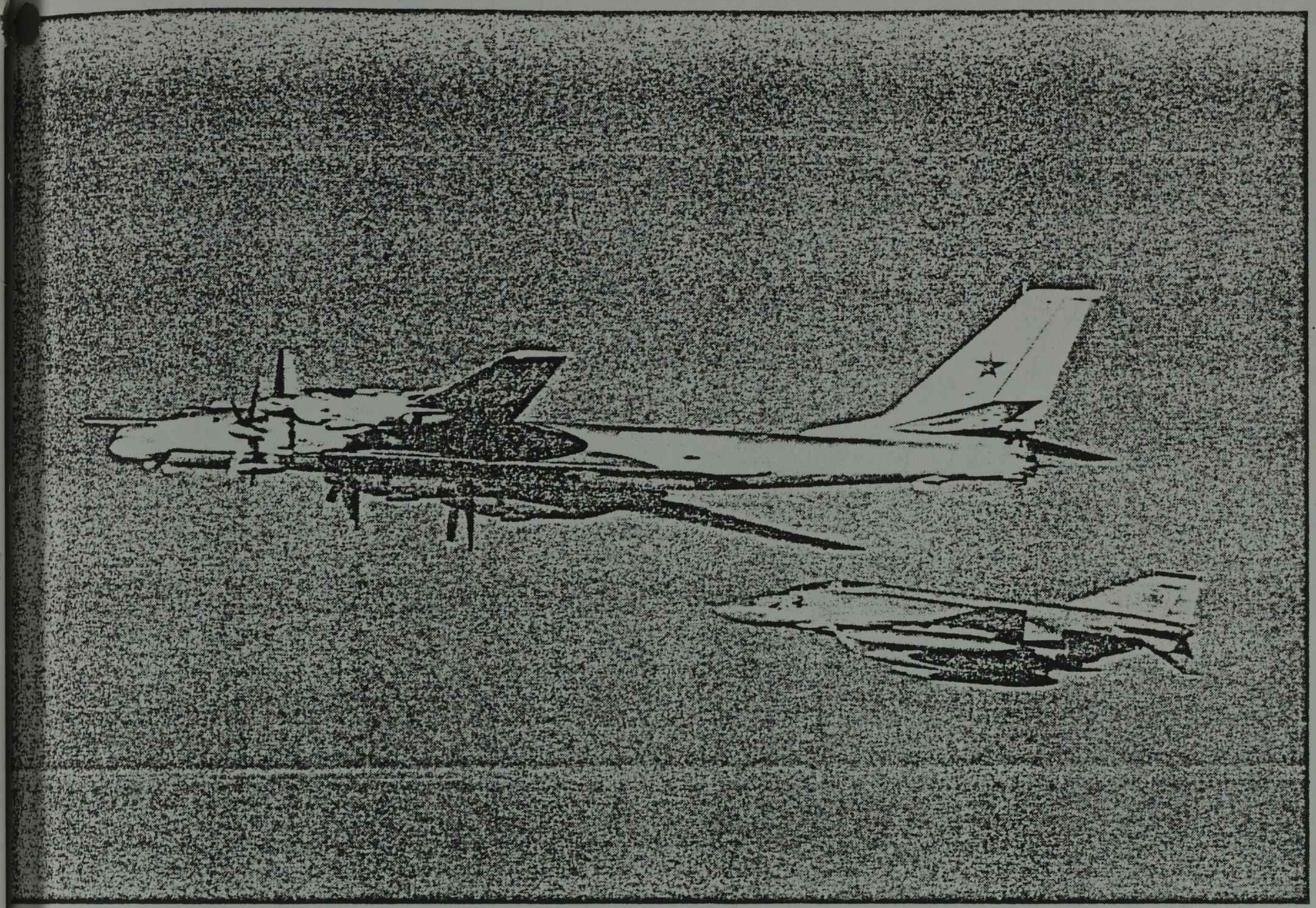
416. The Royal Air Force supports all pillars of British defence policy: it makes a significant contribution to SACEUR's theatre nuclear force for deterrence in Europe; it has primary responsibility for the air defence of the United Kingdom; it maintains a powerful tactical air force in the Federal Republic of Germany; it provides units for the early reinforcement of the Northern Region; and it fulfils major maritime tasks in the Eastern Atlantic and Channel. The RAF also provides air-lift support for all three Services. The capabilities of our aircraft give the United Kingdom the strategic reach and tactical flexibility to meet unforeseen tasks, whether deployment of combat squadrons using air-to-air refuelling to

distant locations (as was recently demonstrated with UK-based Tornados in exercise SAIF SAREEA in the Oman - see paragraph [422]) or support for our existing overseas bases and garrisons.

417. On the **Central Front**, RAF Germany forms part of an integrated allied group of forces, the Second Allied Tactical Air Force (2 ATAF), whose area of responsibility includes that of NORTHAG. Like NORTHAG, 2 ATAF is commanded by a British officer, who is also Commander-in-Chief RAF Germany. The RAF provides air defence forces for the security of allied airspace in peace and for the defence of territory and our forces in war, a requirement discharged by two Phantom squadrons, which form an important part of the allied all-weather fighter force in the Federal Republic, and by Rapier air defence squadrons.

418. The tasks of NATO's air forces include combating any Warsaw Pact air offensive against our ground forces and other military and civilian targets. Both Phantom and Tornado aircraft would be involved in this role as part of the general allied air effort. It would also be necessary from the outset to be able to attack armoured units that had broken through ground defences, and to reduce the weight of follow-on forces. In this task Tornados could again play a major role, but the attack of armour would be a specialist task of two squadrons of Harriers. Tornados operating in the strike/attack role could also deliver British free-fall nuclear bombs. Jaguar reconnaissance aircraft would provide 2 ATAF with essential combat intelligence, while two helicopter squadrons, operating Chinook and Puma support helicopters, would provide tactical air-lift logistic support, primarily for 1(BR)Corps. RAF Regiment Rapier squadrons would provide short-range air defence of the main airfields.

419. In the **United Kingdom**, RAF Strike Command has the main responsibility for air defence both of our islands and of the surrounding sea areas, including outer area defence of Royal Navy ships or task groups. In war, enemy aircraft would be countered by RAF fighters maintained on combat air patrol or ground alert, surface-to-air missiles (Bloodhound and Rapier) and radar-controlled guns (Skyguard). In peacetime, RAF fighters on Quick Reaction Alert intercept, identify and if necessary shadow targets approaching British air-space and escort unauthorised intruders back into international air-space. RAF Strike Command also operates the Ballistic Missile Early Warning System at RAF Fylingdales in Yorkshire. On 22 May 1986 the Government announced its intention of proceeding with a modernisation programme for the early warning system, in cooperation with



A Phantom intercepts a Soviet Bear bomber in the United Kingdom Air Defence Region

the US Government, to maintain its effectiveness against modern multiple-warhead missiles.

420. In **Maritime** operations the RAF's major concern, in concert with the Royal Navy, is to safeguard reinforcement and re-supply shipping from North America against seaborne threats, principally submarines. For this task the RAF operates four squadrons of Nimrod Mk2 aircraft, which are capable of the full range of ASW tasks from surveillance to location and attack; the aircraft's speed, range and endurance make Nimrod particularly valuable. If required, it can also deliver stand-off anti-ship missiles, as can the two specialist anti-ship Buccaneer squadrons. The Buccaneers can also deliver nuclear bombs.

421. The current strength of the RAF is shown at Annex D. Recent additions to its equipment programme are set out at Table 4. Our air defence forces are currently in the midst of a comprehensive modernisation programme, which will enable them to continue to fulfil this role effectively into the next century. The first squadron of the Tornado air defence variant will become operational later this year, installation of the improved UK Air Defence Ground Environment is under way, and a major enhancement in capability will be achieved in 1991, when the RAF will take first deliveries of the E-3A Airborne Warning and Control System to replace the Shackleton. The deployment of the Tornado strike/attack force has been completed, and the JP 233 cratering and area-denial weapon has entered service. There will be a substantial improvement in the capability of the RAF's STOVL aircraft as the Harrier GR5 - which offers increased range and payload and subsequently a night/poor weather capability - begins replacing the GR3 next year. The support helicopter force is to be modernised by replacing the Puma with the utility variant of EH101 and using the Puma to replace the ageing Wessex. Modernisation of the RAF's tanker force, an important force multiplier, is continuing.

MAPS AND CHARTS

1. The armed forces have always needed accurate maps and charts for navigational purposes; but the advent of modern weapon, navigation, communication and intelligence systems, many of which require geographic material to be provided in complex digital form, has provided new challenges for the Services' surveying and map-making organisations. There are three of these: the Royal Navy's Hydrographic Service, composed of the Hydrographic Department and the Surveying Flotilla; the Military Survey Service, Royal Engineers; and the Royal Air Force Aeronautical Information Documents Unit.

2. The Hydrographic Department handles the compilation, production, maintenance and issue of Admiralty charts and other navigational publications to the Fleet and plans the work of the Surveying Flotilla. The Surveying Flotilla conducts hydrographic and oceanographic surveys in support of naval operations, and on behalf of the Department of Transport to meet the needs of merchant shipping. In 1986 surveying ships, supported by chartered commercial vessels with Royal Navy surveying teams embarked, completed an important programme of surveys mainly around the coast of the United Kingdom. In March 1986, the ocean surveying ship HMS Hydra was paid off after 20 years' service. HMS Roebuck, the Royal Navy's latest coastal survey vessel, was accepted into service on 1 August 1986. She will become fully operational after extensive trials of the new Survey Information Processing System in the late spring of 1987.

3. The role of Military Survey is to provide geographical material including maps, aeronautical charts, terrain information, computer-based digital data and library information to the armed forces and defence agencies. This involves Military Survey in worldwide programmes in cooperation with many countries. During 1986, for example, Military Survey personnel visited 18 countries in four continents. In particular for NATO defence systems it is essential to ensure interoperability between NATO allies on geographic matters. Military Survey is involved in the standardisation and production of geographic data, including digital data, to meet British and NATO requirements. A modernisation programme is under way to ensure that the Military Survey keeps abreast of the most modern and sophisticated mapping techniques to meet the requirements for geographic support.

4. The Information Documents Unit provides comprehensive aeronautical information in a series of documents and charts to all three Services, and to other NATO and Commonwealth Air Forces. An extensive modernisation programme is almost complete, including equipment that will allow digital data to be transferred to the other producers.

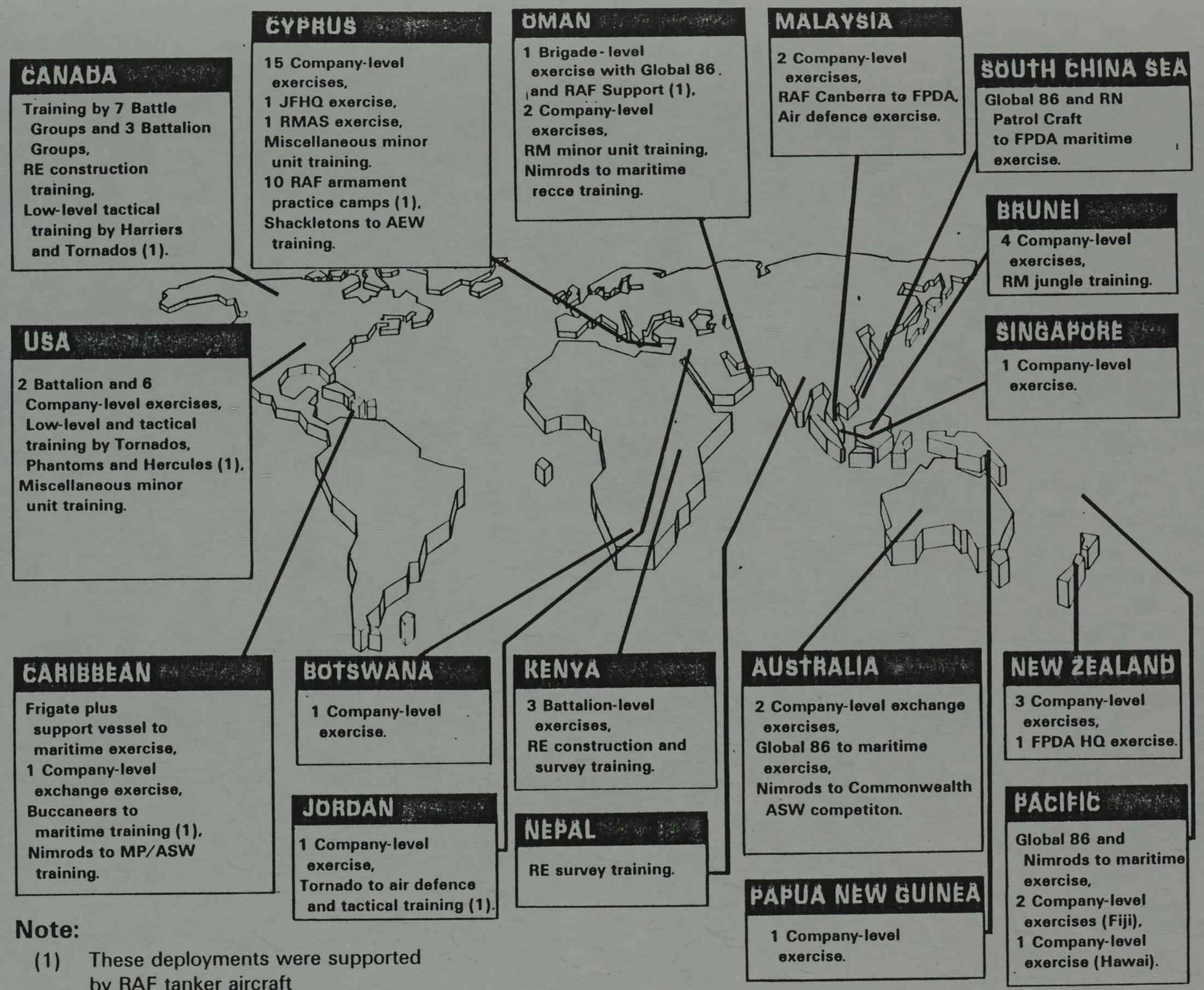
EXERCISES

422. During 1986, the armed forces again undertook an extensive and varied programme of collective training, both with our allies and with other friendly countries. Major exercises are shown in Table 5. Exercises conducted outside the NATO area are illustrated in Figure 5. Some of the year's highlights were as follows:

- HILEX 12, a biennial command post exercise, held in March 1986, to test and develop the Alliance's arrangements for consultation and collective decision-making in a crisis. The opportunity to practise plans and procedures at lower levels was also taken. Our participation extended down to Command Headquarters in both the United Kingdom and the Federal Republic of Germany.

Figure 5 Exercises outside Europe in 1986

Figure 5 Exercises outside Europe in 1986



Note:

(1) These deployments were supported by RAF tanker aircraft

- NORTHERN WEDDING, a maritime exercise in the Atlantic and Norwegian Sea in August and September involving ships, aircraft and amphibious forces from ten countries, including France. Its purpose was to test and improve NATO's ability to counter the possible threat to reinforcement and re-supply operations in the North Atlantic. Some 150 naval vessels together with many merchant ships and 400 military aircraft took part. Our contribution included 37 ships, led by HMS Ark Royal, and the Royal Marine component of the United Kingdom/Netherlands Amphibious Force together with RAF Buccaneer, Hawk, Lightning, Nimrod and Phantom aircraft. In all, some 35,000 personnel were involved.

- BOLD GUARD, a combined field training exercise, which took place in Jutland and Schleswig-Holstein in September and October, and involved Danish, Dutch, German and US as well as British units. The major part of our commitment consisted of 12,000 men of the UKMF, with RAF Chinook and Puma helicopters. Harrier and Jaguar squadrons were deployed for offensive air tasks in their reinforcement roles. The United Kingdom/Netherlands Amphibious Force deployed from participation in NORTHERN WEDDING to form the amphibious element of the opposing forces for the exercise.

- SAIF SAREEA (SWIFT SWORD), the largest exercise to date in a programme designed to develop our ability to respond rapidly to a crisis anywhere in the world. A Joint Force Headquarters deployed to Oman in November with a tri-Service force of some 4,750 personnel consisting of elements of 3 Commando Brigade embarked in HMS Intrepid and 5 Airborne Brigade, with support from RAF air transport aircraft. Six Tornados deployed non-stop from the United Kingdom using air-to-air refuelling and were in operation within 35 minutes of landing. On arrival, the UK-based force joined HMS Illustrious and major elements of the Royal Navy task group (see page [ ]), the Gulf Patrol Ships and the Sultan of Oman's armed forces for a combined field training exercise.

423. The programme for 1987 includes a further major exercise with an out-of-area scenario, PURPLE WARRIOR, which will be staged in south-west Scotland this November. In September, the major NATO exercise, OCEAN SAFARI, will

take place in the Atlantic. Eleven Alliance nations will participate in manoeuvres designed to improve and demonstrate our collective ability to counter the potential threat to maritime reinforcement and re-supply operations between North America and Europe. Our own national reinforcement plans will be practised in October, when the BAOR divisional exercise, KEYSTONE, will involve the UK-based 2 Infantry Division. As part of the exercise, some 24,000 Regular and Territorial Army personnel, with their support vehicles, will deploy to their wartime area of operations in BAOR.

GLOBAL 86 [to accompany Fig 6]

1. **GLOBAL 86** was the first circumnavigation of the world by a Royal Navy Task Group for ten years. The Group, consisting of the aircraft carrier HMS Illustrious and a number of warships and Royal Fleet Auxiliaries, left British waters in April 1986 on an eight-month deployment (although Illustrious' departure was delayed by a fire on board, she joined the Group in Singapore). In a full programme, the Group exercised with friendly navies, sailed 42,000 miles and visited 21 countries in North America, the Far East, Australasia and the Indian Ocean. One day in each port was set aside exclusively for promoting British defence equipment.

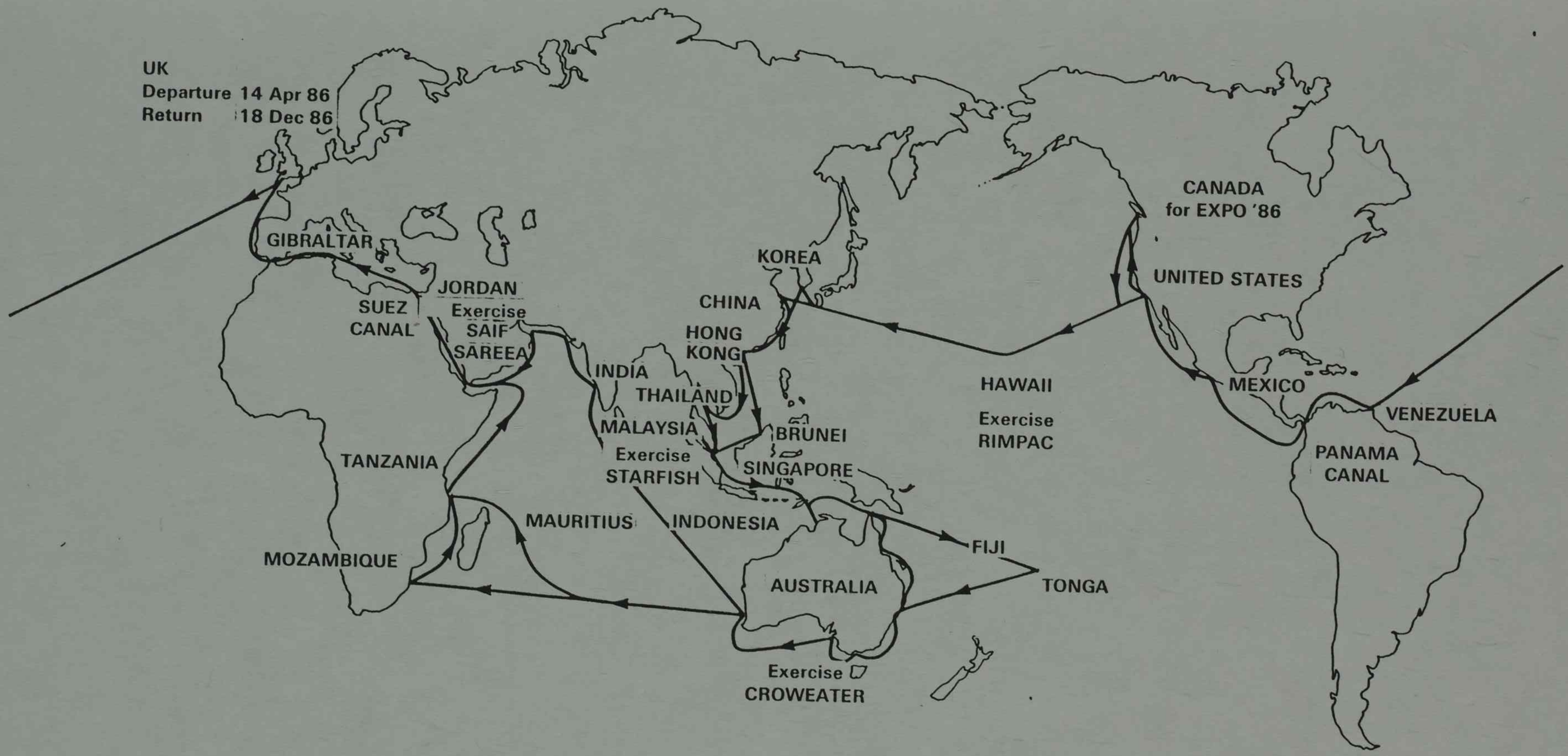
2. Highlights of the programme included Royal Navy participation for the first time in the major US Navy exercise, RIMPAC 86, in the Pacific, together with the navies of Canada, Australia and Japan; the first RN visit to China since 1980; attendance at the Sydney Fleet Review for the 75th anniversary of The Royal Australian Navy; and involvement in SAIF SAREEA (see paragraph [422]). An unexpected feature of the deployment was the interest shown by foreign navies in our methods, organisation for both ships' operations and administration, and in the whole area of achieving value for money and economy of manpower. Figure 6 traces the passage of this deployment, showing the ports visited and the main exercises undertaken.

THE SERVICES AND THE COMMUNITY

424. The armed forces have a unique and varied contribution to make to the life of the community, from search and rescue around our coasts to disaster relief overseas. There is also a less obvious contribution made by the large number of Servicemen who return each year to civilian life equipped with the skills acquired during their military training (see page [ ]).

Figure 6 GLOBAL 86: RN Task Group Deployment

Figure 6 GLOBAL 86: RN Task Group Deployment



Bomb Disposal

425. The courageous specialist work of the Explosive Ordnance Disposal (EOD) teams of the Royal Army Ordnance Corps and Royal Engineers, together with those of the Royal Navy and the RAF, has continued with great success. During the year they responded to 629 calls and neutralised 4,292kg of explosive in Northern Ireland; and answered some 4,387 requests for help in Great Britain. Of the latter 471 were suspected terrorist bombs, including 21 devices, 13 explosions, 16 finds, 103 hoaxes and 318 false alarms. A further 3,916 conventional munitions of First and Second World War vintage, including torpedoes, bombs, mines, depth charges, other warheads and small arms ammunition, were also disposed of successfully. In addition, the Services provide training in bomb disposal and search techniques for the police and for overseas students. The job requires persistence as well as skill. After some 22 years' clearance work at Orfordness, an area that was extensively used between 1914 and the late 1950s as a bombing range, the RAF EOD team has finally vacated its permanent establishment at the site.

Search and Rescue

426. Last year helicopters of the Royal Navy and the RAF, assisted where necessary by Nimrod Maritime Reconnaissance aircraft, were called out on 1,319 occasions, resulting in 797 rescues. Their skill and dedication are illustrated by the incident, in November 1986, when Sea King helicopters from RAF Brawdy lifted 28 people from the iron ore carrier Kowloon Bridge off the southern coast of Ireland within two hours of a midnight distress call, in a force 11 gale, with 20 foot waves. In addition, the services of the RAF Mountain Rescue Teams (MRTs) have also been required on 73 occasions. 14 people were rescued by the MRTs in the past year.

SERVICE TRAINING AND THE BRITISH ECONOMY

1. The opportunities offered by the Services for training and education are substantial; the number of branches, trades and employment groups runs into many hundreds. From the moment recruits enter the Services, their training is designed to build self-discipline and the ability to work as a member of a team. These qualities form the foundation on which later training in trade skills and the exercise of responsibility are based.

2. Each year some 15,000 Servicemen and women complete their engagements in the Services' major skill or trade groups and become available for civilian employment. Over a third will have been employed in mechanical, electrical or civil engineering trades; the remainder will have served in a wide variety of

occupations - such as transport, communications, catering, accounting, personnel management and medical and dental trades - with obvious applications to the civilian sector. During their military service not only will they have had experience of exercising their skills in a disciplined environment, but most will have received formal training leading to the award of a qualification or certificate granted or recognised by the appropriate civilian institute or examining body. Many of these Servicemen and women will have had no vocational qualifications on entry.

3. Training in the armed forces is undertaken specifically to meet the Services' needs; but wherever possible it is aligned with the requirements of civilian examining bodies. Trainees can gain qualifications ranging from degrees and membership of professional bodies to Heavy Goods Vehicle driving licences. For example, about 100 post-graduate degrees, 100 medical and dental degrees and 400 other first degrees are obtained each year under Service sponsorship. The first degree training of engineering officers from all three Services takes place at the Royal Naval Engineering College at Manadon and the Royal Military College of Science at Shrivenham. Both colleges also offer MSc engineering courses, and the Royal Naval College at Greenwich provides a unique degree in nuclear technology for both the Navy and industry. At a lower level, some 12,000 craft and technical certificates and diplomas are awarded each year under Service sponsorship.

4. In addition to normal military training, the Services also offer other categories of training. Most serving personnel with over five years service attend a resettlement course of up to 28 days duration, to prepare them for a second career on leaving the Service. Some 11,000 Service personnel attend these courses each year. The Armed Services Youth Training Scheme provides training in skills and trades for the young unemployed, including driving, clerical, storekeeping, vehicle mechanics and telecommunications. Adults can take advantage of the training available in the Territorial Army, Royal Naval Reserve and Royal Air Force Reserve units, where communication and leadership skills particularly can be developed.

Disaster Relief

427. Members of all three Services were involved in disaster relief operations in 1986 and early 1987:

- in the **Solomon Islands**, a detachment from the Royal Corps of Signals spent several weeks restoring communications and assessing damage caused by Cyclone Namu in May. They were followed by a team from the Queen's Gurkha Engineers who carried out a survey of bridges lost or damaged by the cyclone, and subsequently supervised the construction of two Bailey bridges;

- assistance was provided to the **Jamaican** authorities following the disastrous floods in June. A company of the 2nd Battalion, the Para-

chute Regiment took part, as well as troops and RAF Puma helicopters from the Belize garrison and HMS Ariadne, the West Indies Guardship;

- elements of the Belize garrison also contributed to relief operations in **El Salvador** following the earthquake in October;

- in the **United Kingdom**, troops were deployed with heavy equipment following a train crash in Humberside and to assist after flooding in Yorkshire and Pembroke. During the severe winter weather experienced in January, some 1,400 soldiers (including members of the TA) and over 400 vehicles were employed in helping to rescue stranded motorists, clear snow-bound roads, move supplies to isolated areas and provide technical assistance.

- all three Services made a major contribution, in cooperation with the Belgian armed forces and civilian rescue services, and assisted by ships of the Royal Netherlands and Federal German navies, to the rescue of passengers from the Herald of Free Enterprise, which capsized outside Zeebrugge harbour on 6 March. Twenty-six Royal Navy divers were deployed from the United Kingdom by RN and RAF helicopters and aircraft, and from HMS Hurworth at Ostend, within hours of the disaster. RAF Sea King helicopters flew with thermal imaging equipment over the hull to detect survivors, while a team of Army chaplains helped administer to the needs of survivors and relatives.

TRIDENT - COSTS AND BENEFITS

1. The latest estimate for the Trident programme is £9,265 million. This is £546 million less in real terms than the estimate announced in March last year, and £738 million less than the original estimate of £7,500 million announced in 1982, over and above the savings resulting from the decision to process missiles at King's Bay, Georgia. The reduction in the estimate compared with last year is caused by continuing refinement of costs as the definition of the project improves.

2. The estimate amounts to under 6% of the current equipment budget over the procurement period. At its peak the programme will account for less than 11% of this budget. We have committed £3,000 million to the programme so far and have actually spent £1,000 million. 70% of the expenditure already committed will be spent in this country, and the United Kingdom's slice of the total programme is expected to be about 62%; this arises both from the fact that the components will be manufactured in this country, and from British industry's access to US prime contractors.

3. What does all this mean in practical terms for British industry? The number of British firms in direct contact with one or more of the seven US sub-system prime contractors is now over 340. About 300 firms have been approved as bidders to the programme, and nearly 200 of them had been invited to bid for contracts on the US Trident II programme. Some 230 contracts have been placed with British firms; some of these are follow-on orders to initial awards made during the earlier advanced development phase; many are small in value but offer considerable potential over the remaining life of the programme. The total value of contracts awarded to British industry is more than $50 million.

4. All this is good news for jobs. We estimate that the Trident programme will sustain an average of 7,500 direct and 6,000 indirect jobs in this country throughout its procurement period - at its peak 27,000 people will be working, directly or indirectly, on Trident. Up to 2,500 construction workers will be needed for the development of the Clyde Submarine Base, and the construction of the first submarine, HMS Vanguard, is likely to provide employment for about 4,000 people at VSEL in Barrow and 5,000 elsewhere.

5. The Trident programme itself is now well advanced. The keel for HMS Vanguard was laid last September, and construction is progressing satisfactorily. The contract for the second submarine will be placed this year. Contracts have now been placed for the development and initial production of many of the complex equipments that form the Tactical Weapon System. Work is also proceeding apace on construction of the supporting infrastructure at the Clyde Submarine Base.

6. Advance works at RNAD Coulport to provide a network of depot roads, excavate the sites of key buildings, and provide perimeter security are well in hand, preparatory to the main task of expanding the depot, which will begin later this year. At Faslane, site preparation and some re-development are also under way, and work will start shortly on a ship-lift and associated facilities providing power supplies, workshop and office accommodation. To improve access to Clyde Submarine Base, and relieve local communities of additional traffic, several new roads are under construction. At a recent series of public meetings held at Faslane, local residents and others were told of the progress being made, of the problems that have been overcome, and of plans for the future.

BLE 1 MAJOR EQUIPMENT ORDERED SINCE 1979

yal Navy (1)

bmarines

dent Submarine	1
clear-Powered Fleet ubmarines	5
pe 2400 Diesel-lectric Submarines	4

igates

pe 22	8
pe 23	4

CMVs

nt Class	8
ver Class	12
ndown Class (SRMH)	1

trol Craft

lkland Island Patrol ssel	3(4)
fshore Patrol Vessels	2(4)
ng Kong Patrol Craft	5(4)

xiliaries

abed Operations Vessel	1(4)
xiliary Oiler	1(4)
eplenishment Vessel	
iation Training Ship	1(4)(6)
astal Survey Vessel	1
nding Ship (Logistic)	1(4)

val Aircraft

a Harrier FRS1	23
a King Mk 5	13
a King AEW	8(5)
a King Mk 4	21
nx Mk 2/3	10

Army

Tanks

Challenger Regiments	7	
120mm Ammunition	Full operational stocks (2)	

Armoured Personnel Carriers

Warrior Battalions	13	
Saxon Battalions	10	

Logistic Vehicles

14 Tonne Load Carrier	1045(4)	
6x6 Recovery Vehicle	340(4)	

Helicopters

Lynx (armed with TOW)	25 (final batch)(4)	
Thermal Imager for TOW Sight	Full front-line fleet(2)	

Field Artillery

MLRS Regiments	3	
BATES	One system	

Air Defence Batteries

Rapier Field Standard B2	3	
Tracked Rapier	4	
Rapier 2000	2	
Javelin Launchers	14	(7)
Starstreak High Velocity Missile	3	

Infantry weapons

SA80 Small Arms System	175,000
51mm Mortar	2,400
LAW 80	Full operational stocks (2)

RAF (1)

Strike/Attack

Tornado GR1	82

Offensive Support

Harrier GR5	62(3)

Air Defence

Tornado ADV	162
Phantom F-4J	15
Boeing E-3A	6

Transport/Tankers

VC10	9(5)
Tristar	9
Chinook Helicopter	8

Basic Trainer

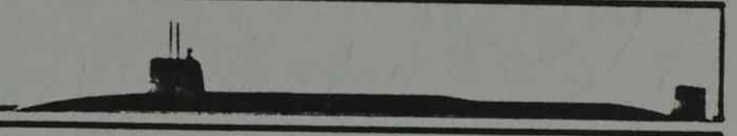
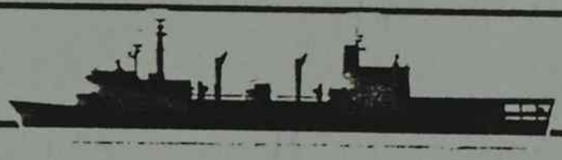
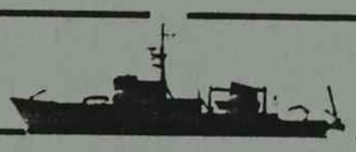
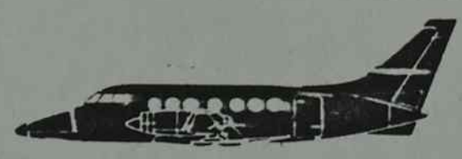
Tucano	130

TABLE 1	MAJOR EQUIPMENT ORDERED SINCE 1979	
Royal Navy (1)	Army	RAF (1)
	Other Equipment	
	Wavell ADP System — One system (4)	
	Ptarmigan Digital Communications — One system (4)	
	Full-Width Attack Mine Fuze — Initial deployment (2) (4)	
	Challenger ARRV — Initial deployment	
	Phoenix Remotely-Piloted Vehicle — 3 Troops	
	General Service Respirator S10 — Initial deployment (4)	

NOTES:

(1) Platforms only
(2) Numbers not given for reasons of security
(3) Includes two prototypes
(4) This Table has been compiled on a revised basis compared with previous Statements, and these equipments, ordered prior to 1986-87, are now included for the first time. For the same reason the following equipments, which appeared in last year's Table, have now been excluded - Coastal Training Craft, Harrier T4, Jetstream Mk 2/3, Skynet Communications Satellites, Milan Night Sight, BAe 146 and HS 125
(5) Conversions of existing aircraft
(6) Purchase and conversion of second-hand ships
(7) Includes Territorial Army

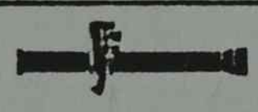
Table 2 Royal Navy Equipment

	Numbers brought into service 1986-87	Numbers ordered 1986-87	
Submarines			
Trident Submarines	—	1	
Nuclear-powered Fleet Submarines	1	—	
Frigates			
Type 22	1	—	
Type 23	—	3	
MCMVs			
Hunt Class	1	—	
River Class	2	—	
Auxiliaries			
Auxiliary Oiler Replenishment Vessel	—	1	
Survey Vessels			
Coastal Survey Vessel	1	—	
Naval Aircraft			
Sea King Mk 4 Sea King Mk 5	9 2	— —	
Jetstream T Mk 3	4	—	

Other Naval equipment ordered in 1986-87

TDHSI 2	Development and initial production of Command System for Submarines
Sonar 2050	In-board electronics for hull-mounted sonar for ships
Close-in Weapons Systems	Further order of 7 Phalanx and 9 Goalkeeper Systems
Sonar 2054	Development and production of Sonar fit for Trident SSBN

Table 3 Army Equipment

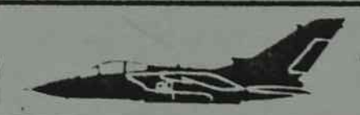
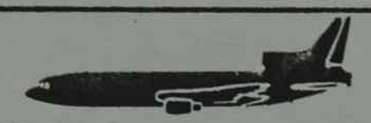
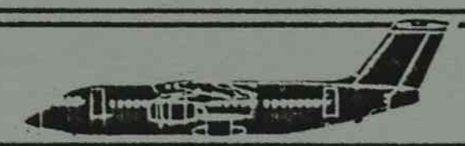
	Numbers brought into service 1986-87	Numbers ordered 1986-87	
Tanks			
Challenger	1 regiment	1 regiment	
Night Observation and Gunnery Sight	3 regiments equivalent	—	
Armoured Personnel Carriers			
Saxon	3 battalions	—	
Helicopters			
Lynx Mk 7	6	—	
Thermal Imager for TOW Sight	—	Front line fleet (1)	
Air Defence			
Rapier Field Standard B2	—	1 battery	
Rapier 2000	—	2 batteries	
Tracked Rapier	1 battery	—	
High Velocity Missiles	—	3 batteries	
Infantry Weapons			
LAW 80 (Light Anti-Armour Weapon)	—	Full operational stocks (2)	
SA80	6 battalions	—	
SA80 Night Sight and 3rd Generation Image Intensifier Tubes	—	Initial quantities of night sight	
Surveillance			
Hand-held Thermal Imagers (Spyglass)	Initial deployment (2)	—	
Observers Thermal Imaging System	Initial deployment (2)	—	
Nuclear, Biological and Chemical Defence			
General Service Respirator S10	Initial deployment (2)	—	
Chemical Agent Monitor	Initial deployment (2)	—	

Notes

(1) Ordered in 1985-86 but too late for inclusion in the 1986 Statement

(2) Numbers not given for reasons of security

Table 4 RAF Equipment

Aircraft	Numbers brought into Service 1986-87	Numbers ordered 1986-87	
Tornado GR 1 (Strike/Attack)	2	9	
Tornado ADV (Air Defence)	28	—	
Tristar (Tanker/Transport)	2	—	
Harrier GR3	4 (1)	—	
BAe 146 (The Queen's Flight)	2	—	
Boeing E-3A (Airborne Early Warning)	—	6	

Other RAF equipment ordered in 86/87

Stage 2 Uniter Communications System

Air Traffic Control Radars

Boxer 2 Communications System

Notes: (1) Replacements for Falklands losses

TABLE 5

MAJOR EXERCISES IN 1986

NAME	DATE	TYPE	LOCATION	SERVICE	OTHER COUNTRIES
HILEX 12	March	Command Post	NATO-wide	Tri-Service	NATO
GREEN FLAG	March-April	Tactical Flying	US	RAF	United States
ELDER FOREST	April	Air Defence	UK	RAF/RN	
MAPLE FLAG	April	Tactical Flying	Canada	RAF	
TORCHLIGHT	April	Home Defence Study Period	UK	Tri-Service Civilian Agencies	
WESTERN VORTEX	April-October	Tactical Flying	Canada	RAF	
RIMPAC	May-June	Anti-Submarine Warfare	Pacific	RN/RAF	United States, Australia Canada, Japan
VOLANT RODEO	May-June	Flying and Support Competition	United States	RAF	United States, Australia Brazil, Canada, Italy, Federal Republic of Germany, Portugal
JOLLY ROGER	June	Submarine/Anti-Submarine Warfare Training	Atlantic	RN/RAF	Portugal, Canada, Spain, France
COPPER FLAG	July	Tactical Flying	United States	RAF	United States
STARFISH	August	FPDA Maritime Exercise	Off Malaysia	RN	Australia, New Zealand, Malaysia, Singapore
TACTICAL FIGHTER MEET	August	Tactical Flying and Air Defence	UK	RAF	Belgium, Canada, Denmark, Federal Republic of Germany, Netherlands, United States, France

NORTHERN WEDDING	August/September	Maritime	Atlantic/Norwegian Sea	RN/RAF	Belgium, Canada, Denmark, France, Federal Republic of Germany, Netherlands, Norway, Portugal, United States
BOLD GUARD	September/October	Field Training	Jutland/ Schleswig-Holstein	Tri-Service	Denmark, United States, Federal Republic of Germany, Netherlands
AUTUMN TRAIN	October	Maritime	Eastern Atlantic	RN/RAF	France, Portugal, United States
CROWEATER	October	Maritime	Pacific	RN	Australia, United States Canada
ETERNAL TRIANGLE	October	Field Training	Germany	Army	
KIWI CONNECTION	October	FPDA Land Exercise	New Zealand	Army	Australia, New Zealand, Malaysia, Singapore
PRIORY	October	Air Defence	UK	RAF/RN	
VENDETTA	October	Submarine Training	Norwegian Sea	RN	Norway, Federal Republic of Germany
RED FLAG	October-November	Tactical Flying	USA	RAF	United States
SAIF SAREEA (SWIFT SWORD)	November	Field Training	Oman	Tri-Service	Oman
FINCASTLE	November-December	ASW Competition	Australia	RAF	Australia, New Zealand, Canada

ESSAY

THE MINIMUM DETERRENT

1. By the mid-1990s, the Polaris strategic deterrent force will be almost 30 years old. The submarines will be nearing the end of their hull life, and the ship systems and sensors will have been modified and modernised virtually to the limits. The ability of the boats to patrol undetected will be less certain in the light of improved Soviet anti-submarine warfare (ASW) techniques, and the ability of the missiles themselves to penetrate strengthened Soviet anti-ballistic missile (ABM) defences will be less assured than it is today.

2. These are the hard facts that the Government had to face soon after taking office in 1979. Because of the long lead-times involved in the procurement of major weapon systems, an early decision was needed if Britain was to maintain a credible strategic nuclear deterrent after the end of Polaris' useful life. In 1980, the then Defence Secretary announced the Government's intention of buying the Trident missile system from the United States.

Why a British independent deterrent?

3. The public debate that has followed has ranged far wider than discussion about particular weapon systems and into the fundamental question of whether or not this country should remain a major nuclear power. The Government's reasons for believing it to be essential that we do so have been set out in full in previous Statements but, in view of the misunderstandings surrounding the subject, bear repeating.

4. We judge that the existence of independent European strategic deterrents - both British and French - significantly reduces the risk of a Soviet attack, whether conventional or nuclear, on us or our NATO allies. As we explain on page [ ], deterrence, and preventing war, is a matter of ensuring that the risks involved in starting a war are seen by a potential aggressor to be far greater than any possible gains he could hope to achieve. Although the mainstay of the Atlantic Alliance's deterrent forces is provided by the United States, the presence of an independent nuclear deterrent under absolute British control greatly complicates the

---

calculations that would have to be made by anyone contemplating an attack on Britain or our allies, and helps make aggression an unacceptably risky option. Although the integrity and vital importance of the US commitment to Europe are not in doubt, if Soviet leaders were at some stage tempted to calculate, for whatever reason, that they could impose their will on Western Europe by military force, without becoming involved in strategic war with the United States, they would still have to take account of British nuclear forces.

5. Those who argue that the money we are spending on modernising our nuclear deterrent would be better devoted to strengthening our conventional forces must answer the following question: would British and Alliance defence capabilities, and hence the effectiveness of deterrence, be enhanced more by an invulnerable second strike submarine-launched ballistic missile force; or by a proportional enhancement of our conventional forces? The answer is clear. In the first place, as we discuss on page [ ], conventional forces by themselves - no matter how strong - could not provide an effective deterrent. Moreover, even if the total cost of the Trident programme were devoted to conventional defence, it would only enable us to maintain little more than one armoured division with 300 tanks in total. But as Annex A shows, the Warsaw Pact already outnumbers NATO in tanks by some 30,000. So we would in practice be exchanging the unique contribution to deterrence made by our independent nuclear forces for a marginal reduction in the conventional superiority enjoyed by the Warsaw Pact. The Government sees no benefits in this for anyone except a potential enemy.

Why Trident?

6. This, in brief, is the rationale for Britain's maintaining an independent nuclear deterrent into the next century. But why should we be so convinced that Trident is the best system to do the job? It is worth reminding ourselves of the basic facts. First, the purchase agreement for Trident is an extension of that concluded in 1963 for the purchase of Polaris: we shall be buying from the United States the Trident D5 ballistic missiles and related equipment, together with continuing spares supply and maintenance support; but the warheads will be built in this country, as will the submarines themselves. Secondly, like Polaris, the Trident force will consist of four boats, each capable of carrying 16 missiles.

7. When the Government considered the various options for the system to succeed Polaris, the requirement was very clear: it had both to fulfil our minimum force deterrence criteria; and to be affordable. It had therefore to be capable of posing a credible threat to key aspects of Soviet state power; and of posing such a threat at all times. In other words, it had to maintain our ability to inflict, if necessary, an unacceptable level of damage on those targets likely to be most valued by Soviet leaders. Secondly, Soviet leaders had to be convinced that, notwithstanding defensive or other measures, our weapons would survive any pre-emptive attack and would reach their target. And thirdly, the system had to be capable of meeting these requirements throughout its service life in the face of technical changes and advances in the defensive systems that it would have to penetrate.

8. These requirements are more demanding now than when we embarked on the Polaris programme. To begin with, since the late 1960s when our Polaris entered service, the Soviet Union has deployed the only operational ABM system in service anywhere in the world and is currently modernising and expanding it up to the 100 launchers around Moscow allowed by the ABM treaty. This means that, if the Soviet Union is to be denied any possible sanctuary from which to prosecute aggression without fear of direct reprisal, we shall need to carry more warheads in the future to pose the same threat as in the early days of Polaris. And secondly, as noted earlier, Soviet ASW techniques have significantly improved over the last 20 years and will continue to do so.

9. Measured against these requirements Trident will represent no more than a minimum deterrent. As with Polaris, four boats are the minimum needed to guarantee one on patrol at all times. The increased payload of D5 offers the best prospect of being able to penetrate Soviet ABM defences in the face of possible improvements during the lifetime of the system. And the increased range of the D5 missile will give the submarines the necessary extra sea-room in which to conceal themselves as Soviet ASW techniques improve.

10. Some have argued that the British Government is planning an excessive increase in the number of warheads compared with Polaris, at a time when the superpowers are discussing 50% reductions in their strategic arsenals. In fact, we

have made clear that each British Trident boat will carry no more than a maximum of 128 warheads - far less than the full capacity of D5; this represents an increase of up to 2½ times the payload of the Polaris boats, when they entered service in the 1960s each carrying 48 warheads. That is the minimum necessary in our judgement to keep the deterrent effective and credible.

11. Trident's multiple independently-targetable warheads enable it to strike more targets than Polaris; but this is not a key factor from the point of view of providing an effective British deterrent. The essential capability for us is to be able to continue to hold at risk key aspects of Soviet state power, not to threaten the maximum possible number of individual targets. Our Trident forces will deploy with the minimum number of warheads consistent with this requirement. Even after the 50% decreases in superpower arsenals discussed at Reykjavik, Trident would represent a smaller proportion of Soviet strategic warheads than did Polaris in 1970.

12. Trident also meets the criterion of affordability. No major defence capability can be acquired cheaply; but, especially by comparison with major conventional programmes, we believe that Trident offers exceptional value for money. The costs and benefits of the Trident programme are addressed separately on page [ ].

Why not an alternative?

13. The Government is fully committed to the Trident programme - a commitment that stems from a rational assessment of Britain's defence needs in the world of the 1990s and beyond, as well as from the belief that no other system would meet those needs as cost-effectively. But others have different views. Constructive ideas on an issue as important as guaranteeing the security of our country are to be welcomed. The problem is that all of the alternatives that have been proposed were examined before we took the decision to buy Trident and were found to have major drawbacks - drawbacks that we believe rule them out as serious options:

. **A wholly British-built deterrent force:** British industry has not had a major capability to build strategic missiles since the 1960s, and to have tried to re-establish this capability would have taken longer than the time available. It would also have involved major uncertainties; and would without doubt have been very expensive. The United States had been our tried and tested partner in this field for some 25 years, and given that - as with Polaris - the operational independence of Trident would be unimpaired, the Government recognised the potentially great financial advantage to be derived from maximum cooperation and commonality with the United States.

. **Sea-launched cruise missiles:** Cruise missiles certainly have an important military value. Given their particular operational characteristics, they can be a very useful addition to an armoury that, as in the United States, has a range of strategic systems or, as in Europe, is part of a range of forces linking the conventional military option to the last-resort strategic strike force. But when judged against the criteria that the British strategic deterrent has to meet, cruise missiles simply do not fit the bill.

In the first place, they have serious operational shortcomings. Developments in stealth technology notwithstanding, the missiles are likely to become much more vulnerable to the Soviet Union's increasingly sophisticated air defences over the next two decades. This country could not afford to keep updating and modernising its force to take account of Soviet technological advances. Moreover, current cruise missiles have far less range than ballistic missiles; this means that a Trident submarine will have approximately 15 times more sea-room in which to conceal itself than would a boat with cruise missiles. And cruise missiles have to be fired within 500 miles of land or else they become inaccurate. This further limits the ocean space available.

The other main objection flows from these operational considerations: it is one of cost. Although cruise missiles on a one-for-one basis are cheaper than their ballistic counterparts and are actually more

accurate, each cruise missile has only one warhead, compared with the multiple warheads on each Trident ballistic missile. This, combined with the operational problems, means that we would need many more cruise than ballistic missiles to be sure of achieving the striking power necessary for an effective deterrent. More importantly, more missiles means more submarines; and submarines are the most costly component of any sea-launched system. We assess that it would take 11 submarines, each capable of carrying 80 cruise missiles, to produce the equivalent deterrent power to that of a force of four submarines, each with 16 Trident ballistic missiles. To make a cruise missile force as effective as one based on ballistic missiles would, therefore, in broad terms involve double the expenditure both of capital and of running costs.

. **Air-launched cruise missiles:** Air-launched cruise missiles share the operational drawbacks of their sea-launched counterparts; this means that, compared with ballistic missiles, many more would be needed to meet our deterrence criteria. Given the large numbers involved, additional airfields and support facilities would be necessary to base the launch aircraft; and to maintain existing aircraft in their vital conventional roles, it is almost certain that considerable numbers of new, dedicated nuclear-delivery aircraft would have to be bought.

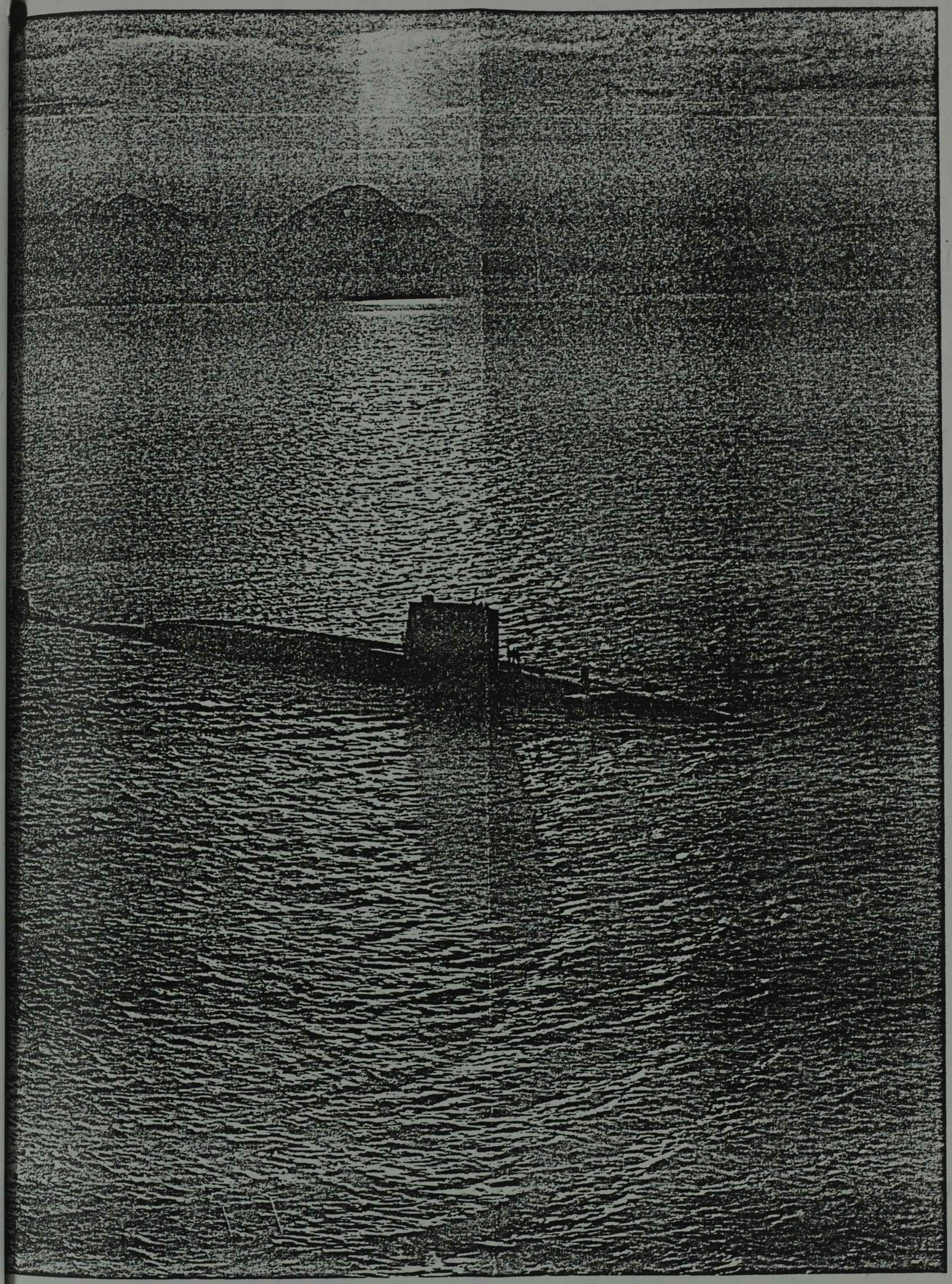
Another major drawback concerns the pre-launch survivability of aircraft and supporting airfields; these would be much more vulnerable than submerged submarines. Protective measures, such as the construction of hardened aircraft shelters, could offset the danger to an extent but would also add significantly to costs. Alternatively, continuous aircraft patrols could ensure that the force would not be caught on the ground; but these would be extremely expensive, in terms both of resources and manpower. And to have RAF nuclear-armed aircraft on permanent patrol in and around British airspace would probably be unacceptable to most people in this country.

A deterrent force based on air-launched cruise missiles would, as with the sea-based force, probably cost about twice as much as Trident.

. **An Anglo-French deterrent:** If one were considering a fully integrated, jointly controlled Anglo/French nuclear deterrent, significant problems would arise. Our two countries would need to agree on the criteria the force would have to meet, the targets that would be put at risk, the details of complementary refits and patrol cycles and, by no means least, the process of consultation leading to the launch of a nuclear weapon and the authority for the actual firing of a weapon. And if a jointly controlled force were contemplated, which country would change its defence philosophy? For certainly there would have to be a change. British nuclear forces are committed to NATO, and the Alliance would unquestionably be weakened in military and political terms if they were removed. France, on the other hand, although a member of the Alliance, is not part of the NATO military structure, and her forces are therefore independent of the Alliance.

. **Trident Submarines with French missiles:** Could we then simply buy French rather than American missiles? There was no missile in the French armoury in 1979 that would have met our deterrence needs. Information has since been published on the proposed new-generation French missile, the ballistic submarine-launched M5, which suggests that it might meet some of our requirements. But this is only now about to begin development, whereas Trident's development is already well under way. There must therefore be some doubt whether the M5 would be available to us within the same time-scale as Trident. More significantly, the switch to a different missile would entail a substantial re-design of the submarine, associated systems and the missile warhead. This would inevitably lead to several years' delay in deployment of the replacement system and to very considerable additional costs.

14. All this leads to the conclusion that, for the United Kingdom, the only real policy options remain either to have a credible strategic deterrent that we can afford - in other words Trident - or to have none. The worst course would be to opt for some kind of half-way house that not only used up valuable resources but, at the end of the day, represented in Soviet eyes - ultimately the only eyes that really matter - no real deterrent at all.



Polaris submarine returns from patrol

CHAPTER FIVE : EQUIPPING THE ARMED FORCES

PROCUREMENT POLICY

501. The ability of our armed forces to fulfil the roles outlined in Chapter 4 and on page [ ] depends to a large extent on the quality and quantity of their equipment. It is the task of the Procurement Executive (PE) of the Ministry of Defence to provide them with this equipment on time, in the quantities they need, to the standard required to meet the threat they face on the battlefield, and at the keenest price. The resources that we are investing in equipment are considerable: in 1987-88 we propose to spend £8,539 million, representing 45.5% of the total defence budget.

502. The Ministry of Defence is the largest customer of British industry. Clearly, with its purchasing power, the PE must pursue policies that will not only secure the best value for money but also promote the efficiency and long-term health of our defence industrial base. This means being:

- **A demanding customer:** our standards are high but not unnecessarily so: our negotiations, and in particular pricing, must be keen but fair. By satisfying the Ministry of Defence, British industry should be well placed to satisfy the requirements of other customers worldwide.

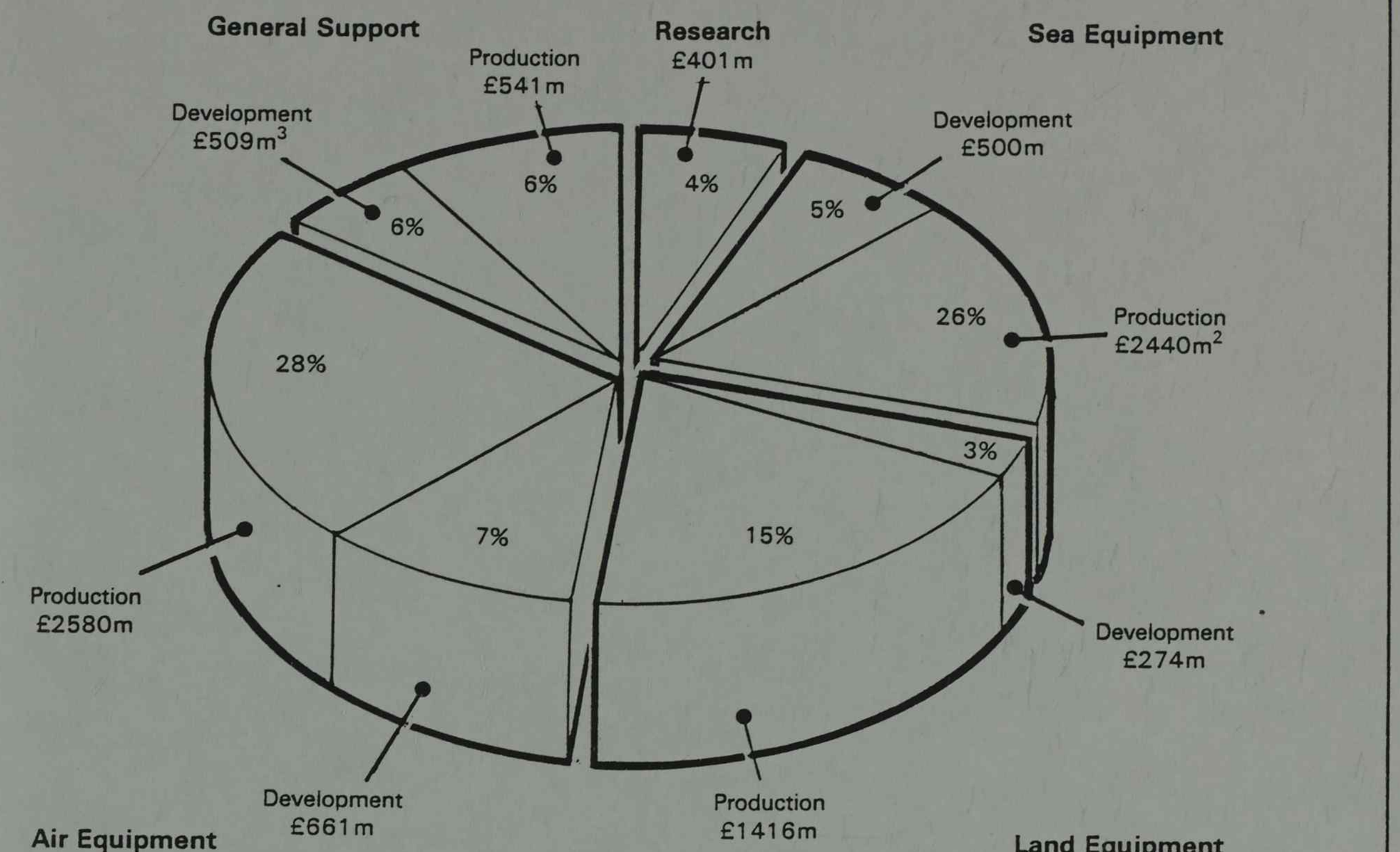
- **An informed customer:** our requirements must be clearly defined and expressed in terms that encourage cost-effective responses and enable export potential to be taken fully into account.

- **A 'hands off' customer:** our contractors should bear the full responsibility for the successful completion of their contracts, while keeping the Ministry informed of progress as necessary. Carrying risk, they should have the opportunity for reward if they are successful and efficient in delivering to time, cost and specification.

We seek a relationship of trust and mutual understanding with our suppliers, but the language of that relationship is thoroughly commercial.

503. We expect final figures to show that in 1986-87 we sustained the welcome improvement of recent years and achieved a level of competition significantly

Figure 7 The Main Divisions of the Procurement Programme 1987-88[1]



Notes

[1] Figures relate to expenditure at Estimates Prices and are net of Appropriations-in-Aid. Development expenditure has been amended to reflect the decision to purchase AWACS in place of Nimrod AEW.

[2] Including the cost of equipment for dockyard services.

[3] Including the cost of some HQ staff who are responsible for both research and development.

higher than that pertaining before the initiative to put greater emphasis on competition was taken - although the level of achievement each year is dependent on the nature of the defence industry and of the orders to be placed. 1986-87 saw real successes in competition, and some examples are given [below]. Furthermore, the proportion by value of contracts let on the basis of cost plus a percentage profit arrangement declined from 15% in 1983-84 to less than 10% in 1985-86. This trend has continued, and in the last year no new major development contract has been placed on that basis.

SUCCESSES IN PROCUREMENT

The following are some examples of the benefits gained from competition in procurement during the last year:

- The winning bid in a competition for a multiplexer system was only about 75% of the estimated price. In addition, the winning company's equipment offers a number of technical advantages that will lead to cost savings elsewhere.

- Recent competitions for sonobuoys produced savings of up to 30% on the prices previously paid under single-source procurement arrangements.

- A competition for the repair and overhaul of Pegasus engines produced savings in real terms of about one third on prices previously paid.

- In a competition for training missiles, the winning tenderer's price was nearly 50% lower than the last non-competitive price.

- A competition for torpedo warheads led to our placing a contract with the previous non-competitive supplier at a price some 16% lower than that initially estimated.

- Although we reluctantly had to cancel the Nimrod Airborne Early Warning contracts (see paragraph [508]), the introduction of competition into the project led to our being offered much better terms than would otherwise have been available. The subsequent request for best and final offers, and some tough negotiating, led to a reduction in price of a further 12% and better contract terms.

New Measures

504. We are pressing ahead in our drive for better value for money. In the past year we have worked on a number of new measures:

- With competition a cornerstone of our policy, it is important that industry should understand clearly how we apply it. We have therefore published guidelines setting out our approach.

- We have also published a code of practice to ensure that contractors carry forward our emphasis on competition to the sub-contract level.

- We have now launched a fortnightly, self-financing, MOD Contracts Bulletin, giving details of opportunities to compete for business at both prime- and sub-contract level. This includes details of Ministry of Defence orders estimated to cost over £0.5 million, as well as a supplement showing opportunities for British firms in the US Strategic Defence Initiative (SDI).

- We have revised our practices on the interim financing of contracts to provide a further incentive towards timely and satisfactory performance by linking payments more closely to achievement. Guidelines on this have been published.

- Flexibility in carrying forward unspent provision from one year to the next allows project managers greater freedom to manage their programmes efficiently. The need for this flexibility has been increased by our new approach to interim payments, under which we aim to pay against milestones achieved and not simply because time has elapsed. We previously had scope to carry forward underspend of up to 5% of the provision for procurement expenditure. With the agreement of the Treasury, we can now carry forward up to an additional £400 million a year. This additional flexibility is for a three-year period.

- Studies of spares procurement have identified a number of factors leading, on occasion, to higher prices than are necessary. In particular, improved management techniques should enable us to operate a more economic ordering pattern and so achieve substantial savings.

- As a further aid to cost-consciousness we plan to label items in Service stores with their price.

SMALL FIRMS INITIATIVE

1. We launched this initiative in November 1986, as part of our continuing effort to encourage this enterprising sector of British industry to compete for our business. One of our first steps had been the publication in 1983 of the booklet Selling to the MOD. After distributing 45,000 copies of the first edition, we published a revised and expanded version in 1986, of which some 15,000 copies have since been distributed. We have now taken this further by setting up a Small Firms Advice Division, whose remit is to:

- collaborate in the operation of our Small Firms Research Initiative, whereby businesses with flexibility and a readiness to innovate will be able to bid for an additional £1 million of our research and development funds. And, as opportunities occur, representatives of small firms will be appointed to the boards of our research establishments;

- provide guidance and advice to small firms on our various contractual, financial and quality assurance procedures so that they can plan and submit bids more easily. In addition to meeting them individually, we shall hold a series of conferences for them during 1987;

- reinforce an informed and receptive attitude towards small firms among Ministry staff, especially our local purchase officers in each command and establishment, who will have a particularly important role in encouraging small businesses to tender for Ministry work.

2. Within only two months of the establishment of the Small Firms Advice Division more than 300 companies, the great majority new to the Ministry of Defence, had been in touch with it.

Organisation, Staffing and Information

505. Policies are important, but defence procurement is a complex undertaking requiring a high degree of professionalism and motivation. We must organise our staff efficiently and provide them with the training and commercial skills that they need if our policies are to succeed. Similarly, we must ensure that industry is aware of our aims. To these ends initiatives taken over the past year include:

- **A new emphasis on training:** measures have been taken to ensure that project managers acquire the necessary skills by experience or appropriate training.

- **Improving our professionalism as customers,** by developing a better understanding of the financial environment in which our suppliers operate and of their wider corporate objectives and performance, through, for example, improving our contacts with the City.

- **Improving our commercial skills,** by extending the exchange of personnel between the PE and industry. This enables our staff to gain first-hand experience of working in a commercial environment, and brings commercially-minded people from industry into the mainstream of the Department's activities. There are now over 200 interchanges a year, more than double the number of two years ago.

- **Preparing a booklet outlining the organisation and aims of the PE** to complement existing publications such as Selling to the MOD and Value for Money in Defence Procurement.

- **Improving management information in the PE.** Information Technology has a key role to play in helping us to monitor and control PE programmes, and we are expanding the use we make of it significantly. One example is the TOPMAST management information system, which gives higher management swift access to information on major contracts and major contractors.

Quality Assurance

506. The responsibility for supplying defence equipment of the specified quality rests with the contractor. A constant preoccupation of the project manager in the Ministry of Defence is to ensure that the right quality for the equipment he is procuring is clearly specified. He is supported in this role by the staff of the Directorate General of Defence Quality Assurance, who are deployed in project management teams, in industry itself and in well-equipped workshops and laboratories. Their work involves advising on the quality aspects of contracts, including removing ambiguities from specifications to be given to contractors, identifying opportunities for the use of standard components, assuring the project manager that contractors are technically competent and have adequate quality control and, if necessary, assisting in the resolution of technical problems.

507. These tasks are now being performed against the background of the Ministry's policy on competition, which has increasingly encouraged small firms and firms not traditionally engaged in defence work to demonstrate their abilities. Fears have been expressed that quality may suffer as competing firms seek to reduce costs. But one of the merits of competition is that it helps to improve quality. And we shall maintain the

very high standards we require of contractors. The pursuit of quality within the general context of value for money, and a proper emphasis on life-cycle - rather than just initial procurement - costs, have never been so important.

Airborne Early Warning

508. The decision to cancel the Nimrod Airborne Early Warning project and to adopt instead the Boeing E-3A aircraft as the replacement for the Royal Air Force's obsolescent Shackleton aircraft was the most significant procurement decision of the year. The Government has no doubt that it took the right decision, for reasons explained at the time and widely accepted. The outcome holds lessons for all concerned. It underlined the need for many of the improvements in our procurement procedures that were already in hand and are described above and, in particular, the need to agree, at the earliest possible stage, contractual terms that place the contractor under effective discipline, with clear specifications and acceptance criteria.

EQUIPMENT COLLABORATION

509. The drive to achieve greater collaboration with our NATO allies in the development and production of equipment continues to play an essential part in our efforts to make more effective use of the resources available for defence. Neither we nor our allies can afford to dissipate scarce resources by unnecessarily duplicating development of the same equipment. We would now expect to develop and produce most significant new equipments in collaboration with allies unless there are pressing reasons not to do so - and provided, of course, we get value for money.

510. The impetus towards greater collaboration within Europe in particular comes from the conviction, shared by our partners, that a more cohesive European effort will strengthen the Alliance in a number of important ways: **politically,** by demonstrating our ability to work closely together; **militarily,** by reducing the inefficiency that comes from having different and incompatible versions of the same equipment on the battlefield; and **industrially,** by helping to produce a more competitive European industrial base.

511. The main multilateral forum for European defence equipment collaboration is the Independent European Programme Group (IEPG) (see also paragraph [308]). Defence Ministers in the IEPG have stressed that we must improve on the ad hoc arrangements

TABLE 6 ESTIMATED PROGRAMME COSTS OF MAJOR EQUIPMENTS ENTERING FULL DEVELOPMENT IN 1986-87

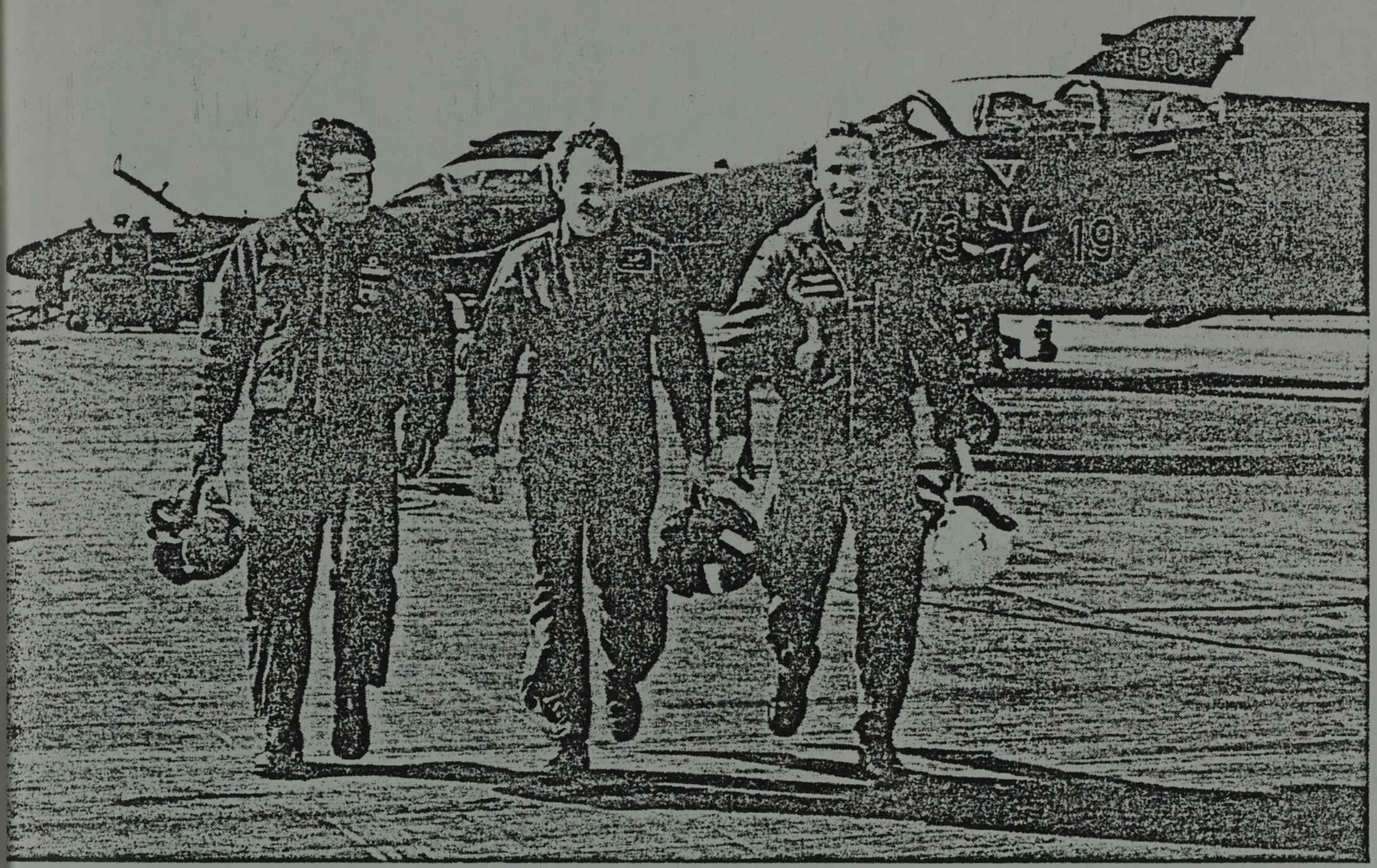
PROJECT	ESTIMATED TOTAL DEVELOPMENT AND PRODUCTION COSTS (1986-87 PRICES)
Starstreak High Velocity Missile	£235 million (1)
Command System For Submarines	£ 87 million (1)
Boxer 2 Communications System	£152 million

Note:
(1) Initial production only

(2) Table 3.2 of Volume 2 gives details of in-Service dates and costs of major equipment projects.

TABLE 7 ILLUSTRATIVE UNIT COSTS OF DEFENCE EQUIPMENT

EQUIPMENT	UNIT COST (1986-87 PRICES) (Excluding Development Costs)
Trafalgar Class submarine	£235 million
VC10 Tanker	£14.6 million
Medium-sized Satellite Communications Terminal	£3.0 million
Diesel Generating Set for a Major Warship	£300,000
Doppler Navigation Equipment	£38,000
Radar Altimeter	£10,000
Improved Kinetic Energy Round for Chieftain/Challenger	£850
Emergency Life Support Apparatus for Ships and Submarines	£99



British, German and Italian pilots and navigators train together at RAF Cottesmore on the collaboratively-produced Tornado aircraft

under which collaborative projects have been generated in the past. Good progress continues to be made in developing a more systematic approach, including in particular:

- **Harmonisation of requirements:** a further eight European Staff Targets have been agreed in the last year, making thirteen in all in the last two and a half years. Close attention has been paid to integrating the Staff Targets with the NATO Conceptual Military Framework (see Chapter 3). Discussions among interested nations are now proceeding, and we hope that they will lead to collaborative projects to meet the Staff Targets so far agreed.

- **Collaborative Research:** a number of cooperative technology projects are under discussion. The IEPG is also focusing attention on Technology Demonstrator Programmes, the aim being to validate new technologies by using full-scale engineering models to prove ideas outside the laboratory and thus reduce the risks involved in any future development.

- **Improving competitiveness:** the Study Team appointed by IEPG Ministers to make proposals for improving the competitiveness of the European defence industry reported in December 1986. The team has made far-reaching recommendations to remove obstacles to greater free trade and industrial cooperation within Europe and to achieve greater coordination of European defence research. Its report will be addressed by IEPG Ministers in June 1987.

512. These efforts to improve European collaboration are not an alternative to transatlantic cooperation: they form part of Europe's efforts to make a more effective contribution to the Alliance. In addition, equipment collaboration within NATO has itself received fresh impetus from the Nunn Amendment to the US FY 86 Defense Authorisation Act, which set aside funds from the US Defence budget for collaborative research and development. And the European members have been able to play a constructive part, in the NATO Conference of National Armament Directors (CNAD), in exploiting the opportunity offered by that legislation. CNAD is also continuing to work on enhancing standardization and interoperability of equipment in NATO. Although attracting less public attention than major equipment projects, this work is vitally important in ensuring that, should hostilities occur, each national force committed to NATO could obtain supplies and support services from others. For example, a study nearing completion is designed to ensure that ground equipment at airfields can service aircraft from other nations.

513. This work to improve the environment for collaboration is producing results, as is indicated by Table 8, which lists collaborative projects in service or at various stages of development or study. This includes ten projects initiated since the last such listing, published in the 1985 Statement, five of which (indicated) have benefited from Nunn Amendment funds.

TABLE 8

COLLABORATIVE PROJECTS INVOLVING THE UNITED KINGDOM

PROJECT	PARTICIPATING COUNTRIES (1)
In production or in service	
Naval equipment:	
Sea Gnat Decoy System	DE/UK/US
Ikara Anti-Submarine Weapon (2)	AUS/UK
Barra Sonobuoys (2)	AUS/UK
Paris Sonar	FR/NL/UK
Land equipment:	
FH70 Howitzer	GE/IT/UK
M483A1 Artillery Shell	NL/UK/US
Scorpion Reconnaissance Vehicle	BE/UK
Multiple-Launch Rocket System Phase 1	FR/GE/IT/UK/US
Missiles:	
Martel Air-to-Surface	FR/UK
Sidewinder Air-to-Air	GE/IT/NO/UK/US
Milan Anti-Tank	FR/GE/UK
Air Systems:	
Jaguar	FR/UK
Lynx	)
Puma	) FR/UK
Gazelle	)
Tornado	GE/IT/UK
Harrier AV8B/GR5	UK/US
Other Equipment:	
Midge Drone	CA/GE/UK
In development or earlier study phases	
Naval equipment:	
NATO Frigate Replacement (NFR90)	CA/FR/GE/IT/NL/SP/UK/US
Ships Low-Cost Inertial Navigation System	CA/NL/SP/UK
Advanced Sea Mine (3)	UK/US
Land equipment:	
COBRA (Counter Battery Radar)	FR/GE/UK
Multiple-Launch Rocket System Phase III	FR/GE/UK/US

Missiles:	
Short-Range Anti-Radiation Missile	BE/CA/GE/IT/NL/UK/US
Long-Range Stand-Off Missile	GE/UK/US
TRIGAT (Third Generation Anti-Tank Guided Weapon)	FR/GE/UK
Advanced Short-Range Air-to-Air Missile	GE/NO/UK
Milan Improvements	FR/GE/UK
Air Systems:	
Airborne Radar Demonstrator System (3)	FR/UK/US
European Fighter Aircraft	GE/IT/SP/UK
Naval ASW Helicopter (EH101)	IT/UK
A129 Light Attack Helicopter	NL/IT/SP/UK
RTM 322 Helicopter Engine	FR/UK
Other equipment:	
NATO Identification System (3)	BE/CA/DE/FR/GE/IT/SP/TU/UK/US
Ada Computer Language Project Support Environment (3)	BE/CA/FR/GE/IT/NL/NO/SP/UK/US
Multifunctional Information Distribution System (3)	BE/CA/IT/FR/GE/NL/NO/UK/US
Midge Post-Design Services	FR/GE/UK

Notes:
(1) AUS=Australia; BE=Belgium; CA=Canada; DE=Denmark; FR=France; GE=Federal Republic of Germany; IT=Italy; NL=Netherlands; NO=Norway; SP=Spain; TU=Turkey
(2) Excluded from list in 1985, which was confined to projects in NATO.
(3) US share of these projects includes Nunn Amendment funding.
(4) Collaborative work on SP70, which was listed in 1985, has been discontinued.

MORE CAPABLE AND RELIABLE EQUIPMENT

1. Today's military equipment is frequently more expensive, item for item, than yesterday's. But it is also more capable. Modern technology, skilfully handled, allows us to increase the combat effectiveness of an individual piece of equipment, sometimes many times over.

2. For example, one particularly effective raid during the Second World War involved 560 Lancasters dropping 1,795 tons of bombs. Given the accuracy of modern weapons systems, if we were planning that raid today we would need only 12 Tornados to drop about 48 tons of explosive to have the same effect. Some 3,900 aircrew flew the Lancasters, while only 24 would be needed to fly the Tornados.

3. If we are to obtain the best return from our modern equipment, we must ensure that it is ready to hand and working when it is needed. We must aim to achieve high reliability and good maintainability. There have been important advances in this field in recent years. For example, in 1979 a destroyer or frigate spent 27% of its life, on average, in refit. In 1985 the comparable figure was 16%.

4. The more reliable our equipment, the fewer the Servicemen who need to be diverted from the teeth to the tail to support it. The lower the maintenance bill, the greater the resources that can be devoted to the front line. So high reliability and maintainability have an important contribution to make to our search for better value for money in defence procurement. Achieving them requires good design from the outset, together with taut procedures for translating that design into demonstrably reliable production equipment.

5. We are therefore looking into how we can better achieve these aims, through further improvements in our procurement practices. The rewards should be significant - to give a current example, new high-pressure turbine blades planned for Tornado engines are expected to achieve nearly double the life of turbines of the current production standard for an increase of only 20-30% in production costs.

DEFENCE RESEARCH

514. In 1987-88 we plan to spend some £401 million on defence research, representing about 2% of defence spending as a whole. This research is aimed at producing an underlying basis of scientific and technical expertise for application to the selection, development, production and operation of weapon systems and equipments.

515. The planning and management of the defence research programme has been stream-lined to establish more formal links between the research establishments and the main customers for research and project support in the Ministry of Defence and other Government departments. The aim is to focus attention sharply on priorities and end products and thus ensure that scarce resources of money and scientific manpower are concentrated on areas where the need is greatest and the prospects of a return most promising.

516. Over the last year, notable achievements at the defence research establishments include:

- The **Royal Aircraft Establishment, Farnborough**, with Pilkington Space Technology Division, was granted the Queen's Award for Technological Achievement in recognition of work on the development of cover glasses for satellite solar cells;

- Research at the **Chemical Defence Establishment, Porton Down**, on chemical detection has led to the development of a Chemical Agent Monitor using ion mobility spectrometry - a device that, besides its

primary military role, has potential for use in industry for detection of hazardous gases and explosives;

- Two scientists, from the **Royal Signals and Radar Establishment, Malvern**, and two scientists of the English Electric Valve Company, were presented with a Rank Prize Funds Award for 1986 in recognition of their work on the development of infra-red camera-tube technology. Thermal cameras using these tubes are used by fire-fighters in 15 countries to 'see' through smoke and locate hidden obstacles and victims.

517. In addition to their primary defence function, the research establishments cooperate with other Government departments, academic institutions and industry in research activities that serve both defence and wider aims. Ministry of Defence support for the universities has recently been enhanced by our participation with the Department of Education and Science and the Research Councils in funding joint research grants. We are also seeking to widen the scope of joint programmes with the universities and Research Councils and to promote the common use of facilities and staff exchanges.

518. Last year's Statement described the launch of Defence Technology Enterprises Ltd (DTE) to promote civil spin-off from defence research and development (R & D). DTE is now operational at four major establishments; there are already some 500 items on DTE's data-base judged to have potential for exploitation, and the company has recruited some 170 companies as associate members. 15 specific licences for exploitation of innovative technology from the research establishments have been successfully concluded, or are in the final stages of negotiation.

519. Collaboration with the private sector in the research field is being further strengthened through, for example, the National Electronics Research Initiatives, under which the Department is undertaking collaborative work in electronics at the Royal Signals and Radar Establishment with the Department of Trade & Industry and private industry. The Ministry of Defence will also contribute to the Link programme, which was announced by the Prime Minister last year. Link is directed at Departments with R & D programmes, and is designed to 'pull through' scientific and technological advances from scientific research into marketable products and services. We also participated in Techmart, an exhibition of technology transfer at the National Exhibition Centre last November.

520. We plan to sign a contract with the Farnborough Aerospace Development Corporation for the development of 50 acres of land on the southern perimeter of the Royal Aircraft Establishment for business aviation and high technology industry.

The Defence Research and Development Base

521. The roles and capabilities that we require our armed forces to have are many and various - more so than those of any of our NATO allies, other than the United States. It is not surprising, therefore, that expenditure on R & D has consistently been a significant element within the defence programme to ensure that in future, as at present, the Services have equipment relevant to, and adequate for, the tasks they must be ready to discharge should circumstances so require.

522. This background to the high proportion of total Government R&D arising on defence account is not always understood; but the Government shares the underlying concern of those who fear that necessary investment in defence R & D may crowd out valuable investment in the civil sector. Thus, while defence R & D has contributed to the advance of technology, Britain's resources of qualified scientists and engineers, and the skilled manpower supporting them, are not inexhaustible. Although there is much that we can do and are doing, as described above, to harness our defence R & D effort to benefit the wider civil economy, defence and civil work are in competition for the same skills, and it would be regrettable if defence work became such an irresistible magnet for the manpower available that industry's ability to compete in the international market for civil high technology products became seriously impaired.

523. Accordingly, we shall in future be paying careful attention to this factor in making our procurement choices, giving special emphasis to avoiding duplication of successful equipment developments already achieved by our allies. Our policies of increasing competition in procurement, and encouraging greater international collaboration to meet the equipment needs of the Alliance, are already aimed at ensuring more effective use of Britain's R & D resources. We shall also be encouraging our suppliers to think more broadly about the relationship between their defence and civil markets, and we shall be very willing to join with them in

identifying any changes in our defence procurement processes, consistent with defence requirements and the achievement of value for money, that would make it easier for them to achieve success in the latter as well as the former.

DEFENCE EXPORTS

1. The United Kingdom has long been one of the free world's leading exporters of defence equipment. By any standards, however, 1986 saw some spectacular achievements. It began with the conclusion of our biggest ever overseas order: the purchase of the collaboratively-developed Tornado aircraft and other equipment by Saudi Arabia. This deal will be worth at least £5 billion over the next few years, and most contracts for it have now been signed. Building on this achievement, we expect the total of new contracts signed in 1986 to reach £5 billion; this will represent an increase of more than 70% over the £2.9 billion figure for 1985 - itself some £600 million higher than in the previous year. Such orders continue to maintain a large number of jobs in the United Kingdom and have raised our share of the world market to nearly 9%.

2. Many of our most significant defence export successes have come in what is probably the most competitive market of all, the United States. The continuing achievements of British exporters there are illustrated by the fact that the balance of defence trade between our two countries has improved from a ratio of 4:1 in favour of the United States in 1978 to just under 2:1 in recent years.

3. An important factor in British industry's success overseas has been the continuing efforts of the Defence Export Services Organisation (DESO) and the support given by staff of the PE. In a field in which our international competitors are very active, the DESO helps to ensure that British firms are given the assistance they need. Among other activities in 1986, the DESO again organised the British Army Equipment Exhibition at Aldershot and participated in the Farnborough Air Show, which is sponsored by the Society of British Aerospace Companies. Both of these events, as well as the Royal Navy Equipment Exhibition, which is to be held in September this year, clearly demonstrate the breadth of the advanced capability of British defence manufacturers. PE staff were particularly successful in promoting the sale of two Skynet 4 satellites in 1986. We believe that British defence manufacturers should be given continued support in their efforts, subject to appropriate export controls, to ensure that they can continue to supply our own Services with competitively-priced equipment.

BRITISH PARTICIPATION IN THE SDI RESEARCH PROGRAMME

524. Last year's Statement outlined the arrangements for British participation in the US SDI research programme, including the signature of the bilateral US/UK Memorandum of Understanding and the establishment of the SDI Participation Office (SDIPO) in the Ministry of Defence.

525. The SDIPO provides the focus within Government for promoting a full British involvement in the SDI research programme. Participation on a substantial

scale will bring both direct benefits and an understanding of the programme's technical implications for future defence systems. The activities of the SDIPO include: management of a comprehensive technical information exchange on a government-to-government basis; and the provision of wide-ranging assistance to British companies and research institutions in their efforts to secure SDI research contracts. During 1986 the SDIPO was strengthened by the appointment of an Industrial Support Director and a number of industrial consultants, all experienced men coming from British companies to the SDIPO on loan for between one and two years.

526. By the end of 1986 a total of $34 million of SDI research work had been awarded to the United Kingdom, involving some 36 British companies and academic institutions. This was an encouraging start to the first year of British participation. A total of some 400 British companies, and about 100 academic bodies, are now registered as interested in seeking SDI research business. Of the awards made in 1986 the largest was the European Architecture Study: announced in June 1986 and worth approximately $10 million, this study, which is scheduled to continue through to May 1988, involves five separate research establishments and 16 different companies. It is examining, from a British perspective, the threat with which a strategic defensive system would have to cope in the European theatre. Additional awards, involving eight British companies and valued at $1.9 million for a similar area of study, were announced in December 1986. These represent a substantial British involvement in research into the systems that would be necessary for the defence of Europe against ballistic missiles, within the context of a strategic defence system.

527. The defence research establishments have been active, sometimes in conjunction with British industry, in bringing US-funded work to the United Kingdom, in particular in the fields of Battle Management/Command Control and Communications, Electromagnetic Rail Gun and Countermeasures. Although all of these work packages have been concluded on a government-to-government basis, approximately 85% of the work in each study area was subsequently contracted out by the Ministry to British companies.

528. The reduced SDI budget for the 1987 US fiscal year, and keen competition for the business that exists, mean that British companies will need to work hard to succeed. We believe the effort will be worthwhile; there are valuable contracts to be won and potential for spin-off to other high technology fields.

ROYAL ORDNANCE PLC

529. [Although substantial progress had been made towards transforming Royal Ordnance into a fully fledged commercial entity, it was not possible to take this far enough, and to have in place all the features necessary, for a successful flotation last summer. Privatisation remains our aim, and last July we announced our intention of transferring the company to the private sector by means of private sale. As part of the continuing process of rationalisation and reorganisation within the company the Royal Ordnance Board decided, with Government approval, to sell the Leeds tank-manufacturing factory to Vickers plc, and the transaction was completed last October. Firm proposals were received in March from British Aerospace and from GKN for the acquisition of the rest of Royal Ordnance plc].

UK-based contractors paid £5 million or more by MOD in 1985-86

Over £250 million

British Aerospace Plc (Aircraft)
British Aerospace Plc (Dynamics)
British Shipbuilders
The General Electric Co Plc
Royal Ordnance Plc
The Plessey Co Ltd
Rolls Royce Ltd

£100 - 250 Million

British Petroleum Co Plc
Esso UK Plc
Ferranti Plc
Hunting Associated Industries Plc
Racal Electronics Plc
Thorn - EMI Plc
Westland Plc

£50-100 million

Austin Rover Group Ltd
Dowty Group Plc
General Motors Ltd
Lucas Industries Plc
Marshall of Cambridge (Engineering) Ltd
Pilkington Brothers Plc
The 'Shell' Transport and Trading Co Plc
STC Plc

£25-50 million

British Airways Plc
BET Plc
Cossor Electronics Ltd
Digital Equipment Co Ltd
Flight Refuelling (Holdings) Plc
GKN Plc
Harland and Wolff Plc
Other British Government Departments
Petrofina (UK) Ltd
Philips Electronic and Associated Industries Ltd
Short Brothers Plc
Smiths Industries Plc
Vickers Plc

£10-25 million

The British and Commonwealth Shipping Co Plc
BMARC Ltd
BTR Plc
Cambridge Electronic Industries Plc
Conoco (UK) Ltd
Control Data Ltd
Cranfield Institute of Technology
Cray Electronics Holdings Plc
DRG Plc
Dunlop Holdings Plc
Ferguson Industrial Holdings Plc
Hawker Siddeley Group Plc
Hewlett Packard Ltd
Honeywell Ltd
Mobil Holdings Ltd
NEI Plc
Paccar UK Ltd
RCA Ltd
Remploy Ltd
The Singer Co UK Ltd
Systems Designers International Plc
Tate and Lyle Plc
United Scientific Holdings Plc
Vantona Viyella Plc
Volvo BM UK Ltd
The Weir Group Plc
Yarrow Plc

£5-10 million

Anglo Nordic Holdings Plc
J.C.Bamford Excavators Ltd
Bodycote International Plc
British Railways Board
British Telecommunications Plc
Cable and Wireless Plc
Cap Group Ltd
Chloride Group Plc
Courtaulds Plc
David Brown (Holdings) Ltd
Frazer Nash Group Ltd
George Blair Plc
Goodyear Tyre and Rubber Co (GB) Ltd
Hillsdown Holdings Plc
Humber Shiprepairers Ltd
IBM United Kingdom Holdings Ltd
Imperial Continental Gas Association
Inchcape Plc
John Brown Plc
Logica Ltd
Martin-Baker Aircraft Co Ltd
ML Holdings Plc
Monsanto Plc
Phicom Plc
Rank Organisation Plc
RFD Group Plc
Rockwell-Collins (UK) Ltd
Ropner Plc
Saft (United Kingdom) Ltd
Schlumberger Measurement and Control (UK) Ltd
Texaco Ltd
Total Oil (GB) Ltd
Trafalgar House Plc
UK Universities
Watercraft Ltd
Waverley Electronics Ltd
Wilkinson Sword Group Ltd

Notes:

1. Includes suppliers of food, fuels and services.

2. Within each financial bracket, contractors are listed in alphabetical order.

3. The status of companies in this list is that at 1 April 1985.

CHAPTER SIX : MANAGING DEFENCE RESOURCES

THE DEFENCE BUDGET

601. The defence budget for 1987-88 is £18,782 million. Apart from minor adjustments, this is unchanged from the cash provision announced in the 1986 Public Expenditure White Paper. The budget includes provision of £257 million for Falklands costs, compared with £435 million in 1986-87. Similarly, the defence budget for 1988-89 also remains as agreed last year at £18,980 million. Planned provision for 1989-90 is some £19,470 million, an increase of approximately £490 million over the previous year.

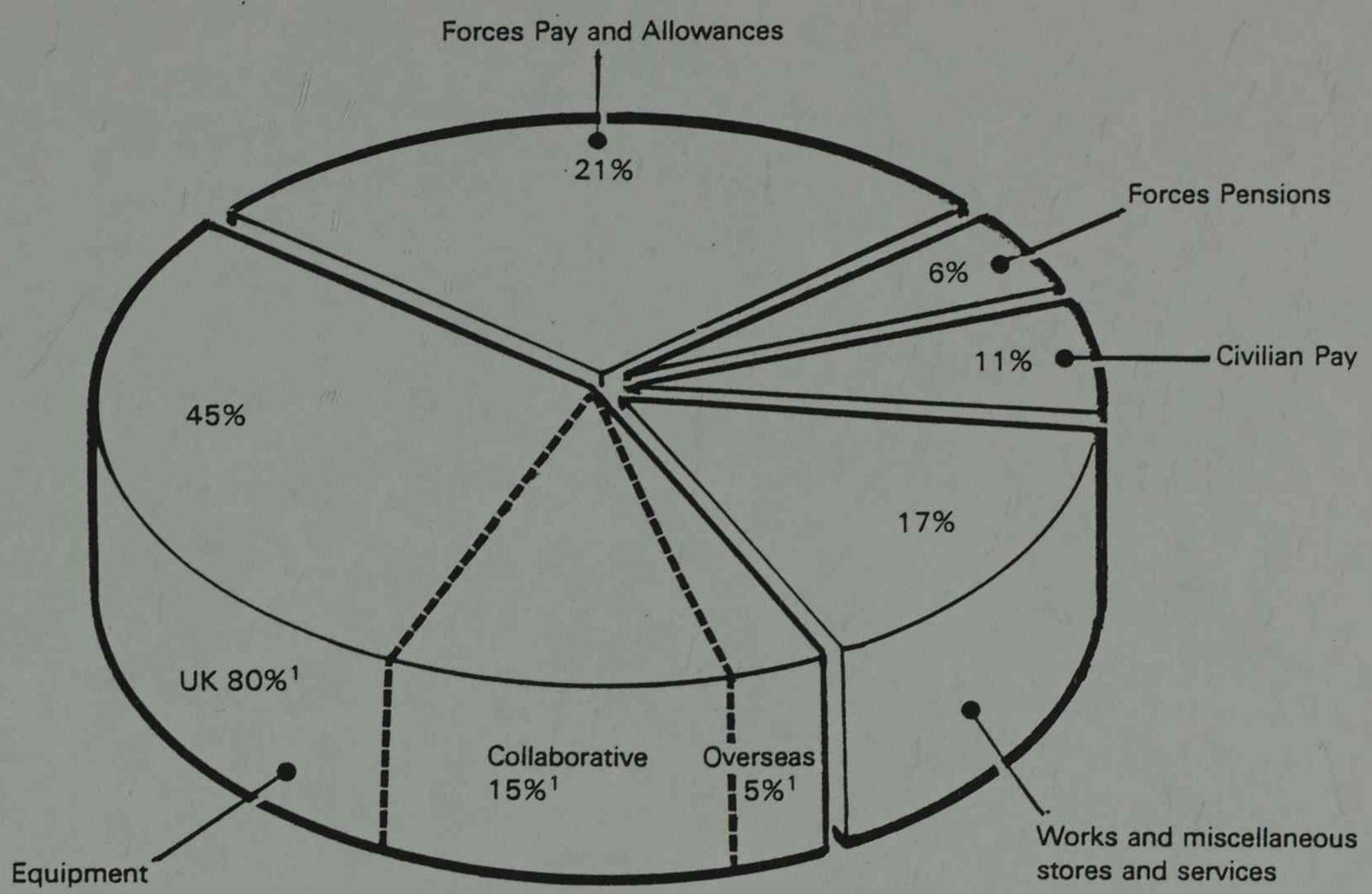
602. A breakdown of the defence budget by main areas of expenditure is shown in Figure 8, while Figure 9 analyses defence resources by major programmes. An illustration of the cost of our main commitments has been introduced at Figure 10. As Figure 11 shows, in both absolute terms, as a percentage of gross domestic product and per capita, the British defence budget continues to be among the highest in NATO.

603. On current inflation assumptions, and taking into account the latest forecast of spending in 1986-87, the defence budget is expected to decline by some 5% in real terms over the 1986 Public Expenditure Survey period, broadly levelling out in 1989-90. This decline will be partly offset by falling Falklands costs. Nevertheless, as explained in last year's Statement, the ending of the commitment to maintain real growth inevitably means that difficult choices have to be made between relative priorities in our forward plans. Moreover, the cash demands of the committed programme must determine the rate at which new commitments can be accepted, within the agreed resources. That said, given the real growth achieved from 1978-79 to 1985-86, from which we continue to benefit substantially despite the current decline, we can maintain our main defence roles, though it will remain important to exercise restraint and vigorously to pursue good management and improvements in output.

VALUE FOR MONEY

604. Obtaining better value for the money spent on defence remains an important aim, and recent Statements have described the major reforms that we have introduced to this end. Progress on a number of these measures, including the application of greater competition and collaboration in the procurement of defence equipment, is described in Chapter 5. Progress in other areas is described below.

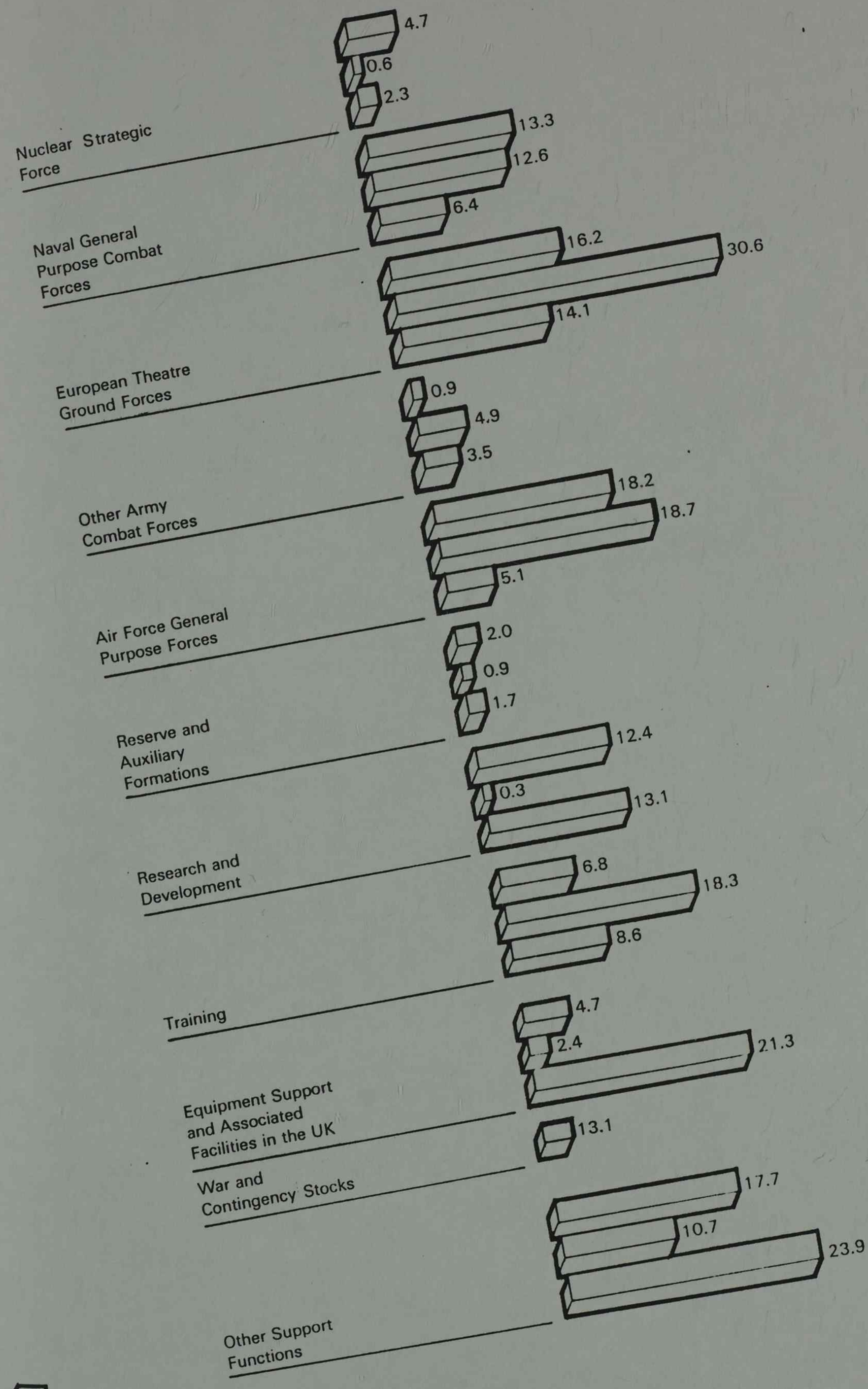
Figure 8 The Divisions of the Defence Budget by Principal Headings 1987-88



Note

[1] Percentage of equipment expenditure based on the last five years.

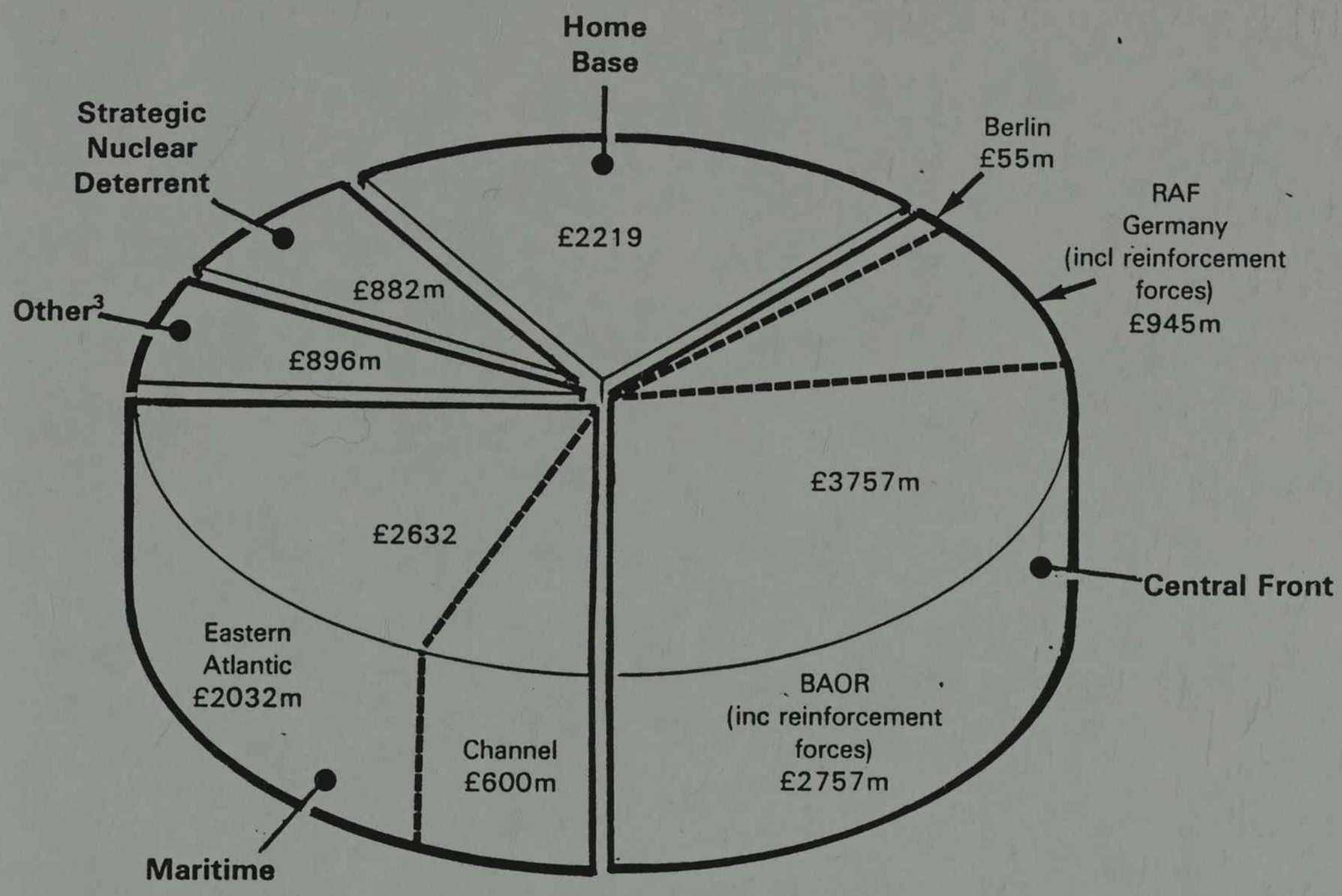
Figure 9 An Analysis of Defence Resources (1987-88) by Major Programmes



Note

A more detailed functional breakdown of the defence budget is given in Table 2.3 of Volume 2: the manpower devoted to each function is set out in Table 4.3 and Table 4.4.

Figure 10 Estimated Costs of Defence Commitments for 1987-88[1,2]



Notes

[1] The total cost matches the total expenditure (£10,386 million) covered by the first six sections of Table 2.3 of Volume 2.

[2] All the costs shown include directly attributable expenditure on capital works and equipment and are running costs for materiel and manpower. The costs of operational headquarters, bases and general operational support have been attributed *pro rata*.

[3] 'Other expenditure' in this diagram includes the costs of amphibious capability, the Allied Command Europe Mobile Force (air and land), the United Kingdom Mobile Force, and out-of-area commitments.

Transferring Resources from Tail to Teeth

605. Our defence ultimately depends on the strength and efficiency of our front-line troops. To do their job properly they rely on a range of support activities, from the supply of ammunition and maintenance of equipment to the provision of pay and catering services. Our aim has been to provide that support (the 'tail') as cost-effectively as we can so as to enable the maximum possible resources to be released to the front line (the 'teeth').

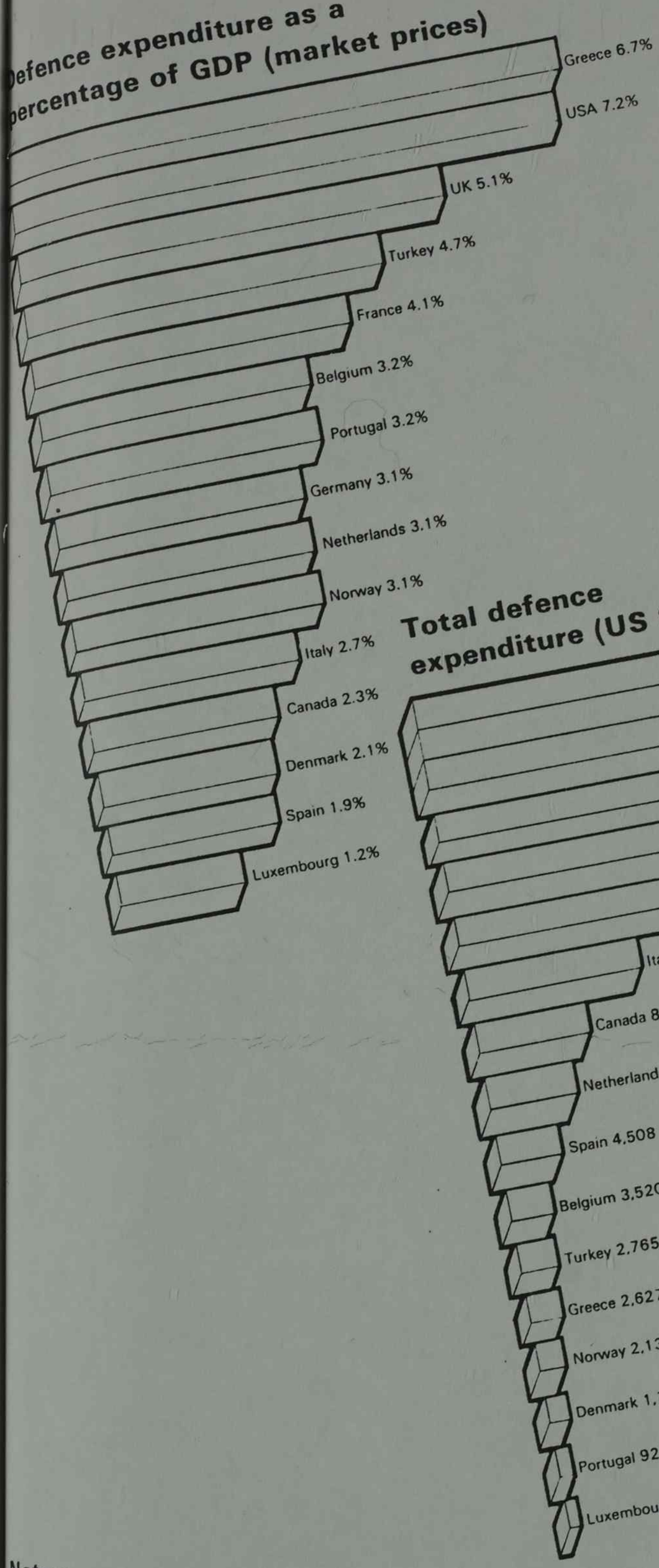
- Since 1979 we have cut the number of UK-based civilian staff by about 81,000, a reduction of some 33%. Further reductions will be sought by a continuing programme of economy measures and contracting out. Taking account of the transfer of the Royal Dockyards to commercial management (see paragraphs [620 and 621]) our aim is to reduce the number of our civilian employees to about 148,000 by 1 April 1988. If possible we shall improve on this figure.

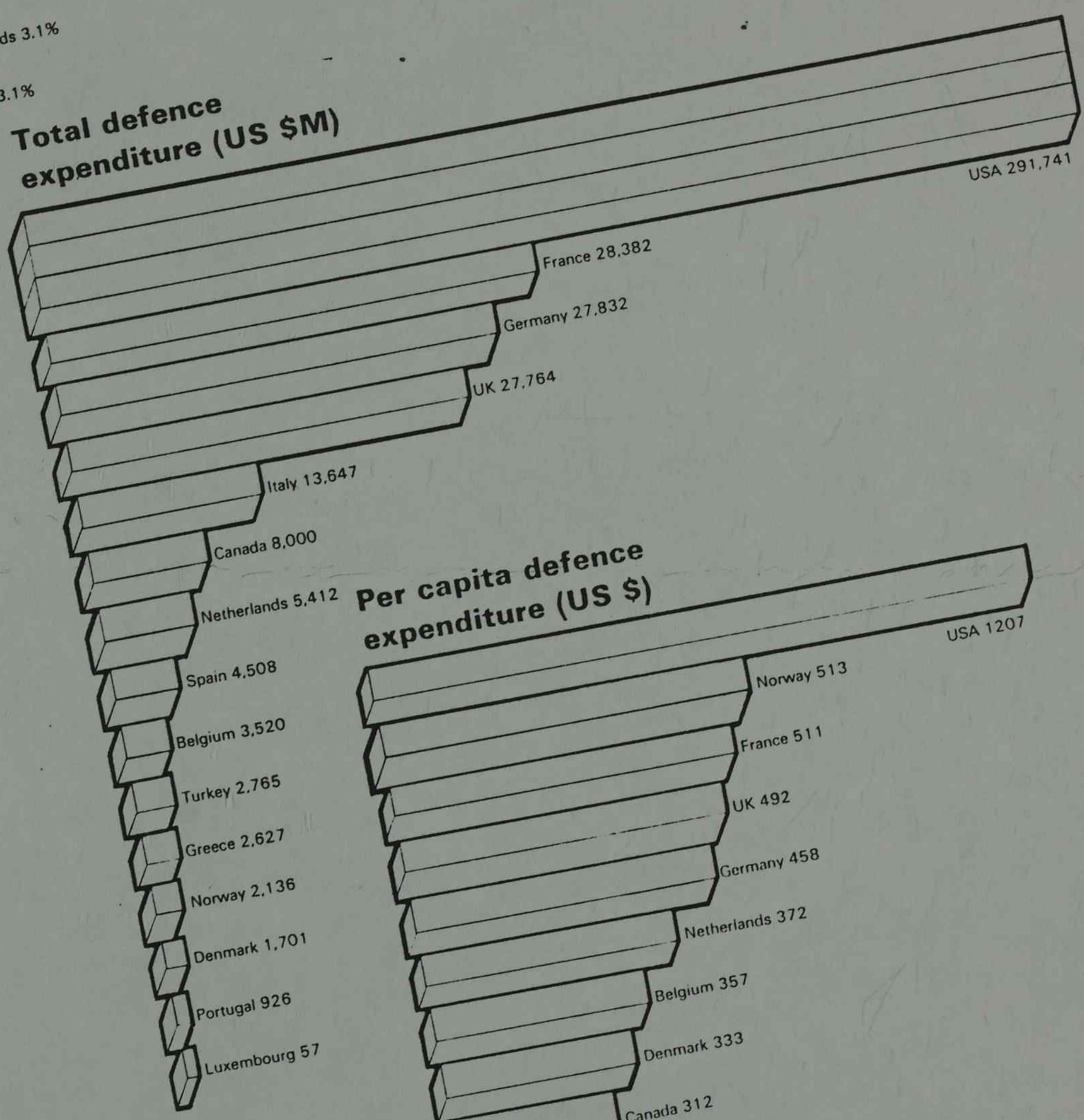
- The Royal Navy has reduced its uniformed strength by 7,200 since the publication of The Way Forward in 1981 and has pared back its support area. As a result, some 70% of uniformed manpower is now devoted to the front line and its direct support.

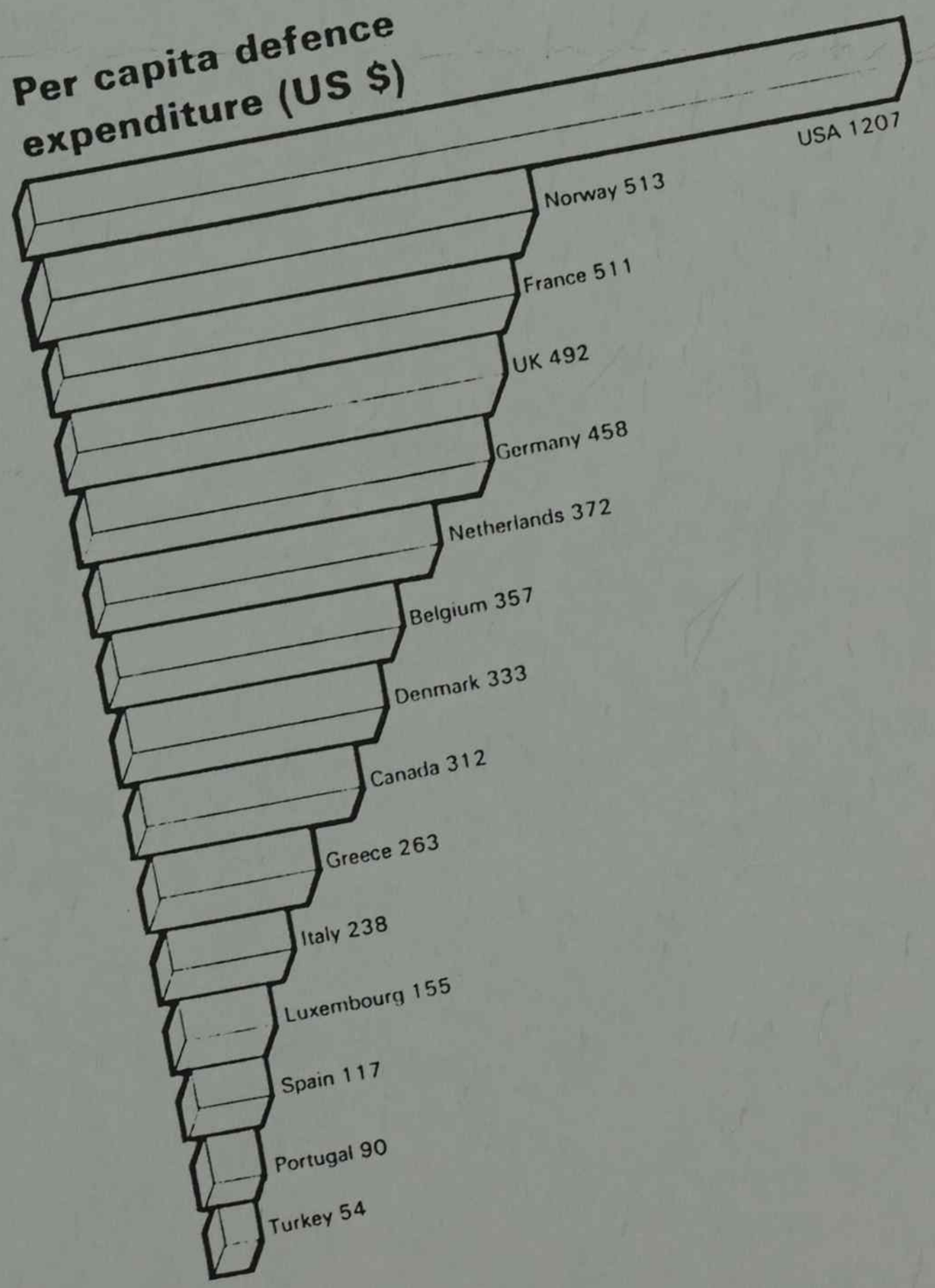
- The Army's Lean Look programme has identified 4,000 uniformed support posts that could be cut, amalgamated, filled by civilians, or put out to contract, thus releasing military personnel for duty in the front line. We plan to achieve this target by 1990; among other things it will release manpower for the new armoured regiment forming in BAOR next year.

- Since 1984 the RAF has released a further 1,700 posts from the support area in the fields of catering, aircraft-servicing and supply. Recent examples are servicing and supply functions at RAF Shawbury and support posts in University Air Squadrons, both of which have been put out to contract.

Figure 11 A Comparison of Defence Expenditure: NATO countries 1986







Notes;

These figures, which are provisional, have been compiled from NATO sources except for the UK and Spain, which are compiled from national sources. Total expenditure and per capita figures are based on 1986 average market exchange rates, which do not necessarily reflect the relative purchasing power of individual currencies and so are not a complete guide to comparative resource allocation.

Financial Management

606. The Government's aim to improve the way in which Whitehall manages its resources led to the launch of the Financial Management Initiative in 1983, the aims of which were set out in Cmnd 9058. The Ministry of Defence has played its full part in this effort.

607. Following an internal survey last year, procedures in the fourth (1986) round of **MINIS** (the Department-wide management information system for Ministers and top management) were extensively modified to increase the emphasis on efficiency measures and to provide a comprehensive top management review. Stress is being laid on three management principles:

- aims and responsibilities must be clear, and authority must match responsibility;

- management must be accountable;

- authority must be delegated to the greatest possible extent.

Our aims will include moving work into the private sector wherever it is cost-effective and consistent with operational needs to do so.

608. The introduction of **Staff Responsibility Budgets** (SRBs) and **Executive Responsibility Budgets** (ERBs) is proceeding as planned:

- SRBs for personnel and some personnel-related costs now cover 98% of UK-based civilian staff and some 18% of Service personnel in the support field - an annual expenditure of £1.6 billion.

- The three-year implementation programme for ERBs in the maintenance and support areas continues. In 1987-88 over 300 units with annual operating costs of about £3.5 billion will have budgets.

- In 1987-88 there will be a programme of pilot schemes aimed at testing out higher-level ERBs (which will include headquarters costs) in a number of management areas. In addition, it has been decided that ERBs should be brought more fully within the cash management system, and the necessary work is in hand.

609. Both ERBs and MINIS require the setting of specified objectives and measurement of performance against them. Considerable attention is being paid to the development of improved performance indicators (which are already used for day-to-day management purposes). Additionally, a number of value-for-money targets have been set, for example for disposing of married quarters, reducing stock holdings and improving energy efficiency.

610. The introduction of a comprehensive corporate plan and related Financial and Management Information System for the Quartermaster General's Department is another initiative in this field. The plan sets out aims and targets for a progressive improvement in efficiency in the Army support area, performance being monitored through a computerised system. Corresponding systems for other areas of the Ministry are under consideration.

611. To integrate these management initiatives, and in line with the aims of Cmnd 9058, the Financial Planning and Management Group (FPMG) - the senior body in the Ministry of Defence responsible for management of resources - has extended its role to cover management strategy and performance. A joint civilian and military Financial Management Development Unit has been created to provide support to the FPMG in this role. It has begun a major study into the Department's future management strategy, including such matters as the coverage of the budgetary systems and the precise nature of the FPMG's new management role.

PERSONNEL

The Services

612. Recruitment to the Services continues to be generally satisfactory. There remain shortfalls of both officers and other ranks in certain specialist areas, where competition with the civil sector for scarce skills continues unabated; nevertheless, most recruiting targets are being met. We have achieved some 91% of target for entry into officer training and over 99% for other ranks in 1985-86. We expect that over the next few years the recruiting of other ranks may become more difficult as the population in relevant age groups falls.

613. The level of voluntary outflow by officers is still a cause for concern in some areas, but in general terms is not critical, while for Servicemen the rate is stabilising. The annual rate of applications from officers at December 1986 was

3.7% of the trained strength (compared with 5% in 1978-79 and 3.9% in December 1985), while the proportion of those who actually left was 3.2% (4% in 1978-79 and 3.4% at December 1985). Applications from Servicemen for premature voluntary release were running at an annual rate of 3.1% of trained strength in December 1986 (as compared with 6.8% in 1978-79 and 3.4% at December 1985), with actual exits at 2.8% (4.4% in 1978-79 and 2.8% at December 1985).

614. Recent studies into why Service personnel leave prematurely suggest that the most common reason is the turbulence of Service life, and particularly its effect on personal plans and the separation from home and family. Operational commitments often make this unavoidable; steps are nevertheless being taken wherever possible to improve matters, for example by extending tour lengths. The results of studies on the attitudes of Service wives, which may contribute significantly to a Serviceman's decision to end his career early, are being considered by the Department. The studies recognise the need to alter the relationship that exists between the Services and the wives of their personnel to reflect the changes that have taken place in British society during the past 30 years.

615. The Government has maintained pay at a competitive level, and pay does not generally appear to be a significant factor in decisions to leave the Services. Our policy is to provide the appropriate conditions of service, taking account of the particular circumstances of Service life, within the limits of justifiable public expenditure. A comprehensive review of armed forces allowances is under way to ensure that they remain appropriate to current conditions; in this context, a Service Contract Scheme has been introduced providing improved arrangements at a lower cost to the taxpayer for Service families moving their household goods on posting. Other changes will be made where necessary to meet the developing needs of the Services.

Civilians

616. As we reported in last year's Statement, we are having difficulty in recruiting and retaining certain categories of staff, in particular scientists and engineers, and those in disciplines that are in short supply nationally, such as accountancy, Automatic Data Processing (ADP) and electronics. Problems are also being experienced in the recruitment and retention of certain industrial craftsmen, and of clerical and secretarial staff in London and a number of other areas,

predominantly in the south of England. Although the rate at which staff - especially those with high potential - are leaving the Department is slightly down on last year, the situation is still causing considerable concern.

617. The steps that we are taking to improve matters include:

- special pay additions targeted on skills for which recruitment and retention are particularly difficult;

- improvements to the structures of the Professional and Technology Group, and of the Secretarial and Clerical support grades, which have resulted in pay increases for many of these staff;

- increases in, and extension of eligibility for, accountancy and ADP allowances;

- special payments to certain high quality scientific recruits;

- introduction of the Defence Engineering Service (see [below]).

The effect that these measures are having in securing the staff we need to maintain the defence programme is being closely monitored. Initial signs are encouraging.

DEFENCE ENGINEERING SERVICE

1. Engineers play a key role in the procurement of defence equipment and in ensuring value for money from the £8 billion spent annually on equipment for the Services. The Ministry of Defence employs some 14,000 civilian engineering specialists in this field, of whom some 2,000 are professionally qualified. They are involved in all aspects of the procurement cycle from initial concept through to in-service support. To ensure that their skills and abilities match the changing needs of the work, we are making a number of radical changes in their management.

2. We have established a new **Defence Engineering Service** (DES), which brings together in a single professional group all the civilian engineering specialists in the Ministry of Defence working on defence systems and equipment. We have done so because:

- the nature of the work has changed considerably. Much detailed design and supervision has been devolved to industry, while the projects that the Ministry has to manage are becoming increasingly large and complex. This more predominantly managerial role requires our engineers to have greater breadth and depth of expertise to oversee both the business and technical aspects of contractors' work.

- the spread of technologies with applications across the range of equipment procurements is increasing, and while some specialisms remain, electronics, for example, is increasingly applied across the whole field.

- the national scarcity of qualified engineers makes it imperative for the Ministry of Defence to use to best effect those people it recruits, and to offer a career that will encourage them to remain.

3. The DES will help to ensure the most productive use of our skilled engineering specialists and improve their status, opportunities and career prospects. A Head of Profession of the DES has been appointed, responsible for the maintenance of professional standards and training and for representing the interests of the Group at the highest levels. New personnel management systems are being introduced, which aim to:

- identify talent and ensure that all staff have the opportunity to develop the limits of their potential;

- remove artificial barriers to movement between line management areas;

- provide structured experience and training for future project managers;

- give greater emphasis to technical and management training;

- expand sponsorship of students reading for engineering degrees.

4. Plans are also well advanced for the recruitment of a small number of very high calibre graduate engineers in 1987 to a new fast-stream career path. This scheme offers individual career development and training, and accelerated promotion prospects. Recruits will be comparable in ability and have similar career prospects to the Administration Trainees recruited to the Administration group.

SECURITY

618. The need for cost-effective security is now probably more important than ever before. To ensure that the aims of hostile intelligence services are thwarted or made as difficult as possible demands a continual review of the threat and, where necessary, re-deployment of our resources. Every breach of security requires investigation and perhaps re-consideration of our security rules.

619. There are three areas of particular concern:

- **The Terrorist Threat:** Over the past few years increasing resources have been devoted to countermeasures against terrorist attack. In Great Britain, as an additional measure, regular security exercises are now carried out by the three Services to test all aspects of units' counter-terrorist security arrangements.

- **Static Communications Units:** The Security Commission Report of October 1986 endorsed the action taken by those concerned with tightening up security and made three further recommendations: on exit searches, security records and the posting of young Servicemen to such units. We are now implementing them in the most cost-effective way.

- **ADP Security:** This continues to increase in importance. Additional resources are being devoted to safeguarding hardware and software and to the protection of electronic emissions from eavesdropping.

THE MINISTRY OF DEFENCE POLICE

1. The Ministry of Defence Police (MDP) can trace its origins back as far as 1686 when, on the advice of Samuel Pepys, the Special Commissioners of the Navy appointed 'porters, rounders, warders and watchmen' to guard the naval dockyards. In 1841 the Metropolitan Police were called in to police two of the yards in their district, and in 1860 they were authorised by Parliament to police all the principal naval dockyards in England and Wales, as well as certain War Office establishments. From 1860 police powers could be used up to 15 miles outside these places, in respect of Crown property or of persons subject to military discipline. Legislation was later introduced for similar establishments in Scotland and, on its creation, for those of the RAF. But these additional duties eventually proved too much for the Metropolitan Police and, in 1923, the Special Constables Act authorised the Service Councils to form their own police forces. The responsibilities of these forces were extended by subsequent legislation to include all military premises in the United Kingdom and still later to premises occupied by visiting forces.

2. The Force in its present form was established in October 1971, when the separate Admiralty, Army Department and Air Force Constabularies were united under the command of a single chief constable. In 1984, there was a further extension of their employment outside MOD premises by an Act that had the effect of extending the 1860 and 1923 Acts to the premises of the privatised factories of Royal Ordnance plc. In the same year, an enquiry by the House of Commons Defence Committee drew attention to the difficulty the MDP was experiencing in fulfilling these tasks with the resources available. We therefore commissioned an independent and wide-ranging study to formulate a long-term strategy for the Force's future role, composition and size. The MDP Police Review Committee

published its report, known as the Broadbent Report, as Cmnd 9853 in July 1986. The Government's response was announced in the House of Commons on 25 July 1986.

3. As a result of the Broadbent report, changes have been made in the management and organisation of the Force. The Ministry of Defence Police Act 1987 received the Royal Assent in March. It rationalises the powers of the MDP and provides a statutory basis for the Defence Police Federation. A MDP Committee has been appointed and has held its first meeting. Arrangements are being made for an inspection of the Force by Her Majesty's Inspectorate of Constabulary. MDP liaison officers have been appointed to a Command headquarters of each of the three Services in the United Kingdom. Work continues on other recommendations, notably amplifying the instructions on the roles of commanding officers, senior security officers and senior MDP officers, the complementing criteria for MDP posts, a MDP budget, the provision of MDP services to bodies outside the Ministry of Defence, and a possible special constable scheme. We welcome these changes in the management of the Force, and believe they will ensure that the MDP is better able to carry out the duties required of it.

4. The 5,000 or so men and women of the current Force are increasingly in the public eye and display both dedication and professionalism. Of the threats that they help to counter, protest demonstrations and marches are no new phenomenon at defence establishments: the first Aldermaston march was held in April 1958. But it was not until these became more outwardly aggressive at the beginning of the 1980s that the presence and role of the MDP received wide publicity. Since then this kind of protest activity has increased dramatically. In 1979-80 MDP officers were involved in two such events; in the following 12 months, 29; and in 1985-86 the number had increased to over 700.

5. In these tasks and all others that we require the MDP to carry out, they acknowledge the prime responsibility of Home Department police forces for the enforcement of the law. They are, of course, always ready to assist other forces when Ministry of Defence interests are involved.

ROYAL DOCKYARDS

620. [Since last year's Statement we have made considerable progress with plans to introduce commercial management to the two Royal Dockyards at Devonport and Rosyth. The Dockyard Services Bill received Royal Assent on 25 July 1986 and came into effect on 26 September. A number of bids for the contracts to manage the Dockyards were received in response to the Ministry's Invitations to Tender, and these were evaluated by a Tender Board, supported by a team of officials and consultants. Following further detailed consideration of the bids, and after taking fully into account the views expressed by the Trades Unions, we signed term contracts with Babcock Thorn Limited on 27 January for the future operation of Rosyth Dockyard, and with Devonport Management Limited on 24 February in respect of Devonport Dockyard. Both contracts are planned to run for seven years from 6 April 1987.

621. We also formed for each Dockyard separate companies to be the employer of the local management and workforce, and to which the licence to use the Dockyard assets could be granted. Those companies would then be taken over by Babcock Thorn Limited and Devonport Management Limited respectively and by any other subsequent contractors, as necessary, for the duration of the term contracts. The Secretary of State would continue to hold a special share in each of the employing Dockyard companies.]

DEFENCE MEDICAL SERVICES

622. Last year we reported that we were studying the possibility of putting out to contract work currently undertaken by uniformed and civilian dental technicians, as well as the direct supply of drugs to hospitals. The dental technicians study has been completed and, with the exception of certain key posts that will be filled by Service personnel to meet the war role, all dental technical work will be put out to contract from May this year, with a saving of 79 uniformed and 22 civilian posts and a net annual reduction in costs of about £125,000. The direct supply of drugs to hospitals is still under consideration.

AIDS AND THE ARMED FORCES

1. With growing evidence of the threat posed by AIDS, the Ministry of Defence recognises that the armed forces are no less at risk than any other section of the community from the spread of the disease around the world. An internal working party, including medical, legal, Service and policy staffs, was established in March 1986, charged with making proposals for preventive education and publicity and on personnel policy aspects of AIDS. Its first task was, as a matter of urgency, to concentrate on preventive education and publicity. Its recommendations were:

- wide distribution of posters to Service units, to be prominently displayed;

- wide distribution of the Health Education Council booklet, AIDS - What Everybody Needs to Know;

- comprehensive briefing by medical staffs of units serving, or about to deploy, overseas; and

- incorporation of AIDS warnings into all drug education briefings.

2. These recommendations are being implemented. Some 11,000 posters have been distributed to Service units; 330,000 copies of the Health Education Council booklet have been given to all Service men and women personally; and 161,000 copies of the DHSS leaflet, AIDS: Don't die of Ignorance, are being provided for unmarried personnel in barracks, aboard ship and serving overseas, who would not otherwise have received it. In addition to all this, the central medical staffs are taking appropriate precautions in routine procedures, for example by screening blood supplies for use at home and abroad, and arranging for panels of safe donors to provide emergency supplies in certain areas overseas.

3. There are no illusions in the armed forces as to the potential threat from AIDS. The working party will remain in being to monitor developments both nationally and internationally, and will continue to recommend to senior management and Ministers such steps as are judged necessary to safeguard the health of all our personnel.

HIGHER DEFENCE STUDIES

623. In addition to sponsoring Defence Fellowships and Service and civilian attendance on university post-graduate courses, the Ministry of Defence both runs and participates in a number of seminars and conferences with the academic world. Last autumn we held our first regional seminar, in cooperation with the University of Aberystwyth. Another major development in 1986 was the establishment of a Defence Lectureship at the Centre for Russian and East European Studies, University of Birmingham. This lectureship, the sixth currently funded by the Ministry, will specialise in Soviet defence studies.

THE DEFENCE ESTATE

624. The defence estate exists to meet the Services' needs for accommodation, operational bases, support facilities and training areas. Details of its composition are given in Tables 5.13 and 5.14 of Volume 2. Regular reviews ensure that our land holdings are used efficiently and are no larger than necessary. Our continuing programme of selling surplus property provides both savings in maintenance costs and funds for use elsewhere, and specific targets for disposals were set for the first time in 1985-86. Receipts in that year for land and buildings (including married quarters) totalled some £60 million. In 1986-87 receipts of some £70 million are expected against a target of just under £64 million. We must, however, acquire more land when it is essential to meet specific requirements. There is, for example, insufficient training land to meet the needs of the increased number of regular and reserve units that have to be trained in this country. For this reason we intend to purchase suitable land when it becomes available.

625. We take seriously our responsibility to conserve and improve the land used for military purposes. The defence estate contains many areas of beautiful countryside, and we put much effort into protecting the environment throughout the estate. We try to encourage recreational use whenever safety and defence needs permit. In many places, military use has protected land from development or intensive cultivation, and so some defence sites have become very important environmentally. Salisbury Plain Training Area, for example, contains more than one third of the remaining chalk downland in southern England and some 1,700 archaeological monuments. To investigate ways of enhancing the protection given to these monuments, an Archaeological Working Party was established in 1984, in conjunction with English Heritage, the Nature Conservancy Council and County Archaeologists. Their report, which was published in April 1986, was widely praised and will lead to a range of improvements in the management of this important part of our heritage. In addition, the Maritime Heritage Area, which will include HMS Victory, HMS Warrior, the Mary Rose, their museums and the Royal Naval Museum Portsmouth, is being developed by charitable Trusts in a part of Portsmouth Naval Base no longer needed for defence purposes.

Energy Efficiency

626. In last year's Statement we announced a new initiative to improve the Ministry's energy efficiency, building on earlier improvements and taking advantage of potential savings in running costs. A target has been set of a 25% reduction in expenditure (£260 million in 1985-86) over five years on non-operational energy. All sites on the defence estate are now required to have an Energy Manager, and all should have had an energy survey by April 1991.

THE METEOROLOGICAL OFFICE

627. The Meteorological Office serves the armed forces as its largest single user and, as the national meteorological service, provides free weather forecasts and warnings to the public through the media. In addition, it supplies more detailed information, on a repayment basis, tailored to the needs of specialised users, including industry, commerce, the legal profession and, in particular, civil aviation. Nearly one third of the cost of the Meteorological Office is met by these repayment services, receipts from which totalled £21.8 million in 1985-86. The Office has a marketing organisation actively seeking new business.

628. The span of services provided to the community is wide, ranging from advice on the likely directions in which an outbreak of foot-and-mouth disease might spread, to research into the effect of atmospheric pollutants on the climate. The Office has continued to improve the range of its services over the last year. The United Kingdom weather radar network has been expanded by means of collaborative arrangements with some Water Authorities, who have a close interest in prompt reaction to forecasts of rain. And specialised warnings of freezing road conditions are being made available to a number of Local Authorities, enabling them to save money by reducing the need for precautionary road-gritting operations.

629. Improvements in the range and accuracy of weather forecasts are underpinned by a tautly managed research programme, aimed at better meeting the requirements of defence, civil and commercial customers alike. The main areas of research include development of a very fine-scale numerical forecasting model, refinement of weather radar inputs and exploitation of new satellite information.

630. The continuing search for economies has led to further rationalisation in Meteorological Office support to the RAF. Concentration of services at some key airfields has permitted the closure of sections in Scotland (Pitreavie), the south west of England (Mount Batten) and central southern England (Upavon). This has been achieved only on the clear understanding that Air Force operational integrity is not put at risk.

PUBLIC RELATIONS

631. Doors opened to the media during the year included those of the Chemical Defence Establishment at Porton Down, RAF Greenham Common, and the Aeroplane and Armaments Research Establishment at Boscombe Down. The programme has also included facilities on board the ships of the round-the-world Royal Navy deployment, GLOBAL 86; a press party visit to the out-of-area exercise SAIF SAREEA in Oman; and media coverage of the NATO exercise BOLD GUARD in Denmark and the Federal Republic of Germany (See Chapter 4). We hope that these visits, and many others, have led to a greater understanding of the role of the Services and their support establishments and have served to dispel the false air of mystery surrounding some of the places and issues involved.

632. We are also making greater efforts to reach the public direct. For example, proposals to modernise the Ballistic Missile Early Warning System site at Fylingdales in Yorkshire were explained to both the community and the press in a series of briefings. Similarly, the progress of development at Molesworth - the second United Kingdom cruise missile base - and at the Clyde Submarine Base were the subject of parallel community and press briefings.

633. Publications, exhibitions and films offer further means of reaching the public. An illustrated booklet describing British defence policy is now produced to coincide with publication of this annual Statement and is distributed free. A revised exhibition about NATO and British defence policy was mounted last year at eight sites and proved very successful. A new film - Keeping the Peace - setting out the case for deterrence has been made and will, we hope, make a significant contribution to public understanding of defence issues.

ANNEX A : THE FORCES OF EAST AND WEST

CONVENTIONAL FORCES

1. One important side-effect of the Reykjavik summit was to focus attention on the conventional balance of forces between East and West. Reductions, or potential reductions, in nuclear weapons make it all the more important to tackle conventional disparities, as the Prime Minister and President Reagan agreed at Camp David last November.

CALCULATING THE CONVENTIONAL BALANCE

1. Calculating the comparative conventional strengths of NATO and the Warsaw Pact is a complex task. The simplest accounts are those restricted to numbers of personnel, formations or items of equipment on each side. As we explained in last year's Statement, even these are difficult to carry out. But when it comes to more sophisticated assessments, there are many more problems.

2. Some sources express the balance in terms of manpower division equivalents (MDE): the manpower totals in major combat units are divided by the strength of a standard US armoured division (18,300 men) to produce the MDE total. While this method has the merit of simplicity, it takes no account of the organisation and combat power of the forces in question: Warsaw Pact divisions usually consist of fewer personnel than many NATO divisions but contain more tanks and artillery; so this system would tend to underestimate their real strength.

3. Other analysts attempt to take into account organisation and combat power, mobility, firepower and survivability of individual weapons, to produce for any given unit a weighted unit value, which can then be expressed in terms of armoured division equivalents (ADE). Assessments of individual weapon-effectiveness ratings are, however, inevitably subjective. Moreover, key weapon systems (for example attack helicopters and anti-aircraft artillery) are included by some authorities but not by others.

4. Many other factors also need to be taken into account in a full net assessment, including:

a. Preparedness: the availability of forces ultimately depends on their degree of readiness and how easy their mobilisation and reinforcement plans are to implement. The sustainability of forces depends on the quantity and survivability of logistic stocks, and on supply lines of fuel, ammunition, and spares. NATO's reinforcement and re-supply from North America would, for example, face a 6,000 km Atlantic crossing; the Warsaw Pact's supply lines are comparatively short and are overland.

b. Geography, terrain, and environment: NATO forces in the Central Region defend a long common border. There are few natural obstacles in the region; and the dense population, in many towns and cities, further complicates both offence and defence. Force requirements differ from those in the

Northern Region, which has difficult mountainous terrain that is snow-covered in winter and becomes marshy in summer, and whose flank is the desolate polar region. Requirements in the South are different again: this region is linked by the Mediterranean Sea, and there is a common border in difficult mountainous terrain, with the politically troubled North Africa and Middle East on the flank.

c. Organisation and doctrine: Soviet doctrine emphasises offensive mobility, surprise and deception. Ground forces have a pre-eminent role. The Soviet Union also has two branches of the armed forces separately tasked with strategic attack and strategic defence. There are, in addition, differences in political organisation, allied cohesion, training, leadership and morale that would affect the outcome of any conflict.

5. There is so much scope for the exercise of judgement and opinion in assessing factors such as these that attempts to do so rarely command universal approval. We do not therefore seek here to make a complete net assessment but concentrate on producing a number count which, though necessarily simplified and restricted in scope, does at least seek to apply equal criteria to both sides.

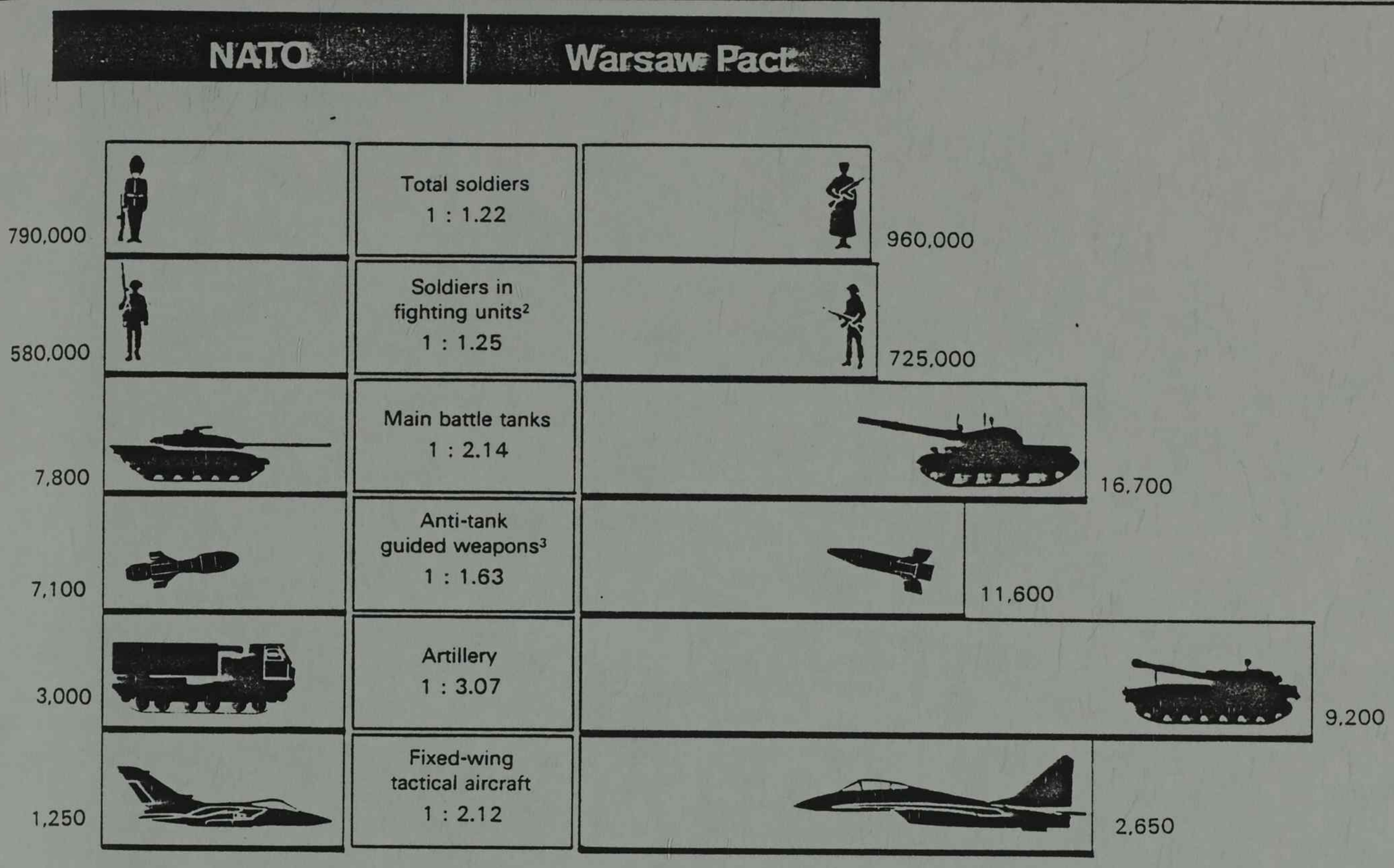
Land and Air Forces

2. In Europe - the area that most directly affects our security - the evidence is of a preponderance of military force in favour of the Warsaw Pact. This is illustrated in Figure 12, which shows the conventional forces of NATO and the Warsaw Pact in place in the Central Region - that is, NATO forces in the Benelux countries and the Federal Republic of Germany; and Warsaw Pact forces estimated to be in Poland, Czechoslovakia and the German Democratic Republic.

3. Figure 13 gives a broader picture of conventional forces in place from the Atlantic to the Urals. This is an area with no agreed definition, but for the purposes of this Statement we have included those forces located in the 14 NATO countries in Europe, and Warsaw Pact forces in Eastern Europe and the 11 military districts of the Soviet Union west of the Ural mountains. The purpose of this illustration is to give a clearer view of the relative strengths of troops and equipment available in Europe, including troops that could be deployed quickly (say within a week) to the Central Front, or which could be involved early in any fighting on the Northern and Southern Flanks.

4. By any objective measure the superiority of Warsaw Pact land and air forces is substantial. Furthermore, any potential aggressor can select the time and place of his attack, and exploit this advantage by massing his forces to achieve overwhelming local superiority in numbers; while a defender such as NATO, committed

Figure 12 The Current Balance of Forces on the Central Front [1]



Notes

[1] Covers NATO forces in the Benelux countries and the Federal Republic of Germany, and Warsaw Pact forces estimated to be in Poland, Czechoslovakia and the German Democratic Republic. Includes French forces in the Federal Republic of Germany which are not declared to NATO, but excludes the Berlin garrison.

[2] Corresponds to a balance of 57 Warsaw Pact to 33 NATO divisions. Warsaw Pact divisions normally consist of fewer personnel than many NATO divisions, but contain more tanks and artillery.

[3] Crew-served systems and helicopter- or vehicle-mounted systems, but excluding those that may be fired through the gun barrel of Soviet tanks.

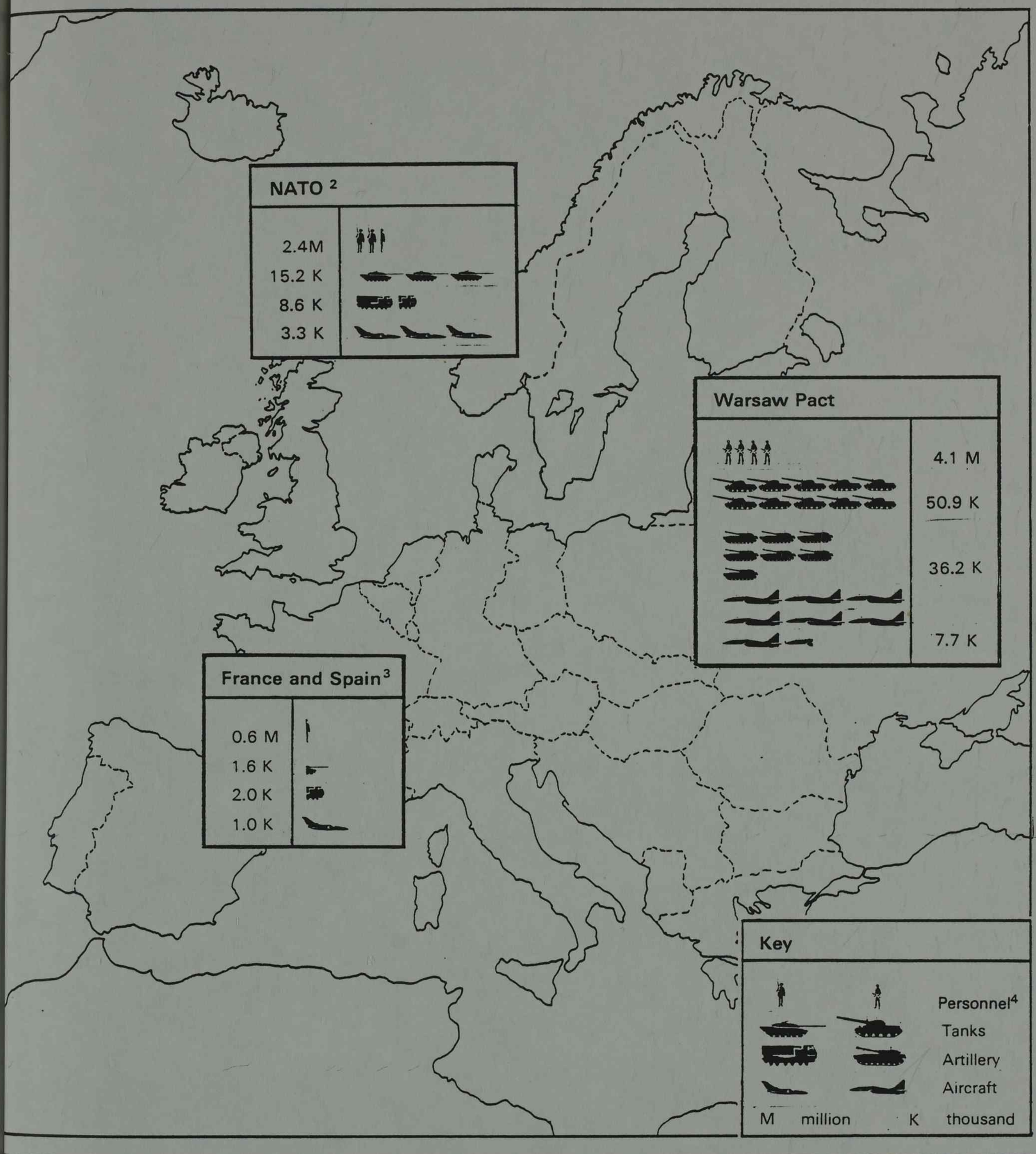
not to be the first to use force, can only seek to respond before his defence is irretrievably disrupted. Moreover the Warsaw Pact enjoys geographical advantages: it can move supplies to the front more easily than NATO, most of whose reinforcements of men, equipment and materiel face a long and hazardous Atlantic crossing; and it knows that NATO, with its limited territory and commitment to forward defence, cannot trade space for time so as to concentrate against a main Warsaw Pact attack. These constraints compound the conventional imbalance faced by the Alliance.

Developments in Warsaw Pact Forces

5. The steady improvement in the organisation, training, equipment, and offensive capability of Soviet forces has continued apace during the last year. NATO's technological lead in many areas continues to be eroded. In particular, many of the new Soviet **ground forces** equipments are at least as sophisticated as their Western equivalents, and a wider variety of equipment is being introduced. Improvements during the last year include new armoured vehicles (among them T-80 and T-64B tanks, BTR-80 armoured personnel carriers and BMP-2 infantry combat vehicles), artillery, tactical surface-to-air missile (SAM) systems and more accurate short-range surface-to-surface ballistic missiles (SRBM) armed with improved conventional warheads. Such improvements would facilitate rapid and deep thrusts into opposing defences. The new Frogfoot (fixed-wing) and Hind (rotary-wing) aircraft have been deployed in the forward area in support of ground troops. The Soviet Union is making considerable investment in its command, control, and communications (C3) infrastructure; and development continues of an already elaborate system of hardened command post and re-location systems for the survival of civil and military leaders. The introduction of High Commands of Forces, as an intermediate level of authority between the General staff and front-line commands, has enhanced both the operational flexibility and responsiveness of the Warsaw Pact's forces.

6. Soviet **air forces** are being similarly improved. New agile fighters, Fulcrum and Flanker, armed with their new AA-10 missiles, have a true look-down/shoot-down capability, which will improve Soviet defences against aircraft and, to some extent, cruise missiles flying at low altitude. They will be supported by deployment of the Mainstay airborne warning and control system and Midas tanker aircraft. SAM defences supported by new ground-based radars and communication systems are being modernised. The SA-10 SAM, which has some capability against

Figure 13 The Current Disposition of Forces — Atlantic to Urals [1]



Notes

1. For the purposes of this Statement this illustration includes the forces stationed in the 14 NATO countries in Europe, the six non-Soviet Warsaw Pact countries, and the 11 Soviet military districts lying west of the Ural Mountains.

2. French forces in the Federal Republic of Germany are included in the NATO total.

3. France and Spain are members of NATO but do not participate in its integrated military structure.

4. Includes full-time military personnel serving with ground or air forces. Excludes reservists, naval personnel, marines, paramilitary or security forces and uniformed civilian services such as police or customs.

low-altitude targets with a small radar cross-section, is being increasingly deployed in defence of Moscow and other key military and industrial centres. There are indications of further organisational changes to improve the effectiveness of the air defence forces.

7. Modern military systems are highly dependent on advanced **electronics** for sensors, communications, weapons control and data processing. The Soviet Union has problems in the volume production of some integrated circuits and computers, in which it lags several years behind the West. Nonetheless, there is a very active radar research and development (R & D) programme continually developing new systems; and the Soviet armed forces are improving their ability to counter homing missiles by the employment of a wide range of electronic countermeasures (ECM), jammers and suppressors, and decoy measures. The emphasis in C^3 remains on redundancy and security, increasing use being made of computer systems and automated data aids, as well as satellite communications and land-lines, including secure fibre optics. The use of extremely low frequency to communicate with submerged submarines is also practised. Problems in the electronics industry, particularly in production, will slow down the introduction of new technologies into Soviet military systems but not necessarily impair systems performance.

NATO Forces

8. NATO countries continue with plans to introduce new equipment into the inventories of their **ground forces,** both through replacement programmes and additional purchases. Some 275 main battle tanks of the advanced Leopard II and Challenger types are being introduced this year. In addition, large numbers of tanks currently in service are being upgraded by, for example, the fitting of improved fire-control systems. Among other armoured vehicles coming into service are some 150 new armoured personnel carriers.

9. Anti-armour capabilities are being enhanced through the introduction of almost 400 new missile launchers of the TOW type and of some 13,500 hand-held anti-armour missiles. The ability of forces to defend themselves against air attack will be improved with the introduction of 725 advanced missile systems, including some 550 of the Stinger/Javelin type. Operational and tactical flexibility is being increased by the introduction of over 40 helicopters, both combat and transport, and a small number of fixed-wing transport aircraft.

10. NATO **air forces** plan to introduce over 170 new aircraft in 1987; most are combat aircraft, predominantly Tornado and F-16 types. Existing aircraft also continue to be updated. Sustainability in areas such as war stocks of chaff and flare decoys is being improved. Patriot SAM deployments in the Central Region will greatly strengthen air defences in Europe over the next few years. Airfield local defence will be strengthened as more than 50 new short-range SAM systems are brought into service. Total NATO numbers of aircraft and SAMs will, however, remain low compared to the threat.

Maritime Forces

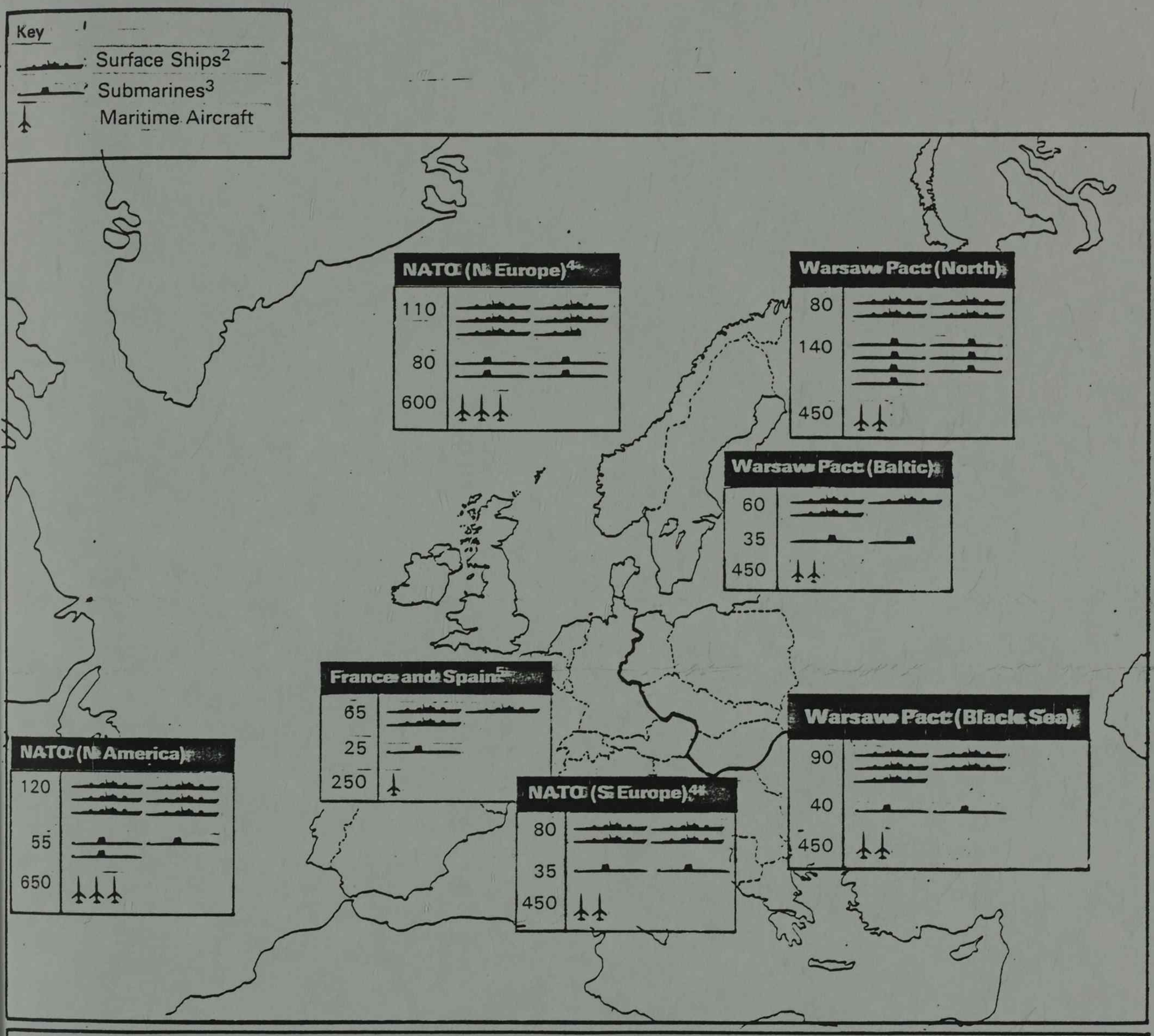
11. Figure 14 shows the principal naval forces of NATO and the Warsaw Pact normally located or based in the North Atlantic and seas bordering Europe. Ships and submarines could be deployed anywhere in this area, but naval forces have been divided according to sea or fleet areas relating to home bases.

12. This picture of the balance at sea needs qualification. Taken as a whole, NATO outnumbers the Warsaw Pact in surface ships. But we cannot ignore the realities of geography and the nature and distribution of the forces deployed by each side. For NATO in-place maritime forces are outnumbered in offensive systems, particularly submarines and bombers, in the Eastern Atlantic. And it is here, and in the shallow seas, that the threat is greatest to NATO's reinforcement and re-supply lines, which are so important to the defence of Europe. As the last war demonstrated, relatively few submarines can do great damage. And the potential threat from the Soviet submarine fleet today is immeasurably greater than that posed by enemy submarines at the outbreak of the Second World War. The conventional wisdom requiring an attacker to outnumber a defender on land is reversed in anti-submarine warfare, and in consequence proportionately larger numbers of surface escorts, hunter-killer submarines, and aircraft can be needed to defend shipping.

<u>Developments in Warsaw Pact Naval Forces</u>

13. The last year has seen a continuation of the major building programme of both submarines and surface ships. In addition to those carrying ballistic missiles (see paragraph [16]), submarine construction includes the Oscar class, each boat armed with 24 SS-N-19 anti-ship cruise missiles with a range of 550 kms, at least two classes of powerful, fast and silent nuclear-powered attack submarine (Sierra

Figure 14 NATO and Warsaw Pact Principal Naval Forces[1]



Notes

[1] Shows the principal naval forces of NATO and the Warsaw Pact normally located or based in the North Atlantic and seas bordering Europe. Approximate numbers are shown.

[2] Principal surface combatants frigates, destroyers, cruisers, aircraft carriers, excluding units in reserve.

[3] Excludes SSBNs and units in reserve.

[4] Includes US forces based in Europe.

[5] France and Spain are members of NATO, but do not participate in its integrated military structure. Their naval forces are divided between the Atlantic and the Mediterranean.

and Akula), and the Kilo class diesel-powered attack submarine. Surface warships have become larger and more sophisticated, with longer range and greater fire-power, and include the first unit of a new class of large aircraft carrier, currently fitting out in the Black Sea area. Other classes being built include the nuclear-powered Kirov and the Slava class guided-missile cruisers, the Sovremenny and Udaloy class guided-missile destroyers and several other classes of frigate, corvette, and patrol craft.

NATO Maritime Forces

14. NATO's maritime capability is being significantly improved through the introduction of new and more capable ships and by improved equipment and weapon systems, including radars, sonars, ECM and communications. The US Navy is continuing its programme to increase its strength to about 600 ships. Some 30 new helicopters will also join the NATO navies next year in anti-submarine and airborne early warning roles, while helicopters and aircraft currently in service will be modernised, including the fitting of air-to-air refuelling links and advanced electronic warfare equipment.

NUCLEAR FORCES

CALCULATING THE NUCLEAR BALANCE

1. Many similar problems apply in calculating the nuclear as the conventional balance. Factors such as relative accuracy, reliability, reaction time and survivability are difficult to quantify, not least since detailed information about capabilities is seldom disclosed. The location, mobility and vulnerability of weapon systems, and the existence of defensive forces, are further complicating factors.

2. So again a straight number count has the merit of providing an objective basis against which judgements can be exercised. But there are still problems about what to count. It might be more realistic to consider warheads rather than weapons systems, but:

- many strategic missiles are capable of carrying varying numbers of multiple independently targetable re-entry vehicles (MIRVs), and although we know the maximum number of warheads a missile is able to carry, we do not know how many are actually carried;

- aircraft can carry a variety and variable number of weapons;

- most shorter-range missiles and all artillery pieces can be re-loaded; we do not know how many re-loads are available;

- most aircraft, shorter-range missiles and artillery are dual-capable, and many could be armed with conventional instead of nuclear warheads.

The comparisons we make are therefore mostly based on launcher numbers, except for longer-range intermediate nuclear forces, for which an approximate balance can be shown.

3. There remains the problem of comparing like with like. Our division of nuclear systems into categories is to some extent arbitrary, and the Soviet Union normally uses different terminology. But our approach broadly reflects the varying capabilities and roles of different systems and is in line with the categories generally used in arms control negotiations and agreements.

Strategic Forces

15. Strategic forces, as defined in SALT II, are those whose range or type of delivery system allows them to undertake intercontinental attack. They include intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs) and heavy bombers equipped with bombs and air-launched cruise missiles (ALCMs). Sea-launched cruise missiles (SLCMs) are also included because the range of their launch platforms gives them a potential for intercontinental attack.

16. The Soviet Union and the United States have, over the past year, continued to modernise their strategic forces. At the end of 1986 the Soviet Union had deployed 81 of its mobile ICBMs, the SS-25. And another ICBM, the SS-X-24, which is expected to carry ten warheads and may be deployed both in silos and on mobile launchers, is at an advanced stage of development. The capability of the Soviet SLBM force is being markedly improved as more of the new Typhoon and Delta class submarines (SSBNs) are deployed, with their SS-N-20 and SS-N-23 missiles. There are two submarine-launched land-attack cruise missiles in development, the SS-NX-21 and the larger SS-NX-24. The SS-NX-21 (with a range of over 2,500 kms) is expected to be deployed in the near future from a variety of submarines. The number of ALCMs in the inventory is increasing, with the entry into service of more of the new variant of the Bear bomber. Development of the new strategic aircraft, the Blackjack, is well under way.

17. The Soviet Union continues to improve its ground-based radars and space sensors for ballistic missile detection and threat assessment. It is also continuing research and development with potential application to ballistic missile defence.

Figure 15 The Balance of Strategic and LRINF Systems — end 1986[1]

Strategic Systems Worldwide

USSR

ICBMs – SS-11, 13, 17, 18, 19, 25

SLBMs – SS-N-6, 8, 17, 18, 20, 23

Bombers – Bear, Bison

USA[2]

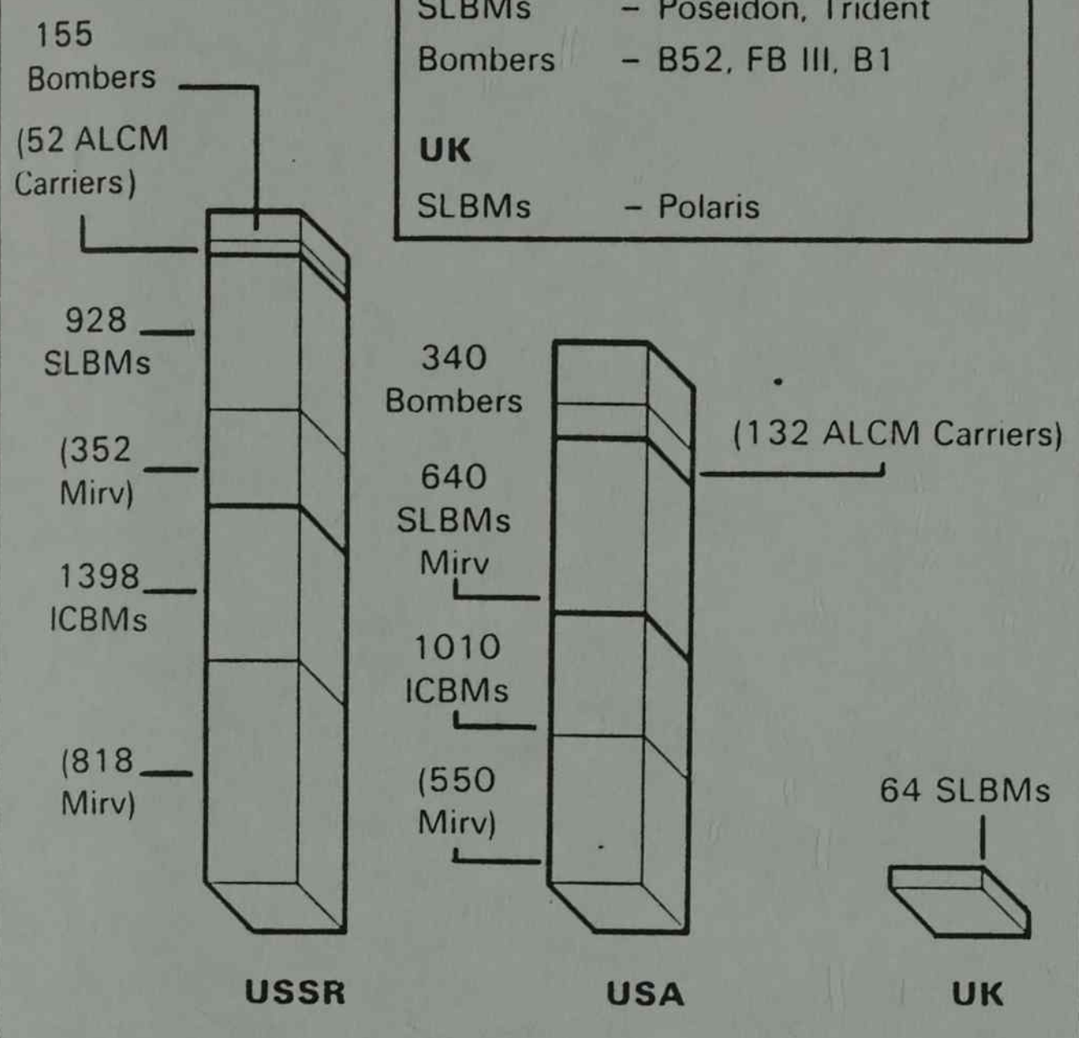
ICBMs – Titan, Minuteman II, Minuteman III, MX

SLBMs – Poseidon, Trident

Bombers – B52, FB III, B1

UK

SLBMs – Polaris



LRINF Systems in Europe[3]

USSR

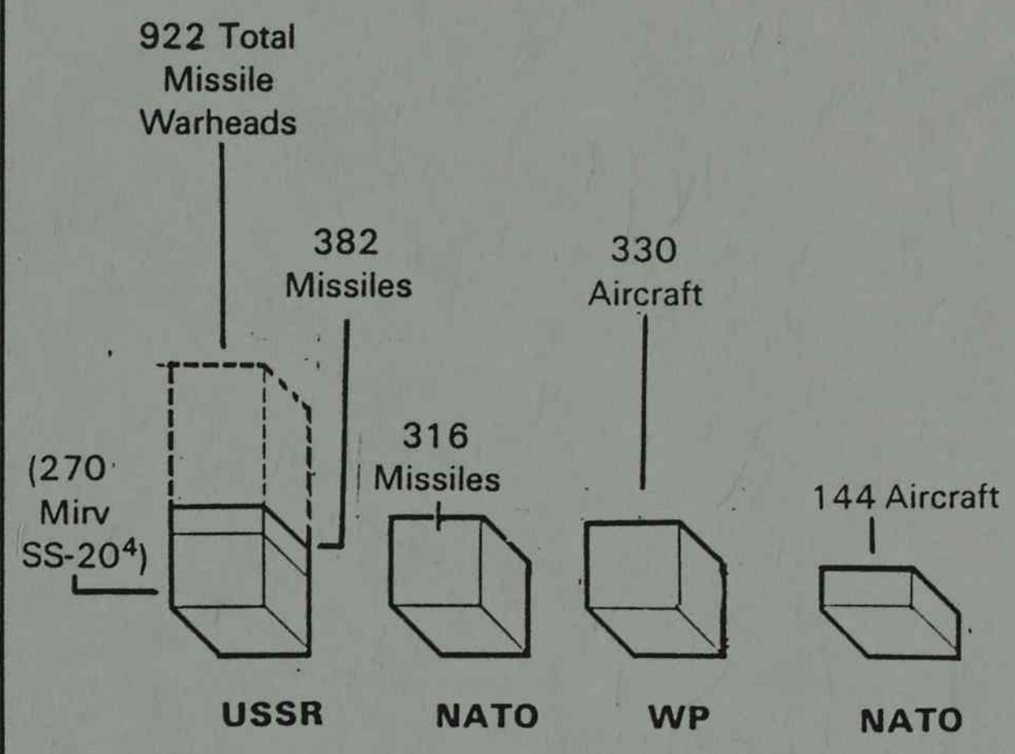
Missiles – SS-4, SS-20

Aircraft – Badger, Blinder Backfire

NATO

Missiles – GLCM, Pershing II

Aircraft – F III



Notes

[1] French systems are not included in this diagram. They comprise 96 SLBM, 18 S3 missiles and about 35 Mirage IV Bombers.

[2] The United States is also deploying SLCM on a variety of surface ships and submarines.

[3] Includes land-based systems in Europe from the Urals westward: excludes aircraft with a primary maritime role.

[4] Each SS-20 missile has three warheads.

18. As part of its strategic force modernisation programme, the United States has begun to deploy the B1 bomber and the new ten-warhead MX ICBM. The eighth US Trident submarine with C4 missiles is now on sea trials, and by the end of the decade the US SLBM capability will be further improved with the introduction into service of the D5 Trident SLBM. Engineering design work on a single-warhead mobile ICBM is in progress. The effectiveness of the B52 bomber force is being enhanced as the aircraft are modified to carry ALCMs. Development programmes for an advanced-technology bomber and an advanced cruise missile are under way. Both are planned to incorporate stealth technology. SLCMs are being deployed on a variety of ships and submarines.

19. Figure 15 illustrates the balance of strategic systems. The Soviet Union has more strategic delivery systems than the United States although, when aircraft-delivered weapons are included, the United States probably has the advantage, with some 11,500 warheads compared to 10,500 deployed by the Soviet Union. But as explained [above] it is very difficult to estimate the number of warheads deployed with any accuracy. Interpretation of the balance is further complicated by the asymmetry between the two sides' forces. For example, the Soviet Union - with a preponderance of ICBMs and three times the missile throw-weight available to the United States - could successfully attack all US land-based missiles while keeping part of its ICBM force intact. On the other hand, half the US warheads are deployed on SLBMs which, though less accurate than ICBMs, are virtually invulnerable to a first strike, leaving the United States with a certain capability to retaliate. Finally, a comprehensive reckoning of the balance needs to take account of extensive Soviet strategic defences, both active and passive, including the anti-ballistic missile (ABM) system around Moscow (the only such operational system in the world), which is being upgraded.

Intermediate and Short-Range Nuclear Forces

20. Both NATO and the Warsaw Pact have a variety of systems that can deliver nuclear weapons at less than intercontinental range. Intermediate nuclear forces (INF) include all systems that fall between short-range and strategic, and can be sub-divided into longer-range and shorter-range intermediate nuclear forces (LRINF and SRINF), the former having a range in excess of about 1,000 km. Short-range nuclear forces include artillery and missiles with a range of less than about 150 km. They are sometimes known as 'battlefield' weapons.

Figure 16 The Balance of Shorter-Range Systems with Nuclear or Nuclear-capable Variants — end 1986[1, 2]

SRINF Systems

Warsaw Pact

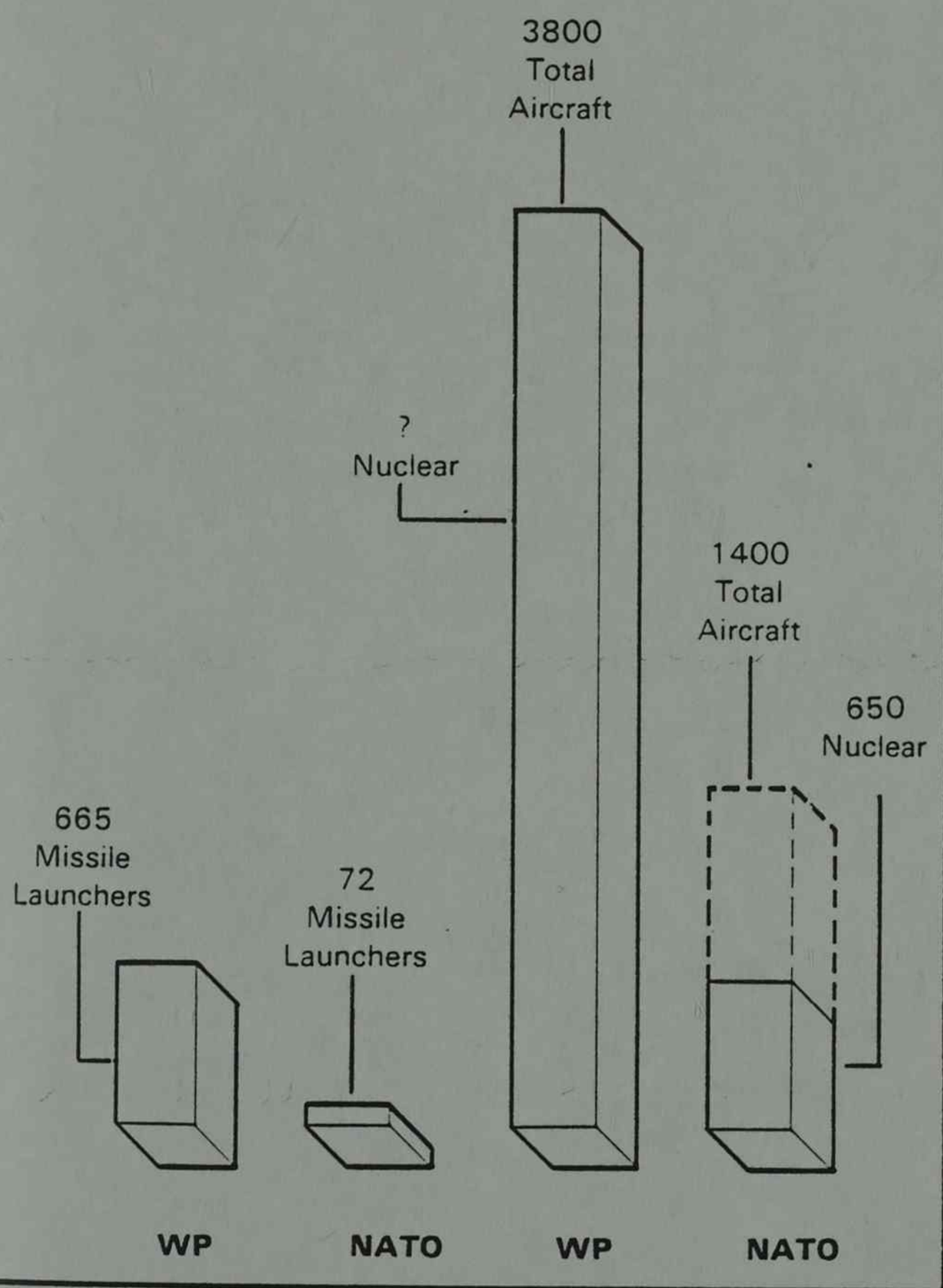
Missiles: Scud, SS-23 Scaleboard (SS-22)

Aircraft: Fitter, Fishbed Flogger, Fencer, Fulcrum

NATO

Missiles: Pershing 1

Aircraft: F4, F104, F16, Tornado



Short-Range Systems

Warsaw Pact

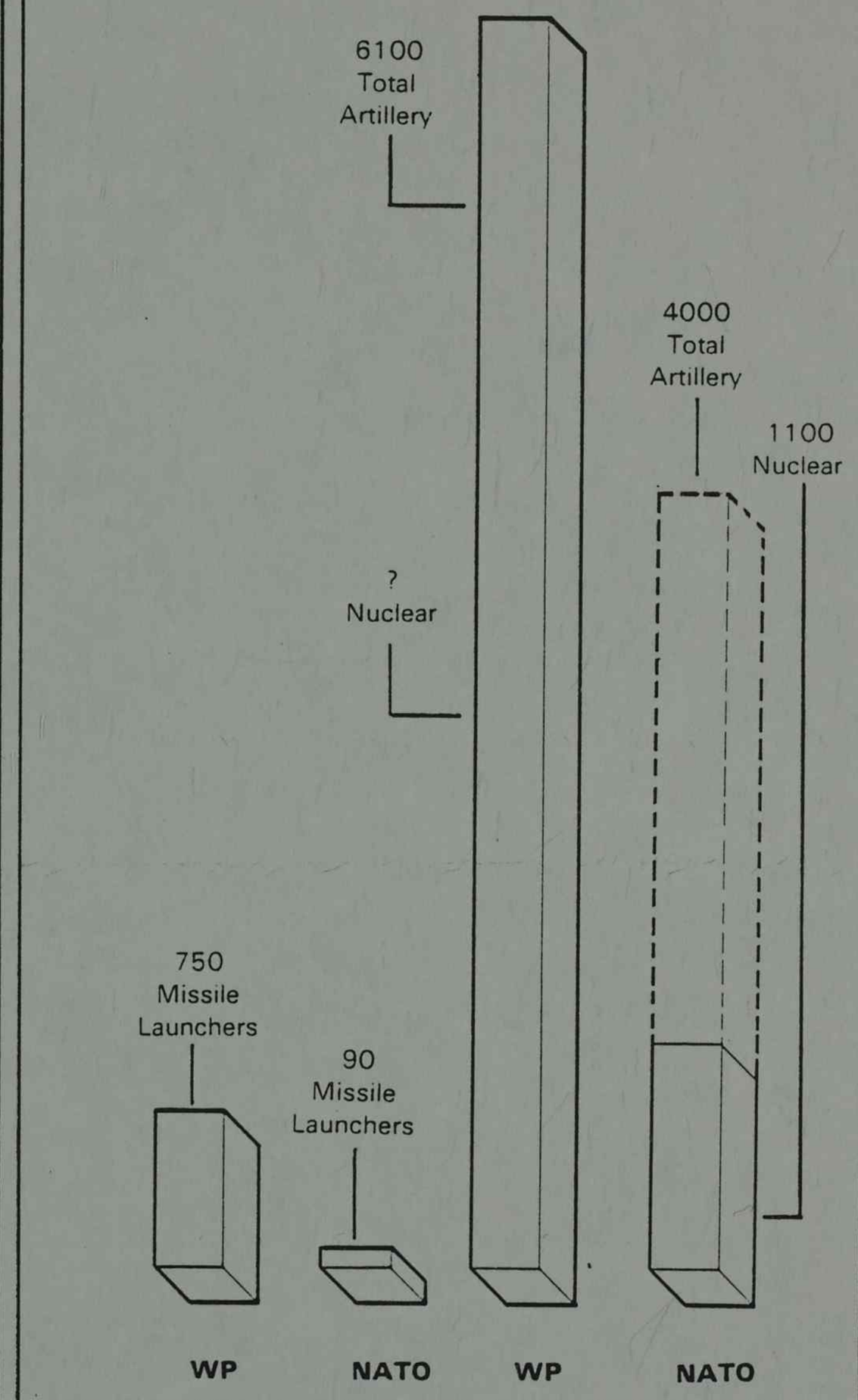
Missiles: Frog, SS-21

Artillery: 152mm, 203 mm 240mm

NATO

Missiles: Lance

Artillery: 155 mm, 203 mm



Notes

SRINF Aircraft. This diagram shows all aircraft of types known to have a nuclear-capable variant. On the NATO side, the number assigned to the nuclear role is indicated by the coloured part of the column. The other aircraft shown are not assigned to the nuclear role, and could not be so used. The Warsaw Pact does not disclose similar information about its own aircraft, and it is not possible to produce reliable estimates. All Warsaw Pact aircraft of types known to be nuclear-capable are therefore shown.

Short-Range Artillery. This diagram shows all artillery pieces of types known to have a nuclear-capable variant. On the NATO side, the number available for the nuclear role is indicated by the coloured parts of the column. The other artillery pieces included are not available for use in the nuclear role. Similar information is not available for Warsaw Pact systems.

[1] Includes land-based systems in Europe from the Urals westward.

[2] French systems are not included in this diagram. They comprise 65 Mirage IIIE and Jaguar aircraft and 30 Pluton missiles. The diagram does not include maritime systems.

21. The numbers of LRINF, SRINF and short-range forces shown in Figures 15 and 16 include only offensive land-based systems in Europe from the Urals westward. They exclude:

- aircraft and missiles based outside Europe, in the United States and eastern USSR;

- aircraft whose primary mission is maritime, such as those of the Soviet naval air forces and NATO aircraft with an anti-ship role;

- NATO sea-based nuclear systems, such as the Terrier surface-to-air missile, the ASROC and SUBROC anti-submarine missiles, air-delivered bombs and aircraft on US aircraft carriers;

- Warsaw Pact sea-based systems, such as SS-N-3, SS-N-7, SS-N-12 and SS-N-19 anti-ship cruise missiles, nuclear depth-bombs, surface-to-air missiles, and SS-N-5 non-strategic ballistic missiles on submarines, deployed in the Baltic Sea; and

- air defence systems with a capability against air-breathing nuclear delivery systems. This is an area of massive Warsaw Pact superiority. They have, for example, almost 14,000 SAMs compared with NATO's total of about 2,000.

Intermediate Nuclear Forces

22. At the end of 1986 NATO had deployed 208 ground-launched cruise missiles (GLCM) and 108 Pershing II missiles in the United Kingdom, the Federal Republic of Germany, Italy and Belgium. No additional GLCMs have been deployed to the United Kingdom since the end of 1985, when the deployment of six flights of GLCMs at RAF Greenham Common was completed. Numbers of SS-20 missiles have remained at 441 but, with 112 SS-4 missiles and a total of 1,435 warheads, the Soviet Union retains a substantial superiority over NATO in weapons of this range. This is even more marked when aircraft, particularly the modern Backfire bomber, are included. Similarly at shorter ranges the Warsaw Pact has a clear numerical advantage. Its missiles are also being improved as Scaleboard missiles have been

replaced over the past few years with a more accurate version (SS-22); and with the introduction late in 1985 of the SS-23, a new missile that provides an improved capability over the Scud, with longer range and greater accuracy. About 70 Scaleboard (SS-22) missiles are deployed west of the Urals; of these, up to 50 have been deployed in the German Democratic Republic and Czechoslavakia since 1984.

23. The Warsaw Pact also maintains far greater numbers of dual-capable aircraft which, like NATO's, are being modernised. A direct numerical comparison of SRINF aircraft numbers is, however, difficult. Unlike NATO, the Warsaw Pact does not disclose how many of its aircraft are assigned for nuclear operations; we have therefore included in Figure 16 all Warsaw Pact shorter-range aircraft of types that could deliver nuclear weapons. The number of NATO aircraft with a nuclear role, 650, is indicated by the coloured part of the column; the other aircraft shown, a further 750, are of similar types but are assigned for conventional use and would not be used in the nuclear role. These additional aircraft have been included for comparative purposes: even with their inclusion, the Warsaw Pact still has a marked advantage.

Short-Range Nuclear Forces

24. The capability of Warsaw Pact short-range missiles is also being improved as the SS-21 continues to replace the Frog missile. Improved artillery continues to be deployed. As with tactical aircraft, artillery systems may also be dual-capable, and, although we know how many NATO systems are available for use in nuclear operations, we cannot be sure how many Soviet systems could similarly be used. The numbers for Soviet artillery in Figure 16 therefore include all 1,600 newer versions of the 152mm artillery system, and the 203mm and 240mm pieces, as well as about 4,500 older 152mm guns, some of which may have a nuclear capability. On the NATO side all 155mm and 203mm artillery that could be used to deliver nuclear shells are shown in colour along with, for comparison purposes only, another 3,000 pieces of the same types that are not available for use in the nuclear role.

THE SOVIET SPACE PROGRAMME

25. The Soviet Union is continuing to improve its already broad military capability in space, encompassing surveillance, intelligence-gathering, communications, navigation and space-based R & D. Improved reconnaissance systems are

believed to be under development in addition to a new global navigation system with greater accuracy than existing systems. The Mir space station and its associated modules will provide a flexible base for space R & D. New launch vehicles are being developed: a medium-lift vehicle that has already flown, and a heavy-lift vehicle and re-usable shuttle orbiter that have yet to be launched. There is continued heavy investment in space-related ground infrastructure which, coupled with the introduction of a much expanded space-launch/transportation capability, implies an even more rapid build-up in the future.

SOVIET DEFENCE EXPENDITURE

26. Soviet defence expenditure rose by about 50% in real terms between 1970 and 1985. The growth rate, which declined somewhat after the mid-1970s, picked up in the early 1980s, and since then has averaged about 3% a year. The published Soviet defence budget, a single line entry for defence, amounts to some 20 billion roubles in 1987, and implies that the Soviet Union maintains its military forces on outlays equivalent to little more than 2% of national output. But this is not credible, and our estimates show the defence burden to be about 13-15% of gross domestic product, substantially more by that measure than any NATO country. Current developments in the defence sector suggest that expenditure could rise by about 3% a year between now and 1990. If the economy does not perform as well as Mr Gorbachev hopes, there may be pressure to restrain the rise to below this level. Nonetheless, the high priority traditionally given to defence seems unlikely to be seriously challenged.

CONFIDENTIAL

x B

gth of the Fleet

e 1. **Ships of the Royal Navy - Strength as at 1 April 1987 (i)**

erial(ii)	Type/Class	No	Operational or engaged in preparing for service or trials or training	No	Undergoing refit or on standby etc
1	**Submarines**				
	Polaris	4	Resolution, Repulse, Renown, Revenge		
	Fleet	12	Warspite, Churchill, Conqueror, Courageous, Sovereign, Swiftsure, Superb, Splendid, Trafalgar, Turbulent, Tireless, Torbay+ (iii)	3	Valiant, Sceptre, Spartan
	Oberon Class	9	Orpheus, Odin, Onslaught, Otter, Opportune, Olympus, Otus, Ocelot, Onyx	3	Oracle, Osiris, Opossum
	Porpoise Class	1	Sealion		
2	**ASW Carriers**	2	Illustrious, Ark Royal	1	Invincible
3	**Assault Ships**	1	Intrepid+	1	Fearless
4	**Guided Missile Destroyers**				
	County	1	Fife		
	Type 82	1	Bristol		
	Type 42	11	Cardiff, Glasgow, Exeter, Birmingham, Southampton, Nottingham, Liverpool, Manchester, York, Gloucester, Edinburgh	1	Newcastle
5	**Frigates**				
	Type 22	11	Broadsword, Battleaxe, Brilliant, Brazen, Boxer, Beaver, Brave, London+, Sheffield*, Cornwall*, Coventry* (iv)		
	Type 21	4	Amazon, Arrow, Ambuscade, Active	2	Alacrity, Avenger
	Leander Class	18	Euryalus, Naiad, Penelope, Arethusa, Aurora, Phoebe, Sirius, Argonaut, Minerva, Danae, Andromeda, Hermione, Scylla, Achilles, Charybdis, Diomede, Apollo, Ariadne	2	Cleopatra, Jupiter
	Rothesay Class	2	Rothesay, Plymouth		
	Navigation Training Ship	1	Juno+		
6	**Offshore Patrol**				
	Castle Class	2	Dumbarton Castle, Leeds Castle		
	Island Class	6	Alderney, Guernsey, Lindisfarne, Orkney, Shetland, Anglesey	1	Jersey

Annex B

Serial	Type/Class	No	Operational or engaged in preparing for service or trials or training	No	Undergoing refit or on standby etc
7	**MCMVs**				
	Minesweepers	3	Cuxton, Soberton, Upton,	2	Stubbington, Walkerton
	River Class	12	Waveney, Carron, Dovey, Helford, Humber, Blackwater, Itchen, Helmsdale, Orwell, Ribble, Spey, Arun		
	Minehunters Ton Class	11	Brereton, Brinton, Bronington, Hubberston, Iveston, Kedleston, Kellington, Maxton, Nurton, Sheraton, Wilton	2	Kirkliston, Gavinton
	Hunt Class	11	Brecon, Brocklesby, Cattistock, Cottesmore, Dulverton, Middleton, Chiddingfold, Hurworth, Bicester, Atherstone+, Berkeley*	1	Ledbury
8	**Patrol Craft**				
	Bird Class	5	Cygnet, Kingfisher, Peterel+, Sandpiper+, Redpole		
	Coastal Training Craft	15	Attacker+, Fencer+, Hunter+, Chaser+, Striker+, Archer+, Biter+, Smiter+, Pursuer*, Blazer*, Dasher*, Puncher*, Charger*, Ranger*, Trumpeter*(v)		
	Peacock Class	5	Peacock, Plover, Starling, Swallow, Swift		
	Gibraltar Search and Rescue Craft	2	Cormorant, Hart		
9	**Support Ships**				
	Submarine Tender	1	Wakeful	1	Sentinel
	MCM Support Ship	1	Abdiel		
	Seabed Operations Vessel	1	Challenger		
10	**Royal Yacht/ Hospital Ship**			1	Britannia
11	**Training Ships**				
	Fleet Tenders	3	Manly+, Messina+, Milbrook+	1	Mentor
12	**Ice Patrol Ship**			1	Endurance
13	**Survey Ships**	8	Bulldog, Fawn, Fox, Hecate, Herald, Gleaner, Hecla, Roebuck	1	Beagle

s:

This table includes ships due for completion or disposal during the course of 1987-88; numbers of type are not, therefore, an accurate indication of the ships available at any one time. Ships solely ged in harbour training duties are not included.

All Ships in serials 1-7 are assigned to NATO, or will be so assigned on becoming operational. Ships maining serials could be made available in support of NATO operations if national requirements permitted.

Ships marked + are engaged partly on trials or training.

Ships marked * were under construction on 1 April 1987 and are planned to enter service during -88.

Completion of Coastal Training Craft class delayed owing to contractual problems.

Ships approved during 1986-87 for disposal: Oberon, Walrus, Glamorgan, Leander, Galatea, Yarmouth iston, Bickington, Hodgeston, Bildeston, Bossington, Protector, Guardian, Hydra.

ex B

e 2. **Ships of the Royal Fleet Auxiliary - Strength at 1 April 1987**

erial	Type	No	Operational or engaged in preparing for service or trials or training
1	**Fleet Tankers, Large**	4	Olmeda, Olna, Olwen, Tidespring
2	**Fleet Tankers, Small**	5	Black Rover, Blue Rover, Grey Rover, Gold Rover, Green Rover
3	**Support Tankers**	5	Appleleaf, Bayleaf, Brambleleaf, Oakleaf, Orangeleaf
4	**Fleet Replenish-ment Ships**	4	Resource, Fort Austin, Fort Grange, Regent
5	**Helicopter Support Ship**	1	Engadine (i)
6	**Landing Ships Logistic**	6	Sir Bedivere, Sir Geraint, Sir Lancelot, Sir Percivale, Sir Tristram, Sir Caradoc (ii)
7	**Forward Repair Ship**	1	Diligence

es:

RFA Engadine is engaged in training and will be replaced by RFA Argus (ex Contender ant) on completion of her conversion as an Aviation Training Ship.

Sir Caradoc is an interim replacement for Sir Galahad (due to come into service in 1987).

Annex B

Table 3. Royal Marines Commando Forces (i)

Serial	Type	No
1	**Headquarters**	
	Commando Brigade Headquarters RM (incl Air Defence Troop)	1
2	**Commandos**	
	RM Commandos	3
3	**Artillery**	
	Commando Regiment RA	1
	Commando Battery RA (Volunteer)	1
4	**Engineers**	
	Commando Squadron RE	1
	Commando Squadron RE (Volunteer)	1
5	**Light Helicopter Support**	
	Brigade Air Squadron RM	1
6	**Logistics Units**	
	Commando Logistic Regiment RM	1
7	**Special Boat Squadron**	
	Squadron RM	1
8	**Assault Squadrons** (Landing Craft)	1
9	**Mountain and Arctic Warfare Cadre**	1

Notes:

(i) Table does not include Royal Marine detachments on board Royal Navy ships.

B

4. Naval Aircraft

rial	Role	Aircraft	Squadron No
1	**Air Defence/Recce/Attack**	Sea Harrier FRS1	800 801
		Sea Harrier FRS1/ Harrier T4	899
2	**Anti-Submarine**	Sea King HAS 5	810 814 819 820 824 826(ii) 706
		Wasp HAS 1	829(ii)
3	**Anti-Submarine/ Anti-Ship**	Lynx HAS 2/3	815(ii) 829(ii) 702
4	**Airborne Early Warning**	Sea King AEW 2	849(ii)
5	**Commando Assault**	Sea King HC 4	845 846 707
6	**Aircrew Training**	Gazelle HT 2	705
		Jetstream T 2/3	750
		Chipmunk	-
7	**Fleet Support Search and Rescue**	Wessex HU 5	771 772
8	**Fleet Training and Support**	Hunter T8/GA11	-
		Canberra TT18	-
9	**Support**	Sea Devon	-
		Sea Heron	-

s:

All the above aircraft are declared to NATO, or could be made available in support ATO operations.

Aircraft in these squadrons are deployed in flights of single and multiple aircraft.

ex C

ngth of the Army

or Combat Headquarters

	BAOR	Berlin	Elsewhere	UK
Headquarters				
Corps Headquarters	1			
Armoured Divisional Headquarters	3			
Infantry Divisional Headquarters				1
Brigade Headquarters	9(i)	1	1(ii)	21(iii)

bat Arm Major Units (iv)

	Regular Army				TA
	BAOR	Berlin	UK	Elsewhere	UK
Armour					
Armoured Regiments	11		3(v)		
Armoured Reconnaissance Regiments	2		3		5(vi)
Artillery (vii)					
Field Regiments	8		6(viii)		2
Heavy Regiments	1				
Missile Regiments	1				
Depth Fire Regiments (incl locating capability)	2				
Air Defence Regiments	2		1		4
Locating Regiments			1		
Engineers					
Engineer Regiments	5		5	1(ix)	7
Armoured Engineer Regiment	1				
Amphibious Engineer Regiment	1				
Infantry					
Battalions	13	3	31	3	40(x)
Gurkha Battalions			1	4	

Annex C

	Regular Army				TA
	BAOR	Berlin	UK	Elsewhere	UK
Special Air Service					
Regiments			1		2
Army Air Corps (xi)					
Regiments	3		1(xii)		
Honourable Artillery Company					
Regiments					1

Notes:

(i) Includes an Artillery Brigade Headquarters.

(ii) 48 (Gurkha) Infantry Brigade.

(iii) Includes three Engineer Brigade Headquarters.

(iv) Normal deployment locations as at 1 April 1987 are shown: no account is taken of temporary or emergency deployments.

(v) Includes regiments at Bovington and Catterick.

(vi) Two armoured reconnaissance regiments and three light reconnaissance regiments.

(vii) Artillery unit equipments consist of:

Field Regiments - depending on role, 105 mm light guns, 105 mm Abbot self-propelled (SP) guns, 155 mm FH70 towed howitzers and 155 mm M109 SP guns.

Heavy Regiment - 8 inch howitzers;

Missile Regiment - Lance;

Depth Fire Regiments - 175 mm self-propelled guns;

Air Defence Regiments - Rapier and Blowpipe/Javelin.

(viii) Includes one Commando regiment, one parachute regiment and the Royal School of Artillery Support Regiment.

(ix) The Queen's Gurkha Engineers.

(x) Includes 5 battalions formed under the TA Phase II expansion.

(xi) Aircraft types are: Beaver, Alouette, Scout, Lynx, Gazelle.

(xii) Includes 1 TA Squadron.

x D

gth of the Royal Air Force

t-Line Units (i)

erial	Role	Aircraft or Equipment	UK	RAF Germany
1	**Strike/Attack**	Tornado GR1	27 Squadron 617 Squadron	9 Squadron 14 Squadron 15 Squadron 16 Squadron 17 Squadron 20 Squadron 31 Squadron
		Buccaneer	12 Squadron 208 Squadron	
2	**Offensive Support**	Harrier	1 Squadron	3 Squadron 4 Squadron (ii)
		Jaguar	6 Squadron 54 Squadron	
3	**Maritime Patrol**	Nimrod MR	42 Squadron 120 Squadron 201 Squadron 206 Squadron	
4	**Reconnaissance**	Canberra PR9	1 PRU (iii)	
		Jaguar	41 Squadron	2 Squadron
5	**Air Defence**	Lightning	5 Squadron (iv) 11 Squadron (iv)	
		Phantom FG1	43 Squadron 111 Squadron (iv)	
		Phantom FGR2	29 Squadron 56 Squadron (iv)	19 Squadron (iv) 92 Squadron (iv)
		Phantom F4J	74 Squadron (iv)	
		Bloodhound	25 Squadron (iv) 85 Squadron (iv)	
		Rapier	27 Squadron RAF Regiment (iv) 48 Squadron RAF Regiment (iv)	16 Squadron RAF Regiment (iv) 26 Squadron RAF Regiment (iv) 37 Squadron RAF Regiment (iv) 63 Squadron RAF Regiment (iv)
		Skyguard	2729 (City of Lincoln) Squadron R Aux AF (v)	

Annex D

Serial	Role	Aircraft or Equipment	UK	RAF Germany
6	**Airborne Early Warning**	Shackleton	8 Squadron	
7	**Air Transport**	VC10	10 Squadron	
		Hercules	24 Squadron 30 Squadron 47 Squadron 70 Squadron	
		HS125/Andover	32 Squadron	
		Pembroke		60 Squadron
		Chinook Helicopters	7 Squadron	18 Squadron
		Wessex Helicopters	72 Squadron	
		Puma Helicopters	33 Squadron	230 Squadron
8	**Tankers**	Victor K2	55 Squadron	
		VC10K2/3	101 Squadron	
		Tristar K1	216 Squadron	
9	**Search and Rescue**	Sea King Helicopters	202 Squadron	
		Wessex Helicopters	22 Squadron	
10	**Ground Defence**	Light Armour/Infantry Weapons	2 Light Armour Squadron RAF Regiment 15 Light Armour Squadron RAF Regiment 51 Light Armour Squadron RAF Regiment 58 Light Armour Squadron RAF Regiment 2503 (County of Lincoln) Field Squadron R Aux AF Regiment (iv) 2620 (County of Norfolk) Field Squadron R Aux AF Regiment (iv) 2622 (Highland Field Squadron) R Aux AF Regiment	1 Squadron RAF Regiment

ex D

nany	erial	Role	Aircraft or Equipment	UK	RAF Germany
				2623 (East Anglian) Field Squadron R Aux AF Regiment 2624 (County of Oxford) Field Squadron R Aux AF Regiment 2625 (County of Cornwall) Field Squadron R Aux AF Regiment	

es:

This table shows normal deployment locations as at 1 April 1987. All front-line aircraft, ther with certain training and communications aircraft, are assigned to NATO or could be made lable in support of NATO operations. Additionally, at 1 April 1987 normal deployment outside NATO area was as follows:

a. Falkland Islands. Phantoms, Hercules, Chinook helicopters, Sea King helicopters and Rapier. Hercules aircraft are also deployed to Ascension Island for the Falkland Islands airbridge.

b. Cyprus. One squadron of Wessex helicopters and one RAF Regiment squadron.

c. Hong Kong. One squadron of Wessex helicopters.

d. Belize. One flight of Harriers, one of Puma helicopters and a half squadron of RAF Regiment.

Also has Reconnaissance role.

PRU - Photo Reconnaissance Unit.

These are forces under NATO command.

R Aux AF - Royal Auxiliary Air Force.