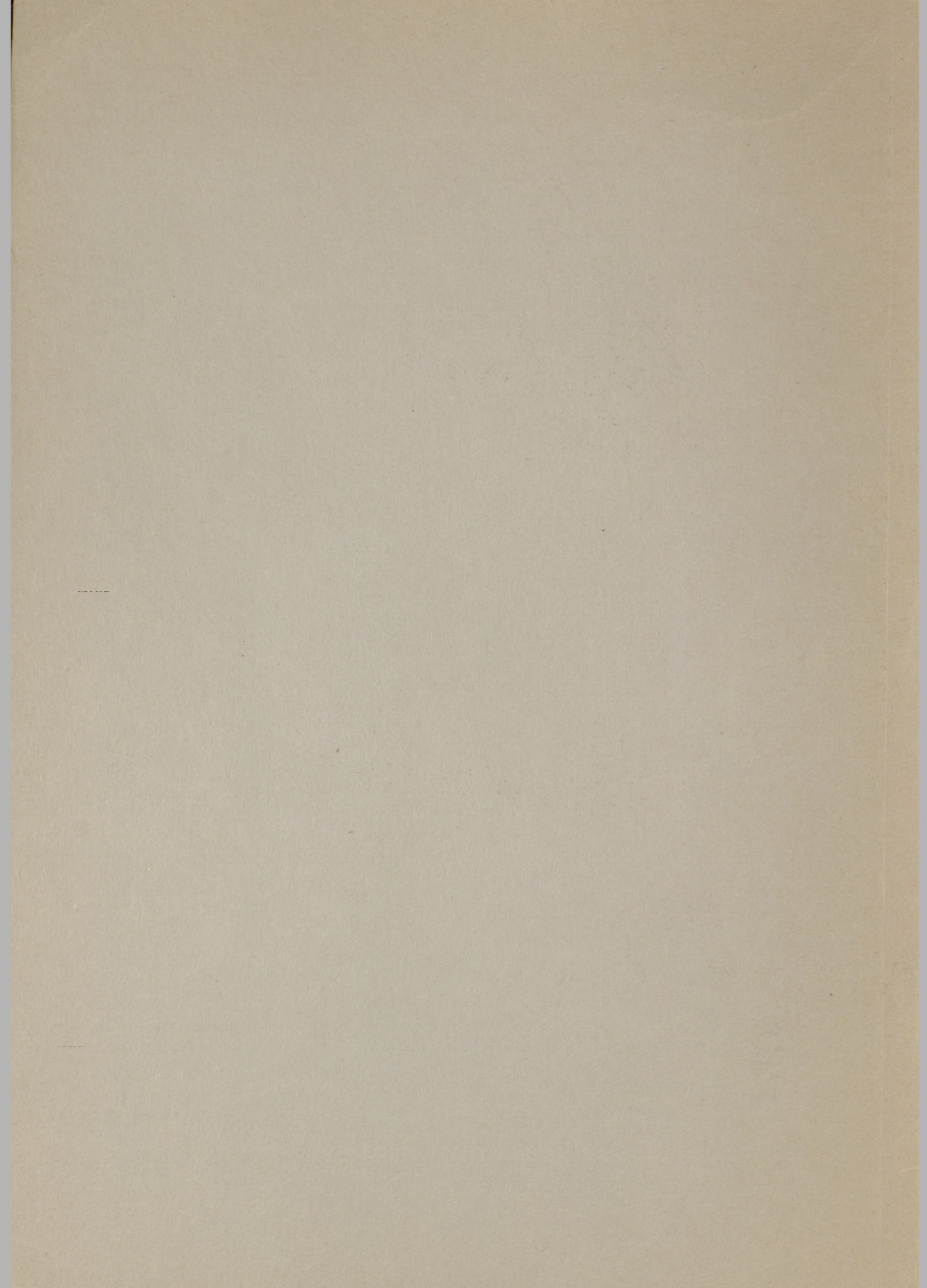


**NATO
AND THE
WARSAW
PACT**

**FORCE
COMPARISONS**



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FORCE COMPARISONS

NATO INFORMATION SERVICE • BRUSSELS • 1984



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Editorial Note

France and Spain are members of the North Atlantic Alliance but do not participate in its integrated military structure. At their request therefore no account of French and Spanish forces is taken in this comparison, although full statements of these forces are available in documents published nationally.

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FOREWORD

In 1982 NATO published for the first time an official comparison of the forces belonging to the nations in the integrated military structure of the Alliance with those of the countries of the Warsaw Pact. The objective of this publication was to provide an authoritative, factual and objective source from which the public could assess the relative strengths of the two alliances and hence the existing balance of power. In order to continue this process member nations have decided to publish a new edition providing more recent and up-to-date information.

Any comparison of military forces is inevitably a highly complex process involving a wide range of judgements, each of which is capable of a wide range of interpretations. Furthermore a NATO Force Comparison represents the consensus of fourteen nations. A definitive assessment is therefore difficult to achieve. However, every effort has been made to ensure a high degree of accuracy and consistency. In this respect, and mindful of the need to retain as much continuity as possible, several changes in the presentation of material have been made in order to improve the document. In particular the method of counting NATO and Warsaw Pact forces readily available in Europe has been changed in order to present a more realistic picture.

The maintenance of an adequate balance of forces between East and West is a fundamental requirement for Alliance security. NATO remains determined to pursue peace and stability through all possible means, including those of dialogue and communication. But this can only be done on the basis of a sound military posture. The last 35 years bear testimony to NATO's success in maintaining the peace. This document also serves to demonstrate the very substantial resources and capabilities member nations have made and continue to make available for the common defence of the Alliance. But perhaps more significantly it illustrates that while we can be reasonably satisfied with our performance in the past, the future gives less room for comfort. Disparities in a number of critical areas exist which if left unattended could further reduce the flexibility of response necessary for credible deterrence.

This document demonstrates that our basic defence posture remains sound. I believe it also underlines that continued efforts are necessary if we are to preserve security through the coming decades.

Joseph M. A. H. LUNS
Secretary General of NATO



INTRODUCTION

General

1. The North Atlantic Treaty Organisation is a defensive alliance of sovereign and independent nations. It is dedicated to safeguarding the freedom, common heritage and civilisation of their peoples, and is founded on the principles of individual liberty and the rule of law. The Alliance aims to prevent war; indeed the ultimate political purpose of the Alliance is to achieve a lasting peaceful order accompanied by appropriate security guarantees. It works to achieve this by striving to improve understanding between East and West and by possessing sufficient strength to deter an attack on any member of the Alliance. The Treaty provides that Alliance members will come to each other's assistance in the event of an armed attack upon any one of them.

2. At the meeting of the North Atlantic Council at Bonn in June 1982, the Heads of State and Government declared: "Our purpose is to prevent war, and while safeguarding democracy, to build the foundations of lasting peace. None of our weapons will ever be used except in response to attack. We respect the sovereignty, equality, independence and territorial integrity of all states. In fulfilment of our purpose, we shall maintain adequate military strength and political solidarity. On that basis, we will persevere in efforts to establish, whenever Soviet behaviour makes this possible, a more constructive East-West relationship through dialogue, negotiation and mutually advantageous co-operation."

3. While NATO must ensure that its defences are adequate to meet any threat, it has consistently striven, through the pursuit of balanced, verifiable and militarily significant arms control agreements, to ensure security at a reduced level of armaments. On the basis of a Western initiative, the Conference on Security and Co-operation in Europe (CSCE) Follow-up Meeting held in Madrid agreed to a mandate for a Conference on Confidence and Security Building Measures and Disarmament in Europe, the CDE, which opened in Stockholm in January 1984. The Allies co-ordinate their policies in this Conference and as a result a package of concrete measures was presented to the CDE which, if agreed, will lead to greater openness in the military activities which take place in the whole of Europe. In addition, the NATO governments concerned continue to pursue actively reductions and limitations on conventional forces in Central Europe in the Mutual and Balanced Force Reductions (MBFR) talks in Vienna. At the Conference on Disarmament in Geneva, the United States has presented a comprehensive proposal for a complete ban on chemical weapons.

4. The Soviet Union discontinued the two negotiations with the United States on intermediate and strategic nuclear weapons in November and December 1983. Nevertheless, in keeping with the 1979 two track decision, the Allies continue to consult actively with a view toward the eventual resumption of the talks on Intermediate-range Nuclear Forces (INF). On the basis of a concrete, balanced and verifiable agreement, the Allies are willing to halt, modify or reverse the deployments now under way, in order to obtain reductions to the lowest possible level on United States and Soviet longer range INF. The Allies also fully support the efforts of the United States in the Strategic Arms Reductions Talks (START) to achieve reductions in United States and Soviet strategic weapons. Progress

achieved thus far in the INF negotiations and START indicate that results are possible but these obviously require the return of the Soviet Union to the negotiating table in Geneva. Meanwhile, negotiations to reach militarily significant, equitable and verifiable arms control agreements remain an integral part of the security policies of the NATO Allies.

5. Negotiations for phased arms limitations and reductions need to take account of the military efforts of the other side so that the Alliance's defensive capabilities remain guaranteed at each stage of the negotiating process. Unilateral nuclear disarmament by NATO would give the Soviet Union, which could not be relied upon to follow suit, an overwhelming military advantage. These efforts need the backing of a firm defence policy and sufficient military strength to implement it. NATO must continue to make clear to any potential aggressor that it has both the political will and the military capabilities to defend its members. This is deterrence. Such a policy is the greatest safeguard against an attack on any member of the Alliance or against the use of a threat of military force as a means of coercion.

6. The size and type of forces which could be used against NATO influence the kinds of forces the Alliance needs to deter a military threat and thereby to prevent aggression in any form. NATO as a defensive alliance does not seek superiority nor does it attempt to match the Warsaw Pact man for man or system for system. However, if peace and stability are to be preserved, the relationship between the overall military capabilities both nuclear and conventional of NATO and the Warsaw Pact must not become so unbalanced that the credibility of NATO's deterrent could be called into question. In other words, the Alliance requires enough forces of the right kinds to make clear that it would be able to respond to any type of aggression in an effective way. The NATO deterrent comprises conventional forces, intermediate- and short-range nuclear forces and strategic nuclear forces. Adequate conventional forces are required in order to deprive the Warsaw Pact of the chance of military success without recourse to other capabilities. To achieve this, NATO's conventional forces must be capable of the forward defence of NATO's territories and the safeguarding of the sea lines of communication. The United States strategic nuclear forces are the ultimate guarantee of NATO's security in that they link an aggressor's decision to attack with the incalculable risk of total destruction. Well balanced intermediate- and short-range nuclear forces are essential to NATO as the link between the conventional and strategic legs of the NATO Triad. Possession of these capabilities is necessary to enable the Alliance to choose amongst a number of options and to ensure that an aggressor is left in no doubt about NATO's readiness and will to defend itself while leaving it uncertain about the form that defence would take. This is the essence of NATO's overall strategy known as "flexible response". For deterrence to be effective the Alliance must be able both to make credible its capability and willingness to defend itself and to make the risks unacceptable for any potential aggressor.

7. The Warsaw Pact leadership has repeatedly stated that the Warsaw Pact is strictly defensive in nature. Past and present policies have however contradicted their statements. Further, the Warsaw Pact's military strength is on a scale well in excess of that reasonably justifiable for defence. The Warsaw Pact maintains large-scale strategic nuclear forces, intermediate- and short-range nuclear forces, and massive conventional forces. Moreover, Warsaw Pact military strategy as shown by its literature

and military exercises calls for large scale penetration into enemy territory in order to secure strategic objectives; it continues to emphasise the element of surprise and the necessity of rapid offensive operations.

8. Warsaw Pact forces are organised and equipped and trained to take the offensive right from the beginning of a conflict. This involves combined arms operations in which all forces, conventional and nuclear, can be brought to bear in a unified manner, using all necessary assets. To this end, some fundamental reorganisation and restructuring of Soviet forces has been in progress for several years and is still incomplete. The main outcome has been leaner combat units with proportionately higher combat power in support of updated tactics and concepts. For example, the reorganisation of the Soviet tank and motorised divisions is resulting in an increased number of tanks and especially artillery pieces. With regard to the air forces, the control of the Soviet Strategic and Tactical Bomber forces has been centralised recently under the command of four air armies in those parts of the Warsaw Pact which face NATO. Soviet military capabilities would enable the use of chemical weapons on a large scale.

Comparing NATO and Warsaw Pact Forces

9. Many factors contribute to the capability to deter or defend against aggression. These include political and social stability, geography, economic strength, human resources, industrial and technological resources, as well as military capabilities. The military forces possessed by each side are clearly important but are not the only elements in this equation and in comparing each side's military forces it is important to avoid over-simplification. A complete assessment of the global balance of power would have to take into account forces other than those that are available to NATO and the Warsaw Pact. Even if consideration was to be restricted to NATO and the Warsaw Pact capabilities only, a full assessment would have to take into account not just the conventional forces deployed by each side in Europe but also certain worldwide deployments by a number of NATO countries as well as by the Soviet Union. For instance, both the United States and the Soviet Union maintain substantial forces in Asia and the Pacific.

10. In addition to quantifiable force differences there are also other elements important to an understanding of the balance. These include, for example, differences in military strategy and structure, political organisation and cohesion, the qualitative aspect of forces and the availability of timely reinforcements. Other important considerations are the amount of ammunition, fuel and other stocks possessed by each side, the quality of their equipment, the quality of their civil and military infrastructure, their organisation, their personnel, their leadership and morale, as well as each side's economic, industrial and technological ability to sustain a military conflict. This publication cannot attempt to cover all these issues. Instead, it supplies up-to-date information on the more important aspects of the military postures of NATO and the Warsaw Pact, thus providing the reader with a basis for forming his own judgements. In addition, it must be realised that both NATO and the Warsaw Pact deploy a number of weapon systems capable of being used both in a conventional and a nuclear rôle; in general such systems are considered in both the conventional and the nuclear sections. The allocation of forces shown in this publication is for comparative purposes only and does not necessarily correspond to any specific scenario or situation.

11. Geographic and economic dissimilarities between NATO and the Warsaw Pact directly affect the roles and missions of their armed forces. For example, the Warsaw Pact is one geographic entity in contrast to NATO, which is separated by oceans, seas and in some regions, particularly in the south, by the territory of nations which are not members of the Alliance. This allows the Warsaw Pact to transfer land and air forces and support between different areas via internal and generally secure lines of communications. It also contributes to enabling the Warsaw Pact to select the time and place in which to concentrate its forces. However, Soviet naval forces are divided into four widely separated fleets; this makes it difficult for them to mass naval power for joint operations or to maintain an effective naval presence for sustained periods away from home ports.

12. NATO, on the other hand, must transfer resources along lengthy and vulnerable air and sea routes to and around Europe. The most powerful partner in NATO, the United States, is separated from its European allies by an ocean 6,000 km wide. Moreover, NATO nations, to a far greater extent than those of the Warsaw Pact, depend on shipping for vital economic purposes. Thus, unlike the Warsaw Pact, NATO has a fundamental dependence on shipping during peace and war. This fact requires markedly different missions for Warsaw Pact naval forces on the one hand and NATO naval forces on the other. Additionally, NATO lacks geographical depth in Europe between the possible areas of conflict and the coasts, so rendering its rear areas, headquarters and supplies more vulnerable to enemy attack and more difficult to defend.

13. The Warsaw Pact nations have a standing force of some 6 million personnel of which some 4 million face NATO in Europe. In addition, there are over 800,000 personnel with some military training enrolled in the national security forces. Warsaw Pact active and reserve forces worldwide include 246 divisions plus 29 brigades, with 61,000 main battle tanks and air forces equipped with nearly 13,000 aircraft. Ground and air forces in Europe are forward deployed, well structured, positioned and prepared for offensive operations. The Warsaw Pact possesses an impressive inventory of naval forces, the largest component of which is the Soviet Navy. In addition to ballistic missile submarines Warsaw Pact active naval forces include nearly 290 other submarines (a number of which are equipped to launch Cruise missiles), about 40 major surface combatant ships (Kiev class ships and cruisers) and about 400 naval bombers (most of which are equipped to deliver anti-ship missiles). A large number of these forces are not in the NATO/ Warsaw Pact area and indeed some, primarily those of the Soviet Union, are deployed worldwide. Overall, the Warsaw Pact has, in recent years, significantly improved the quality of equipment in all components of its armed forces; strategic, ground, air and naval.

14. The standing forces of the NATO nations total 4.5 million personnel, of which nearly 2.6 million are stationed in Europe. There are also nearly 400,000 other militarily trained personnel, such as Home Guards and Gendarmerie. Total active and reserve forces belonging to NATO nations, but not all committed to NATO, include 82 divisions and over 180 independent brigades (normally in NATO 3 brigades equal 1 division), with about 25,000 main battle tanks and air forces equipped with approximately 11,200 combat aircraft. NATO forces are well trained and, given the full range of capabilities at their disposal, are capable of presenting a credible defence of Alliance territory. In most NATO countries, modern and effective aircraft, tanks and anti-tank weapons are being introduced into

GEOGRAPHICAL DISSIMILARITIES A NATO PROBLEM

Reinforcements 6000 km
from North America

Reinforcements 650 km
from Western Borders of USSR

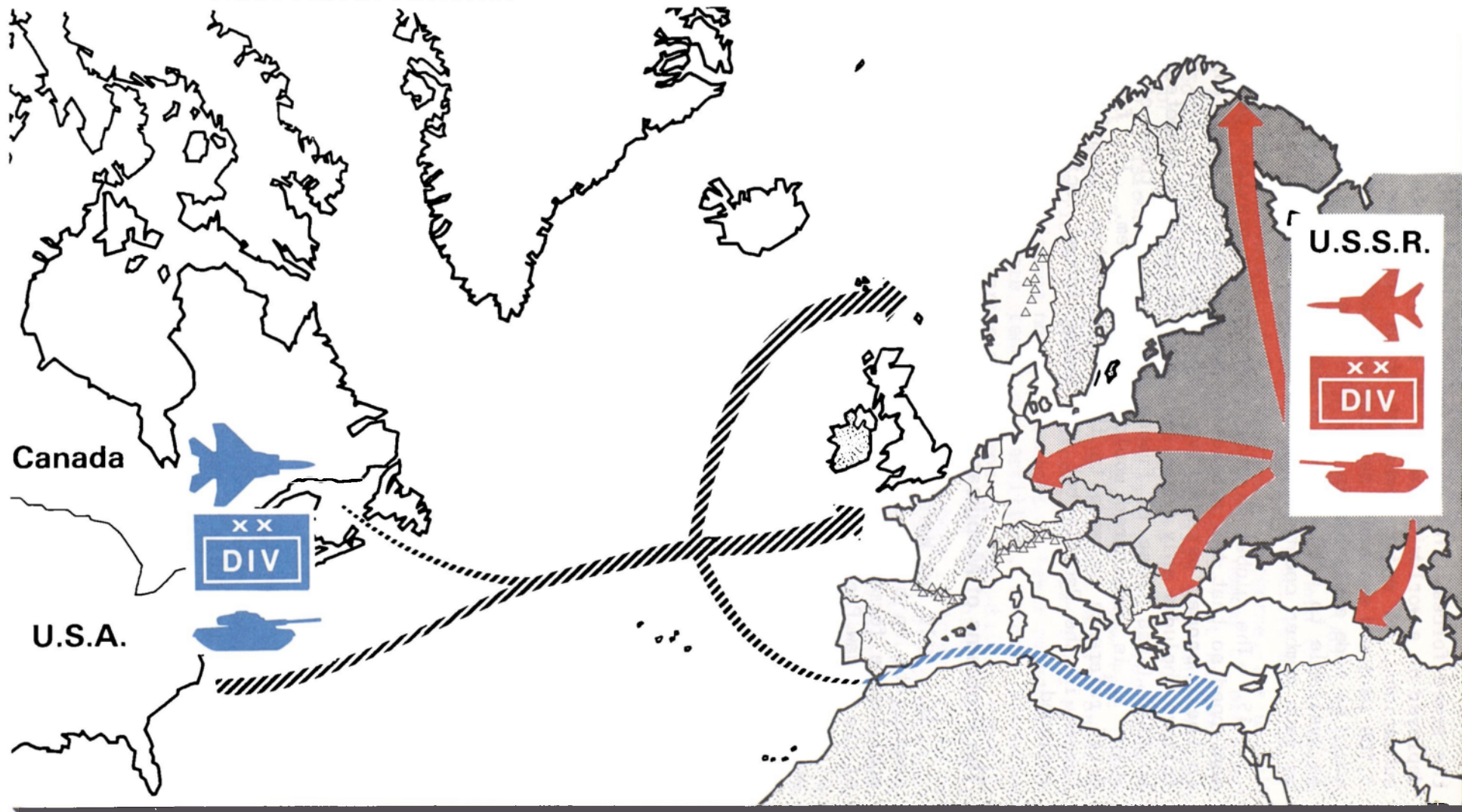


FIGURE 1

the armed forces. The naval forces of some NATO nations include elements deployed on a worldwide basis. Of an overall total of just over 200 attack submarines, 45 major combatant ships (carriers and cruisers), and some 3,700 land and sea based maritime aircraft (including helicopters), not all could be made available in the NATO area. That is to say, the forces shown as available to NATO are not a simple aggregation of the forces possessed by each member country, but are based on availability and allocation(1).

15. The global figures given in the previous paragraphs have been mentioned so that the statistics and comparisons which follow can be seen in their proper perspective. For the most part, the discussion that follows includes only those forces which could be expected to be available to NATO (less those of France and Spain) and those of the Warsaw Pact which it is considered would be facing them. The focus is on Europe. Brief reference is made to the United States, Canadian and Soviet naval forces in the Pacific but the Soviet forces facing China have not been included.

The Problems of Mobilisation and Reinforcement

16. NATO and Warsaw Pact forces rely heavily on the mobilization of reservists to bring active duty formations up to strength and to man mobilizable formations. However the closely controlled social structures of the Warsaw Pact nations and the length and intensiveness of the training of their military conscripts permit them to maintain a more significant pool of trained reserve manpower than is maintained by NATO.

17. The bulk of NATO's reinforcements of men and equipment must be moved across the Atlantic and the English Channel largely by sea. The Warsaw Pact on the other hand can move many of its central reserves rapidly by means of internal road, rail and air links. NATO could not sustain an effective defence against these reinforced Warsaw Pact forces solely with in-place forces. Therefore a successful defence would be largely dependent upon the timely arrival of substantial reinforcements, principally from the United States, but also from Canada and in Europe itself from the United Kingdom and Portugal. However, the problems would be considerable even with reasonable warning time. The rapid reinforcement of land forces is a very complex operation that demands the timely availability of numerous resources, particularly transport aircraft and shipping as well as reception and prepositioned equipment storage facilities. Reinforcement of air forces involves infrastructure and logistic problems of a different but also complex nature, particularly in the areas of survivability and combat support. While there are a considerable number of reinforcement air squadrons available to cross the Atlantic within a few hours, they would have to wait for the subsequent arrival of their ground crew and support equipment before they could become operational.

18. As will be seen from the sections that follow, standing Warsaw Pact forces are more numerous than those of NATO. This advantage for the Warsaw Pact is likely to remain and indeed could increase at least for some considerable time as both sides reinforce. NATO would have to bring most of its reinforcements, and particularly the associated equipment, across the Atlantic, while the Warsaw Pact would benefit from internal and shorter lines of communication.

(1) For more detailed explanation see Explanatory Notes.

CONVENTIONAL FORCES

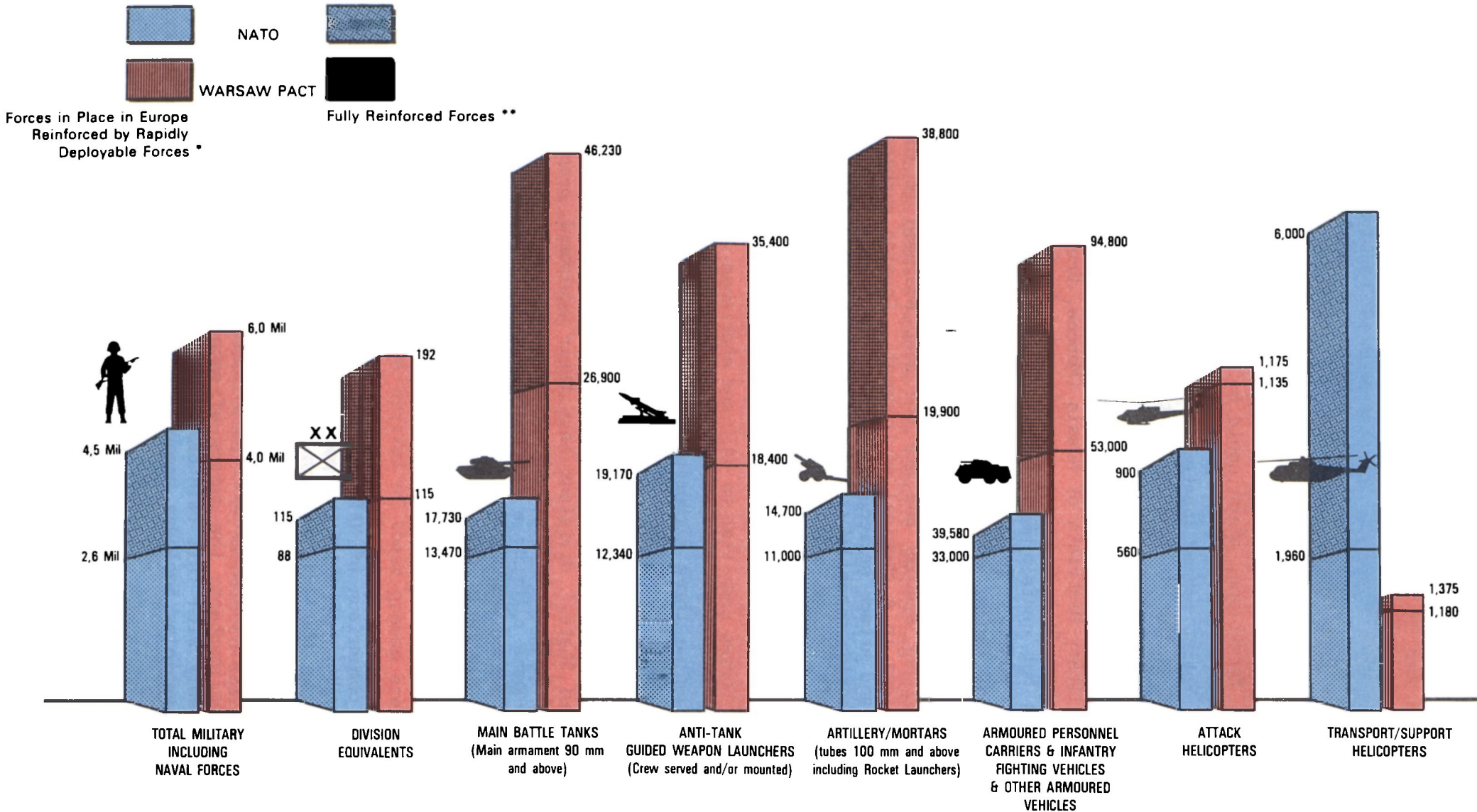
Land forces

19. Warsaw Pact forces facing Allied Command Europe (ACE), which is the NATO military command which stretches from the northern tip of Norway to the eastern borders of Turkey, consist of about 167 active and mobilisable divisions plus the equivalent of 9 divisions of airborne, air assault and air-mobile formations, which could be used in a number of different areas. Taking account of the forces of the Non-Soviet Warsaw Pact countries, the Soviet forces located in those countries but only the high readiness forces of the six Western Military Districts of the Soviet Union, there are some 115 divisions positioned well forward or considered ready to fight at very short notice. Moreover, these standing Warsaw Pact forces can be reinforced by about 16 divisions from the Strategic Reserve based in the central Military Districts of Russia (Moscow, Ural and Volga Military Districts). Warsaw Pact divisions normally consist of fewer personnel than NATO divisions but contain more tanks and artillery, thereby producing similar combat power. Their principal offensive conventional capabilities consist of tanks, modern mechanised infantry vehicles and highly mobile long-range artillery and mortars; large numbers of these are to be found in all their units. Soviet forces possess a wide variety of chemical agents and delivery systems and are the best equipped in the world to sustain operations in a chemical environment. Growing numbers of transport, support and attack helicopters provide the Warsaw Pact with a quick assault and reaction capability, and with a supplement to their fixed-wing tactical aircraft in the battlefield area. A significant number of new electronic warfare helicopters have appeared in Soviet units during the past two years.

20. Land forces committed to NATO and stationed in or rapidly deployable to Europe, consist of the equivalent of some 88 active and mobilisable divisions (including three airborne/air mobile divisions), many of which are also ready to fight at very short notice. There are in addition the equivalent of 12 active United States divisions plus one Armoured Cavalry Regiment, two United States Marine divisions and a Canadian brigade in North America which could be made available in Europe in due course. Four of these United States' divisions have their equipment prepositioned in Europe. Almost half of NATO's tank and mechanised divisions are equipped with modern weapons although a very unfavourable ratio continues between NATO anti-tank guided weapons and Warsaw Pact tanks and armoured personnel vehicles. NATO similarly has a lower proportion of armed attack helicopters. Only the United States has a retaliatory chemical capability, and a number of NATO nations lack even adequate protection against chemical weapons.

21. The comparison of NATO and the Warsaw Pact division equivalent strength and numbers of major equipments has been made in a different way from that used in the 1982 edition of this publication. Figure 2 illustrates the imbalance of land forces in favour of the Warsaw Pact under two conditions - forces in place in Europe reinforced by rapidly deployable forces; and forces under conditions of full reinforcement. With the exception of helicopters, the ratios of major formations and equipments worsen appreciably with full reinforcement. The total number of Warsaw Pact armoured vehicles includes armoured personnel carriers and infantry

NATO - WARSAW PACT FORCE COMPARISON



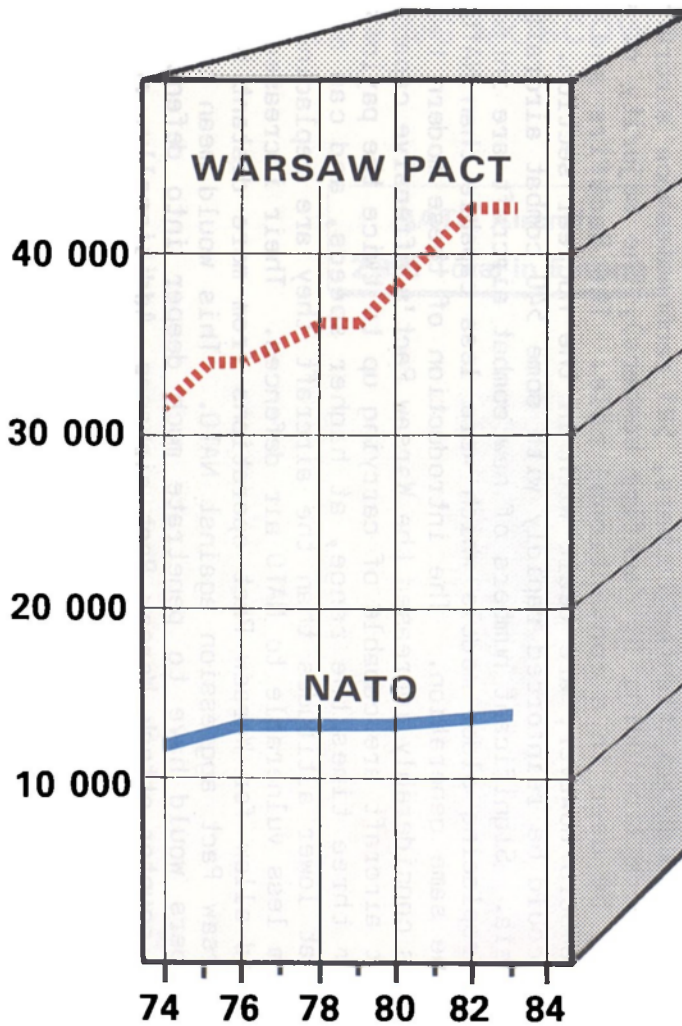
NOTES: WARSAW PACT DIVISIONS NORMALLY CONSIST OF FEWER PERSONNEL THAN MANY NATO DIVISIONS BUT CONTAIN MORE TANKS AND ARTILLERY, THEREBY OBTAINING SIMILAR COMBAT POWER.

* RAPIDLY DEPLOYABLE FORCES - INCLUDE THOSE U.S. FORCES WHOSE EQUIPMENT IS STORED IN EUROPE AND HIGH-READINESS SOVIET FORCES LOCATED IN THE BALTIC, BELORUSSIAN, CARPATHIAN, ODESSA, KIEV AND NORTH CAUCASUS MILITARY DISTRICTS.

** FULLY REINFORCED FORCES - INCLUDE NORTH AMERICAN REINFORCEMENTS AND ALL WARSAW PACT FORCES LOCATED WEST OF THE URAL MOUNTAINS.

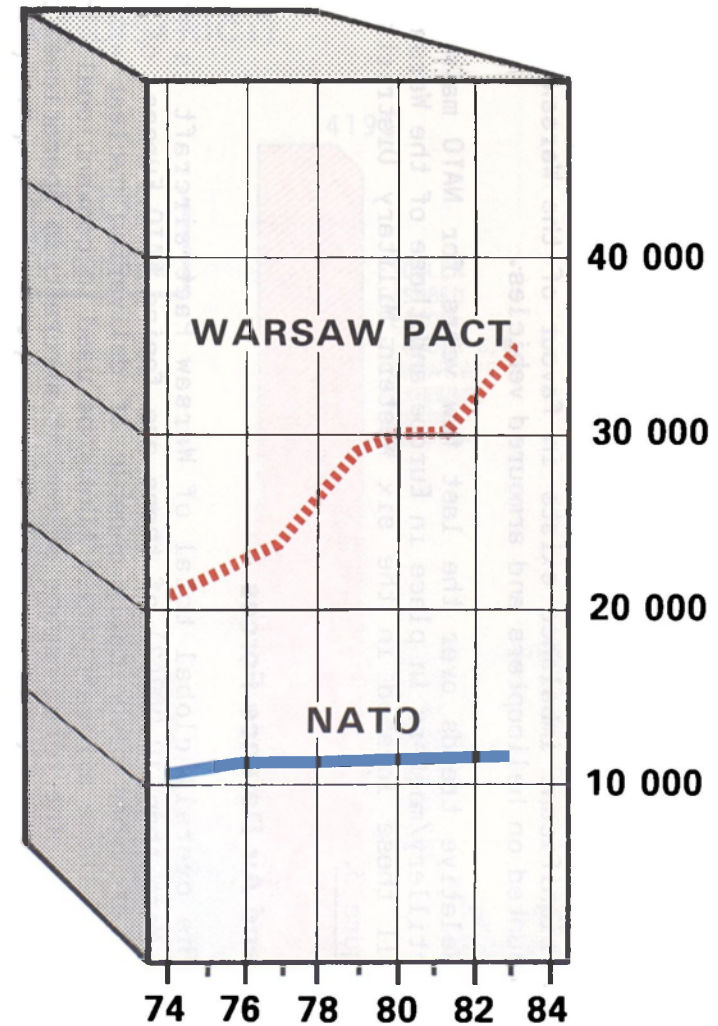
FIGURE 2

RELATIVE TRENDS IN MAIN BATTLE TANKS AND ARTILLERY (IN PLACE IN EUROPE)



MAIN BATTLE TANKS

(MAIN ARMAMENT 90mm AND ABOVE)



ARTILLERY/MORTARS

(TUBES 100mm AND ABOVE INCLUDING ROCKET LAUNCHERS)

FIGURE 3

fighting vehicles, and additional armoured vehicles whose primary rôle is command and control, forward air control and reconnaissance but which also have a secondary rôle of direct combat. NATO forces have been counted in a similar manner. The anti-tank guided weapons mounted on Warsaw Pact vehicles for self-defence have been included in the total figures as have been helicopter-mounted anti-tank guided weapons to ensure an accurate comparison with NATO forces. The number of NATO and Warsaw Pact crew-served anti-tank guided weapon launchers in place in Europe is about the same but a significant imbalance exists in favour of the Warsaw Pact for launchers mounted on helicopters and armoured vehicles.

22. Relative trends over the last few years for NATO main battle tanks and artillery/mortars in place in Europe and those of the Warsaw Pact including all those located in the six Western Military Districts, are shown in Figure 3.

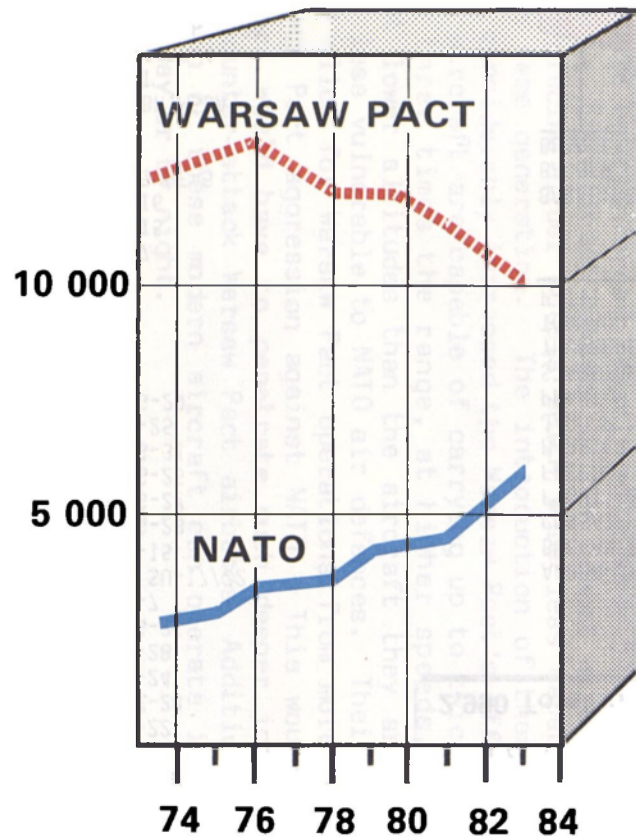
Air Forces and Air Defence Forces

23. The overall global total of Warsaw Pact aircraft is nearly 13,000(2). More than 10,000(2) of these are facing NATO Europe, of which 7,500(2) are of types technically capable of delivering nuclear weapons. The majority of these aircraft would likely be used in conventional attacks over NATO Europe. The total number of combat aircraft in operational units facing NATO Europe is 7,430 (see Figure 4). Warsaw Pact air defence forces as far east as the Urals (but excluding those in the Moscow Military and Air Defence Districts) consist of some 4,195 interceptor/air-combat aircraft. Many of these aircraft can be used in offensive rôles such as assuring air superiority over the battlefield and they are backed up by extensive modern surface-to-air missile systems. Additionally there are some 2,250 ground-attack fighter bombers, 585 reconnaissance aircraft and about 400 bombers (including 65 Backfire bombers), the majority of which would likely be used in a conventional rôle. The Backfire and other strategic bombers however, are dealt with in the nuclear section. These air forces could be reinforced rapidly with some 540 combat aircraft from central Russia. Significant numbers of new combat aircraft are introduced each year, replacing older models which were less capable than NATO aircraft of the same generation. The introduction of these modern tactical aircraft has considerably increased the Warsaw Pact's offensive capability. These latest aircraft are capable of carrying up to twice the payload, can travel over three times the range, at higher speeds, and can conduct operations at lower altitudes than the aircraft they are replacing; this renders them less vulnerable to NATO air defences. Their increased combat radius would allow for Warsaw Pact operations from more distant bases in case of Warsaw Pact aggression against NATO. This would mean that NATO fighter-bombers would have to penetrate much deeper into defended enemy airspace to counter-attack Warsaw Pact airbases. Additionally, an increasing proportion of these modern aircraft can operate in adverse weather conditions by day or by night.

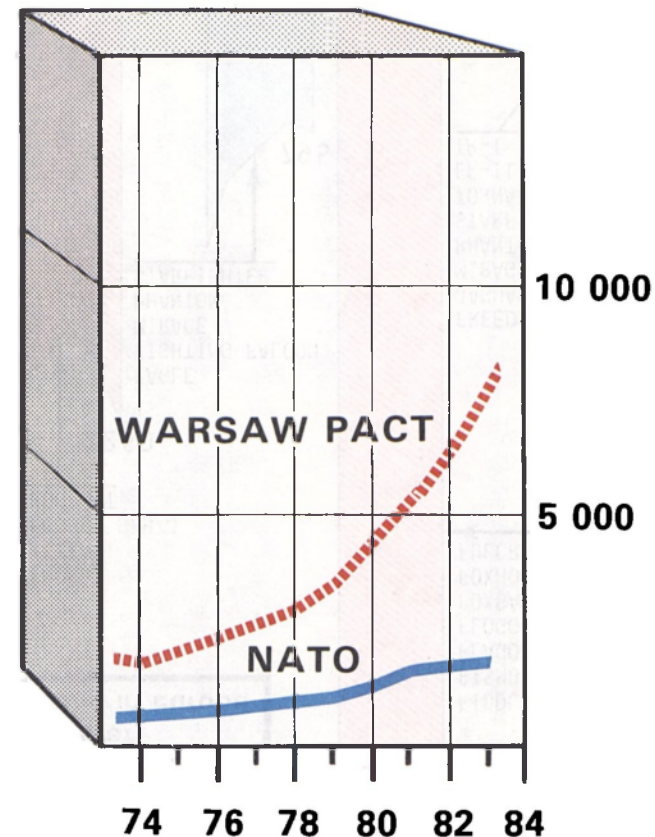
(2) These totals include all aircraft of combat types including those in non-combat units as well as combat units (a criterion essential for arms control); all other numbers are based on aircraft in combat units.

RELATIVE TRENDS IN ANTI-AIRCRAFT ARTILLERY AND MOBILE SURFACE TO AIR MISSILES

(IN PLACE IN EUROPE)



ANTI-AIRCRAFT ARTILLERY
20mm CALIBRE AND OVER



**MOBILE SURFACE TO AIR
MISSILE LAUNCHERS**
EXCLUDING MAN-PORTABLE
INFANTRY WEAPONS

FIGURE 5

24. The Warsaw Pact airlift capability is substantial. Soviet military transport aviation alone, consisting of over 610 long and medium-range aircraft, provides sufficient airlift to transport one complete airborne division and its equipment at any one time up to distances of 2,000 km. This capability can be supplemented in particular by Aeroflot civilian aircraft.

NATO-WARSAW PACT COMBAT AIRCRAFT IN PLACE IN EUROPE				
	Fighter-Bomber Ground-Attack	Interceptor	Reconnaissance	Bombers
NATO	1,960	795	235	-
WARSAW PACT	2,250	4,195	585	400(3)
N.B. Some interceptors can be used in ground attack rôles.				

25. The overall global total of aircraft belonging to NATO countries is slightly more than 11,000. The land-based air forces, available in-place for NATO's Allied Command Europe, consist of 1,960 ground-attack fighter bombers, 795 interceptors and 235 reconnaissance aircraft. In addition to fighting the air battle air forces would have to assist NATO ground forces in repulsing a Warsaw Pact attack. The United States and Canada could reinforce rapidly with some 1,750 more combat aircraft, though airlift would be required for ground crew and equipment. The quality of NATO aircraft has improved with the introduction into service of the F-15, F-16 and the Tornado. These aircraft have a greater range, payload and all-weather capability than the previous generation of NATO aircraft. However, since NATO and Warsaw Pact aircraft now have comparable range and payload characteristics the quantitative advantage of the Warsaw Pact is more significant than formerly.

26. NATO's military airlift assets consist of nearly 750 transport aircraft, which can be augmented by the civil air fleets of the Allied countries. These are considerably larger than the civil air fleets available to the Warsaw Pact. However the latter are centrally controlled.

27. NATO nations have made considerable progress in improving the ability of their air forces to operate and survive in a hostile environment, particularly by providing better protection for vital operational and logistical facilities. To a considerable degree, NATO air forces maintain a high state of readiness and are qualitatively superior to those of the Warsaw Pact in terms of training and weapons systems. The tactical flexibility of NATO air forces and the ability to augment in-place forces rapidly in time of tension or war are also positive factors.

28. Warsaw Pact forces have an extensive range of static and mobile air defences, including a variety of surface-to-air missiles and guns.

(3) This figure does not include Bison and Bear strategic bombers or support aircraft such as tankers or those used for command and control or electronic warfare.

Figure 5 shows the relative trends over the past few years for NATO anti-aircraft artillery and mobile surface-to-air missile launchers in place in Europe and those of the Warsaw Pact including all those located in the six Western Military Districts. As Figure 5 shows, the Warsaw Pact has nearly 4,000 more anti-aircraft guns than NATO has and more than three times as many mobile surface-to-air missile systems (SAM) as NATO. This, together with large numbers of interceptors, produces a very hostile air environment over and behind advancing enemy ground formations; this requires a combination of low-level tactics and electronic countermeasures for NATO aircraft. All this would make it very difficult to conduct operations successfully over and behind the battle area.

Maritime Forces

29. As noted earlier there are fundamental differences in the missions of the naval forces of the Warsaw Pact and NATO that result from geographic and economic dissimilarities. The security of NATO nations depends on the unimpeded use of the sea both to link the potential of North America and Europe and to provide access for trade, raw materials and energy. The role of the NATO navies as for all NATO forces is in the first instance to deter aggression. They must be able to demonstrate a capability in peace and take action in war to preserve, protect and maintain the sea lines of communication, neutralise hostile forces, and to project maritime power in support of land and air forces. In other words, the role of NATO maritime forces is sea control, which means using the seas for NATO's purposes. Conversely, as continental powers, the Warsaw Pact nations have far less dependence on the sea. The role of their navies includes the denial to NATO of its use of maritime power, the disruption of NATO's sea lines of communication and possibly the conduct and support of amphibious operations in North Norway, on the Baltic exits and in Northern Turkey.

30. Historical precedents demonstrate that the defence of the use of the sea demands far greater resources than the denial of its use, and thus the maritime balance between NATO and the Warsaw Pact must be seen in this perspective. Accordingly, in the Atlantic, NATO's emphasis would be on protection of reinforcement and supply shipping primarily from submarine attacks; whereas in the critically important Channel area in addition to submarines the greatest risks to reinforcement and supply routes would be from mines, aircraft and missile systems.

31. Allied control of the Norwegian Sea in the event of conflict would have to be sufficient to inhibit access by Soviet naval forces into the Atlantic. It would also be necessary in conjunction with land and air forces, to protect NATO's Northern Region as a whole, including Norway, especially its air and naval facilities, Iceland, Denmark and the Faroes and to control the Baltic Straits to prevent the Soviet Fleet from transiting to and from the North Sea and Channel areas.

32. The Iberian Atlantic area is of importance to NATO's defence because of the vital sea lines of communication to the NATO Southern Region and to sources of vital raw materials and oil.

33. In NATO's Southern Region itself, maritime forces have a major part to play in the defence of the region as a whole. Their rôle is to

support the land and air forces and maintain the sea lines of communication in the Mediterranean in the face of the Soviet Mediterranean Squadron. They also have the task of securing the Turkish and Gibraltar Straits, in order to deny the Soviet Black Sea fleet access to the Mediterranean and to guarantee the flow of reinforcements and resupplies to NATO Southern Region.

34. These and other differences in the naval missions of NATO and the Warsaw Pact are reflected in the different types and quantities of their naval forces. Simple numerical comparisons of types of ships do not tell the full story. The naval balance may be more usefully compared in terms of the abilities of the naval forces of NATO and the Warsaw Pact to accomplish their respective missions in the face of opposition by the other side.

Warsaw Pact Naval Forces

35. The Warsaw Pact navies include an increasingly modernised submarine force which poses a serious threat to NATO's sea lines of communication. There is also a wide range of modern surface vessels fitted with anti-submarine weapons systems, anti-air missiles and some which carry fixed-wing aircraft and/or helicopters. The capabilities of these naval forces, complemented by a force of land-based naval attack aircraft, include stand-off weapons and cruise missiles. Approximate numbers of Warsaw Pact naval forces expected to face NATO (i.e. excluding the Pacific Fleet) are shown on page 16 for 1971, 1981 and 1983, to provide a trend in quantitative terms.

36. Together with the numerical increases in larger ships, nuclear-powered submarines and attack aircraft, major qualitative improvements are being made in Soviet naval forces, particularly in submarines and large warships but also in naval aircraft. The Soviet Navy has thus been transformed during the last decade from a mainly coastal defence force to an offensive force capable of global power projection. This improved capability is demonstrated by the number of new classes of Soviet major warships and nuclear submarines in their construction programme. The Soviet Navy continues to develop its modern anti-ship missile forces by constructing four new classes of heavily armed missile cruisers and destroyers including the 25,000 ton nuclear-powered cruiser Kirov. In the Kiev class ships, the Soviet Union, for the first time, has sea-based fixed-wing Forger aircraft in operation. In the last three years the Soviet Navy has introduced higher-performance submarines. The Oscar class was deployed in 1980, the first Typhoon class, the largest submarine ever built, was commissioned in 1981; and the new 40 knot Alpha class boats, with titanium hulls which enable them to dive deeper and thus make them harder to detect, are in service.

Soviet Pacific Fleet

37. In addition to the Warsaw Pact maritime assets that face NATO, there are significant Soviet naval and naval air forces located elsewhere

that could be deployed against NATO forces. The numbers of major units and aircraft are:

Kiev class ships	1	Cruise missile submarines	22
Cruisers	13	Long-range attack submarines	43
Destroyers and frigates	74	Naval aviation aircraft	
Ballistic missile submarines	31	including helicopters	440

Warsaw Pact Auxiliary Fleets

38. The Warsaw Pact merchant, fishing and oceanographic fleets, unlike those belonging to NATO nations, are state-owned and under centralised command and control: this enables them to operate on a regular basis in support of naval forces. Particularly important are their intelligence gathering and logistic support operations. In wartime these assets would become even more valuable. Additional roles would then include support of amphibious operations and possibly minelaying.

NATO AND WARSAW PACT MARITIME FORCES IN THE NORTH ATLANTIC AND SEAS BORDERING EUROPE

CATEGORY	NATO			WARSAW PACT		
	1971	1981	1983	1971	1981	1983
AIRCRAFT CARRIERS : VSTOL CARRIERS	9	7	10	-	-	-
KIEV CLASS SHIPS	-	-	-	-	2	2
HELICOPTER CARRIERS	6	2	-	2	2	2
CRUISERS	11	15	14	20	21	23
DESTROYERS AND FRIGATES	381	274	277	142	182	187
COASTAL ESCORTS AND FAST PATROL BOATS	180	167	192	553	551	515
AMPHIBIOUS SHIPS - OCEAN-GOING	24	41	44	7	16	19
- INDEPENDENT COASTAL CRAFT	62	69	69	190	155	174
MINE WARFARE SHIPS	349	257	273	374	360	378
TOTAL SUBMARINES (ALL TYPES)	195	190	197	248	258	246
- BALLISTIC MISSILE SUBMARINES	38 (1)	35 (1)	35 (1)	38 (1)	52 (1)	49 (1)
- LONG RANGE ATTACK SUBMARINES	72	60	67	115	149	142
- OTHER TYPES	85	95	95	95	57	55
- % SUBMARINES NUCLEAR POWERED	50 %	49 %	50 %	32 %	45 %	64 %
SEA-BASED TACTICAL ASW AND SUPPORT AIRCRAFT INCLUDING HELICOPTERS	801	712	685	36	146	181
LAND-BASED TACTICAL AND SUPPORT AIRCRAFT INCLUDING HELICOPTERS	112	180	366 (2)	521 (3)	719 (3)	700 (3)
LAND-BASED ANTI-SUBMARINE WARFARE FIXED-WING AIRCRAFT AND HELICOPTERS	471	450	454	225	179	228

(1) Also referred to in the section on nuclear forces

(2) For 1983, includes U.S. Marine Corps aircraft and helicopters

(3) About 300 of these are bombers

NATO Naval Forces

39. There have been major qualitative improvements in individual naval units and supporting systems of the NATO navies which are reflected both in new construction and modernisation programmes. Included amongst such improvements are the capabilities of shipborne aircraft, anti-surface ship missiles, anti-submarine warfare detection systems, command and control, electronic warfare, and submarine noise suppression. The strategic missile submarine forces have been enhanced with the introduction of the OHIO class submarines and the Trident missile system. Despite these improvements, the high cost of ship construction has set a trend towards less than one-for-one replacement.

40. The numbers in the tables comparing NATO and Warsaw Pact maritime forces indicate the strengths and capabilities called for by the different missions of the forces concerned. For example, NATO is strong in sea-based tactical air, land-based ASW/surveillance patrol aircraft, anti-submarine systems, long-range amphibious forces and endurance at sea through under-way logistic support and nuclear propulsion. On the other hand, the Warsaw Pact is particularly strong in anti-ship missile equipped ships, submarines, and land-based attack aircraft, as well as in torpedo-attack submarines and mine warfare forces. Warsaw Pact naval forces have the geographic handicap of long access routes from Murmansk around the North Cape and the choke points created by the Baltic and the Turkish Straits. However, since NATO is a defensive Alliance, the Warsaw Pact holds the initiative of time and place in deploying its forces and in interdicting NATO sea lines of communication upon which NATO depends. In these circumstances, a substantial numerical advantage is needed by NATO as the defending side.

41. However, NATO does not have the numerical advantage necessary for a satisfactory or safe balance of maritime forces. This is made worse by the responsibilities which have fallen to some nations of the Alliance, particularly the United States, to deploy forces outside the NATO area to deter aggression and to respond to requests by nations for help in resisting threats to their security and independence. If this imbalance were to continue the effect would be that essential maritime tasks could not be carried out concurrently and that the priorities would be imposed by the Warsaw Pact; moreover, a severe price might be paid in loss of control in certain regions and this would result in early shipping losses before the Soviet naval threat could be countered.

United States and Canadian Maritime Assets

42. In addition to maritime forces located in the North Atlantic and the seas bordering Europe and 34 United States ballistic missile submarines deployed worldwide, the United States and Canada maintain additional maritime assets elsewhere that could be deployed in support of NATO. Some of these forces are already earmarked for NATO.

Aircraft carriers	6	Land-based tactical and support	
Cruisers	15	aircraft including helicopters	31
Destroyers and frigates	73	United States Marine Corps aircraft	1,203
Long-range attack submarines	42		
Sea-based tactical, anti-submarine warfare (ASW) and support aircraft including helicopters	687	Land-based ASW fixed wing aircraft and helicopters	284

REGIONAL CONSIDERATIONS

Northern and Central Regions

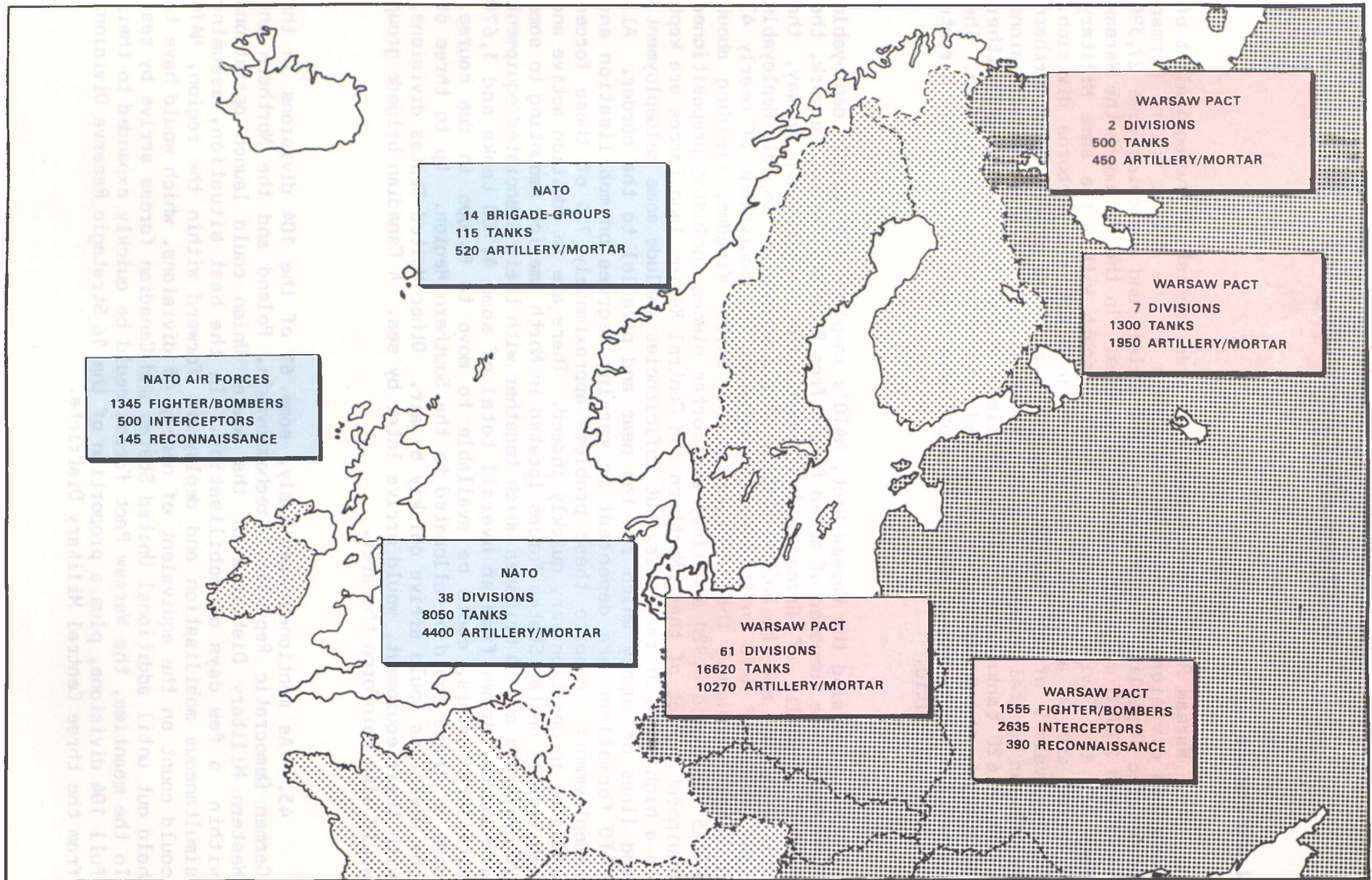
Land Forces

43. Warsaw Pact forces facing this area consist of the equivalent of some 104 divisions drawn from the armies of the Soviet Union, German Democratic Republic, Czechoslovakia and Poland and deploying some 27,380 tanks and 20,800 artillery and mortar pieces. In the far north the Warsaw Pact has two Soviet divisions. Further south within the same Military District are an additional 7 divisions including one airborne division. The equivalent of 95 divisions face the southern part of the Northern Region and Central Europe. Of these, the equivalent of almost 61 divisions with 16,620 tanks and 10,270 artillery and mortar pieces are either deployed in the forward areas or are held at high states of readiness. The Warsaw Pact also has considerable amphibious capabilities in the Barents Sea and the Baltic.

44. Opposing the Warsaw Pact, NATO's in-place and rapidly deployable land forces are composed of armed forces from Belgium, Canada, Denmark, the Federal Republic of Germany, Luxembourg, the Netherlands, Norway, the United Kingdom and the United States. The in-place and rapidly deployable land forces of NATO in this area consist of the equivalent of nearly 43 divisions including those forces in the United Kingdom, fielding about 8,165 tanks and 4,920 artillery and mortar pieces including prepositioned equipment. Most of these Northern and Central Region land forces are kept in a high state of readiness, but deficiencies include some maldeployment, and lines of supply which run too near and parallel to the border. All NATO formations are dependent in varying degrees on mobilisation and redeployment: despite these problems approximately 75% of these forces could be in position very quickly indeed. There are in addition active and mobilisable United States forces located in North America amounting to some 20 divisions and 24 brigades which together with their associated equipment and tanks, drawn from an overall total of some 4,100 tanks and 3,670 artillery/mortars, could be available to move to Europe in due course. Some of these could be allocated to the Southern Region. Up to three of the divisions would arrive quickly by air. Other United States divisions, with their equipment, would arrive later by sea. A Canadian brigade group would also reinforce the area.

45. As mentioned previously, some 61 of the 104 divisions in the German Democratic Republic, Czechoslovakia, Poland and the Northern and Western Military Districts of the Soviet Union could launch operations within a few days of mobilisation. In the best situation, assuming simultaneous mobilisation and deployment forward within the region, NATO could count on the equivalent of nearly 43 divisions, which would have to hold out until additional United States and Canadian forces arrive by sea. In the meantime, the Warsaw Pact forces could be quickly expanded to their full 104 divisions, plus a proportion of the 16 Strategic Reserve Divisions from the three Central Military Districts.

DEFENCE OF NORTHERN AND CENTRAL REGIONS



Depicts Forces in place in Europe reinforced by rapidly deployable forces.

FIGURE 6

Air Forces

46. The Warsaw Pact is numerically superior in terms of fixed-wing tactical aircraft in this area. The NATO figures shown below include United Kingdom based aircraft and United States aircraft based in Europe in peacetime. The high proportion of ground-attack fighter bomber aircraft in NATO air forces is partly required to counter the Warsaw Pact preponderance in armour on the Central Front. Against this force, however, the Warsaw Pact can deploy interceptor forces, many of which can also be used for ground attack, and exceptionally strong surface-to-air defence systems. Aircraft of the Moscow Military and Air Defence District are excluded from the following table because of their distance from the Northern and Southern Regions. Also nearly 1,800 United States and Canadian-based reinforcement aircraft, which are situated even further from these regions, are excluded.

<u>NORTHERN AND CENTRAL REGIONS - IN PLACE AIR FORCES</u>			
	Fighter/Bomber Ground/Attack	Interceptors	Reconnaissance
NATO	1,345	500	145
WARSAW PACT	1,555	2,635	390

N.B. Some interceptors can be used in ground attack rôles.

Southern Region

Land Forces

47. The Warsaw Pact has 10 Soviet and Hungarian divisions, equipped with over 2,340 tanks and 1,560 artillery pieces which could be employed against North-East Italy. These divisions, located in Hungary, could be reinforced by 7 more divisions including 2,000 tanks and 1,300 artillery pieces coming from the Kiev Military District. These 7 divisions, however, are not maintained at high states of readiness. Warsaw Pact forces additionally include the equivalent of 3 divisions of airborne, air mobile and air assault troops which could be used anywhere within the region. Furthermore, options against the Central Mediterranean could be possible. NATO land forces consist of the equivalent of 8 Italian divisions (i.e. 4 divisions and 12 independent brigades) with 1,250 tanks and 1,400 artillery and mortar pieces. The Italian forces are generally well deployed and improvements are planned to meet the support requirements for their reinforcement. Portugal also participates in the collective defence of this region by providing a reinforcement brigade for deployment in Northern Italy.

48. The equivalent of 34 Soviet, Romanian and Bulgarian divisions are available in the area north of Greece and Turkish Thrace. These forces are largely mechanised and are equipped with a total of 6,570 tanks and over 6,400 artillery and mortar pieces. They are on terrain suitable for armoured offensive operations and could be reinforced by amphibious forces

DEFENCE OF SOUTHERN REGION

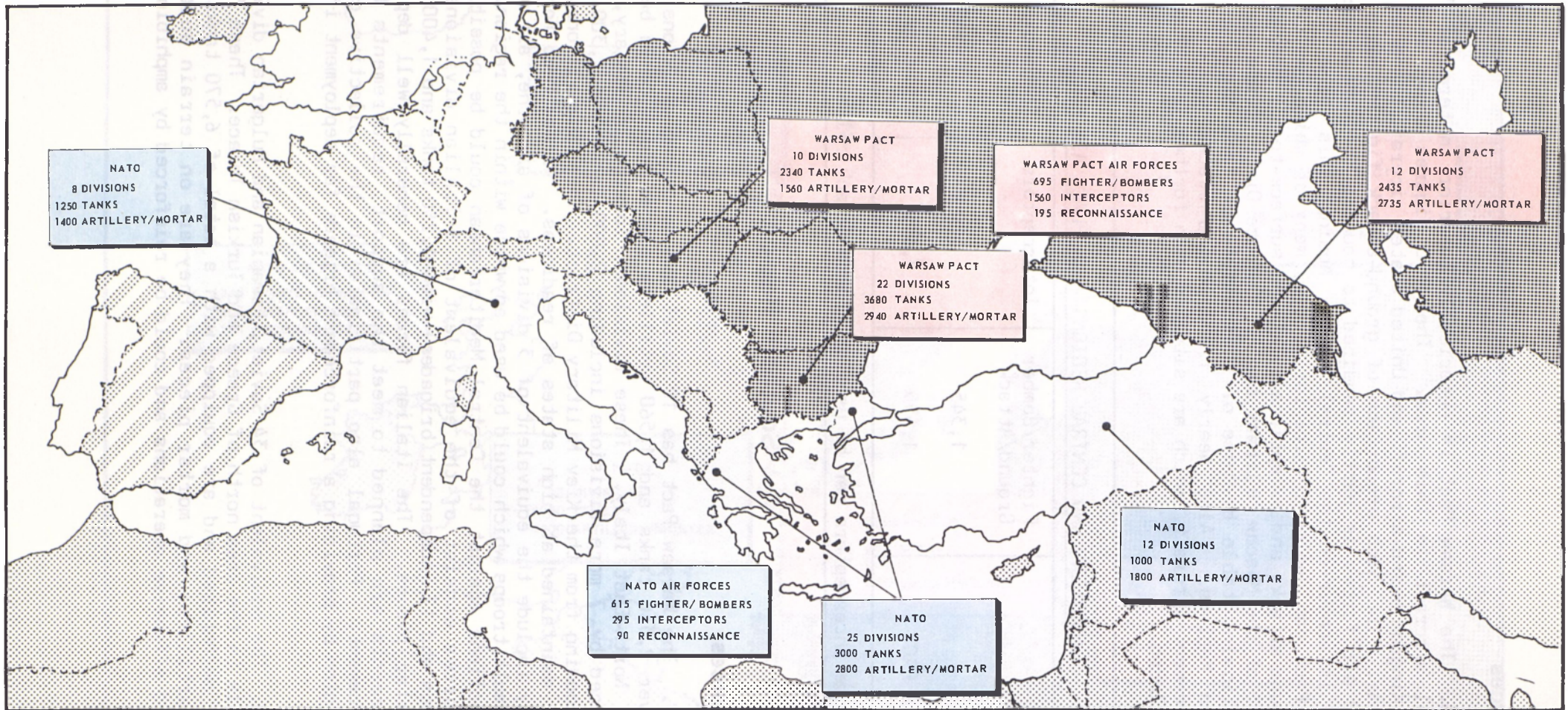


FIGURE 7

and by the Warsaw Pact airborne/air mobile divisions referred to above. Of these 34 divisions, the equivalent of just over 22 divisions with 3,680 tanks and 2,940 artillery and mortar pieces are either deployed forward or are maintained at high states of readiness. NATO's 25 Greek and Turkish divisions in the area are mainly infantry. Their task is rendered difficult for defensive operations by the narrowness of the area between the borders and the Aegean.

49. There are 20 Soviet divisions which could be committed against Eastern Turkey equipped with about 4,300 tanks and over 4,800 artillery pieces. Of this number, just over 12 divisions with 2,435 tanks and 2,735 artillery and mortar pieces are deployed forward. These forces could be reinforced by the airborne or air assault/mobile divisions referred to above and by amphibious forces. The Turkish Army retains 8 divisions in North-East Turkey. Four more divisions in South-East Turkey are for use there to protect its extensive borders, but would be available for defence against the Warsaw Pact.

50. Greece and Turkey together have 4,000 tanks and 4,600 artillery pieces, in comparison with 11,000 tanks and 11,300 artillery pieces opposing them. The geographical separation of the Italian, Greece/Turkish Thrace and Eastern Turkish territories would make reinforcement and re-supply among the respective theatres difficult, particularly when lines of communication are under attack.

Air Forces

51. As with other regions, the flexibility of air forces renders comparison difficult. In-place forces available to the Warsaw Pact and NATO are approximately as follows:

SOUTHERN REGION - IN PLACE AIR FORCES			
	Fighter/Bomber Ground/Attack	Interceptors	Reconnaissance
NATO	615	295	90
WARSAW PACT	695	1,560	195

N.B. Some interceptors can be used in ground attack rôles.

The range of some of the modern Warsaw Pact aircraft is such that they have the potential to operate anywhere in the Mediterranean, endangering the security of sea lines of communication which are of vital importance to the NATO nations in the Southern Flank. The geography of the Mediterranean emphasises the interaction between the maritime land and air situations. The NATO naval forces and Soviet Mediterranean Squadron would have to face opposing land-based and naval aviation; naval operations would in turn greatly influence land/air operations in the three sub-regions. External air reinforcements from the Alliance could be of crucial importance.

NUCLEAR DETERRENCE AND THE NUCLEAR EQUATION

Nuclear Forces in NATO's Strategy

52. As part of NATO's strategy, nuclear forces exist in combination with conventional forces to maintain peace through deterring aggression. To deter successfully, NATO's nuclear forces must be viewed by the Warsaw Pact as being credible by providing a wide range of options for their use in response to aggression. They must be, and be seen to be, capable of being employed effectively and adequately, to convince a potential aggressor that in any attack against NATO the costs would outweigh any conceivable gains.

53. At the same time, it is NATO's policy to maintain these forces at the lowest level capable of deterring the Warsaw Pact threat, taking account of developments in conventional as well as nuclear forces. In pursuance of this policy, NATO decided in October 1983 at Montebello, Canada, to reduce the number of warheads in Europe by 1,400 over the following five to six years, in addition to the withdrawal of 1,000 warheads completed in 1980 independently of any arms control agreement. Moreover, this overall reduction of 2,400 warheads in NATO's stockpile in Europe will not be affected by the deployment of Longer-Range INF (LRINF) missiles since one further warhead will be removed for each PERSHING II or Ground-Launched Cruise Missile (GLCM) warhead deployed, as envisaged in the December 1979 dual-track decision. This sustained programme of reductions will reduce NATO's nuclear stockpile in Europe to the lowest level in over 20 years.

54. This reduction will not be allowed to degrade deterrence; hence, for this minimum level stockpile to make the most effective contribution to deterrence, both the delivery systems and the warheads must be survivable, responsive, and effective. A range of possible improvements to these ends has been identified. The strengthening of conventional forces also remains important. Moreover, the Alliance must take account at all times of changes to Soviet capabilities.

55. The primary rôle of nuclear weapons is to support deterrence. They are not generally direct military counters to each other. Thus, it is not necessary for the Alliance to match the Warsaw Pact system-for-system or warhead-for-warhead. Individual nuclear weapon systems cannot be considered in isolation from other nuclear systems or from conventional forces. However, to avoid miscalculation by a potential adversary and to ensure the preservation of stability and peace, there must be a balanced relationship in the overall capabilities of the nuclear forces of NATO and the Warsaw Pact in order that the credibility of NATO's deterrent is not called into question.

Note on Comparison of Nuclear Forces

56. The following sections (Strategic Nuclear Forces, Intermediate- and Short-Range Nuclear Forces, and Sea-Based Nuclear Forces) present an assessment of systems that are broadly comparable and, where possible, identify clearly discernible trends. In categories other than strategic

nuclear forces, comparisons are affected to a greater extent by qualitative and quantitative differences between forces which result in individual systems often not being directly comparable. The following sections list the numbers of aircraft, missile launchers and artillery tubes in each category; several of these systems are capable of firing additional missiles and warheads, and aircraft are capable of performing more than one mission.

Strategic Nuclear Forces

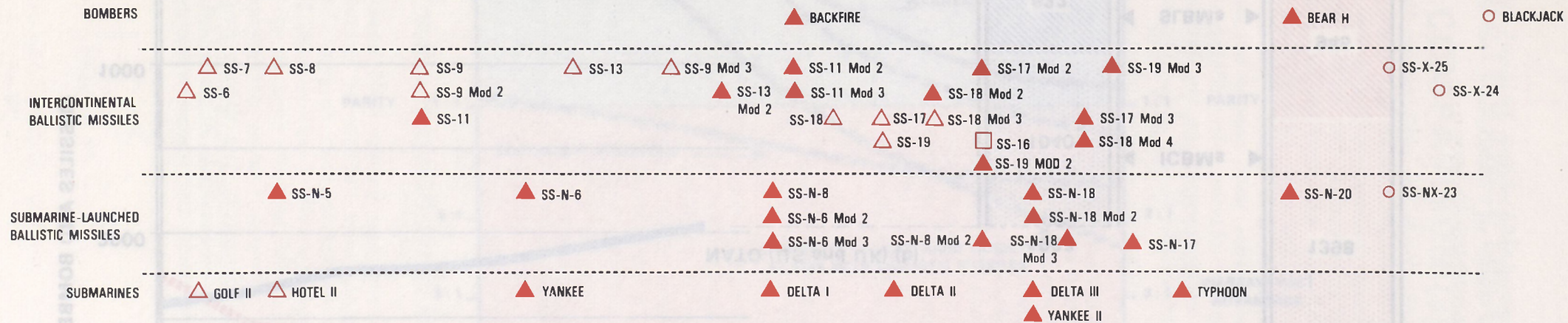
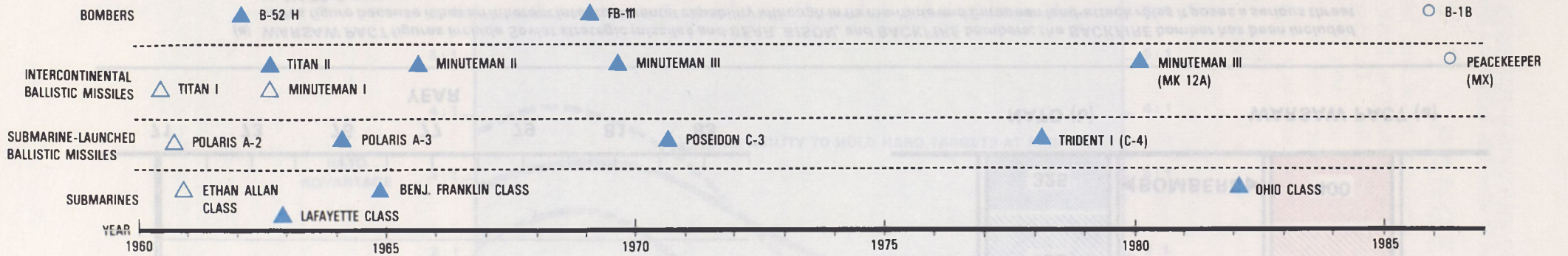
57. Strategic nuclear forces consist of Intercontinental Ballistic Missiles (ICBMs), Submarine-Launched Ballistic Missiles (SLBMs) and bombers. Each of them is different with respect to readiness, survivability, flexibility, accuracy and ability to penetrate enemy defences. They complement each other - thus the strategic forces need to be viewed in their entirety.

58. NATO's ultimate deterrent is provided by the strategic forces of the United States. The United Kingdom also provides national strategic forces which contribute to this deterrent. On the Warsaw Pact side, the Soviet Union maintains all types of strategic nuclear forces. Over the past decade the Warsaw Pact has improved the quality of these forces to a significantly greater extent than NATO and has also substantially increased their number. Figure 8, which compares the main developments in strategic nuclear systems on both sides, depicts a growing momentum in Soviet modernisation. The comparison shows that this momentum has increased in the last decade in contrast to the modernisation programme pursued by NATO. For example, excluding major variants of existing systems, the Soviet Union has deployed at least three new types of ICBMs, four new SLBMs, and a new bomber, while in the same period the United States deployed only one new SLBM and the Air-Launched Cruise Missile (ALCM). To ensure that stability is preserved in the future, programmes are now underway in the United States and the United Kingdom to maintain the continued adequacy of this essential part of NATO's overall deterrent.

59. Over the last decade the Soviet Union has surpassed NATO in several critical measures traditionally used to evaluate the strategic balance. For instance, by 1973, the Warsaw Pact achieved, for the first time, a superiority in the number of strategic nuclear delivery vehicles (see Figure 9). Similarly, the relative advantage has shifted to the Warsaw Pact in the important categories of equivalent megatons, the capability to hold hardened targets at risk and especially the capability to hold these targets at risk with ballistic missiles with their short flight time (as shown in Figure 10). NATO retains a slight advantage in the number of strategic warheads but this has been rapidly reduced by the continuing Soviet deployment of multiple warheads, known as Multiple Independently-Targetable Re-entry Vehicles (MIRVs). The qualitative and quantitative enhancements of the Soviet strategic forces result in capabilities which threaten to undermine the strategic balance. For example, increases in the number and accuracy of Soviet ICBM warheads, especially those on the SS-18 and SS-19, provide the Warsaw Pact with the potential of holding at risk the bulk of the current United States ICBMs using only a part of its overall ICBM force. Almost three quarters of Soviet strategic warheads are deployed in their ICBM forces; by comparison, less than one quarter of United States warheads are so deployed.

STRATEGIC NUCLEAR FORCE - MODERNISATION COMPARISON INTRODUCTION OF SELECTED SYSTEMS BY YEAR

UNITED STATES and UNITED KINGDOM



KEY:

- ▲ ▲ OPERATIONAL SYSTEMS
- ○ SYSTEMS IN FLIGHT TEST
- △ △ SYSTEMS NOW OUT OF SERVICE
- SS-16 OPERATIONALLY CAPABLE. AVAILABLE INFORMATION DOES NOT ALLOW CONCLUSIVE JUDGEMENT ON WHETHER THE SOVIET UNION HAS DEPLOYED THE SS-16 BUT DOES INDICATE PROBABLE DEPLOYMENT.

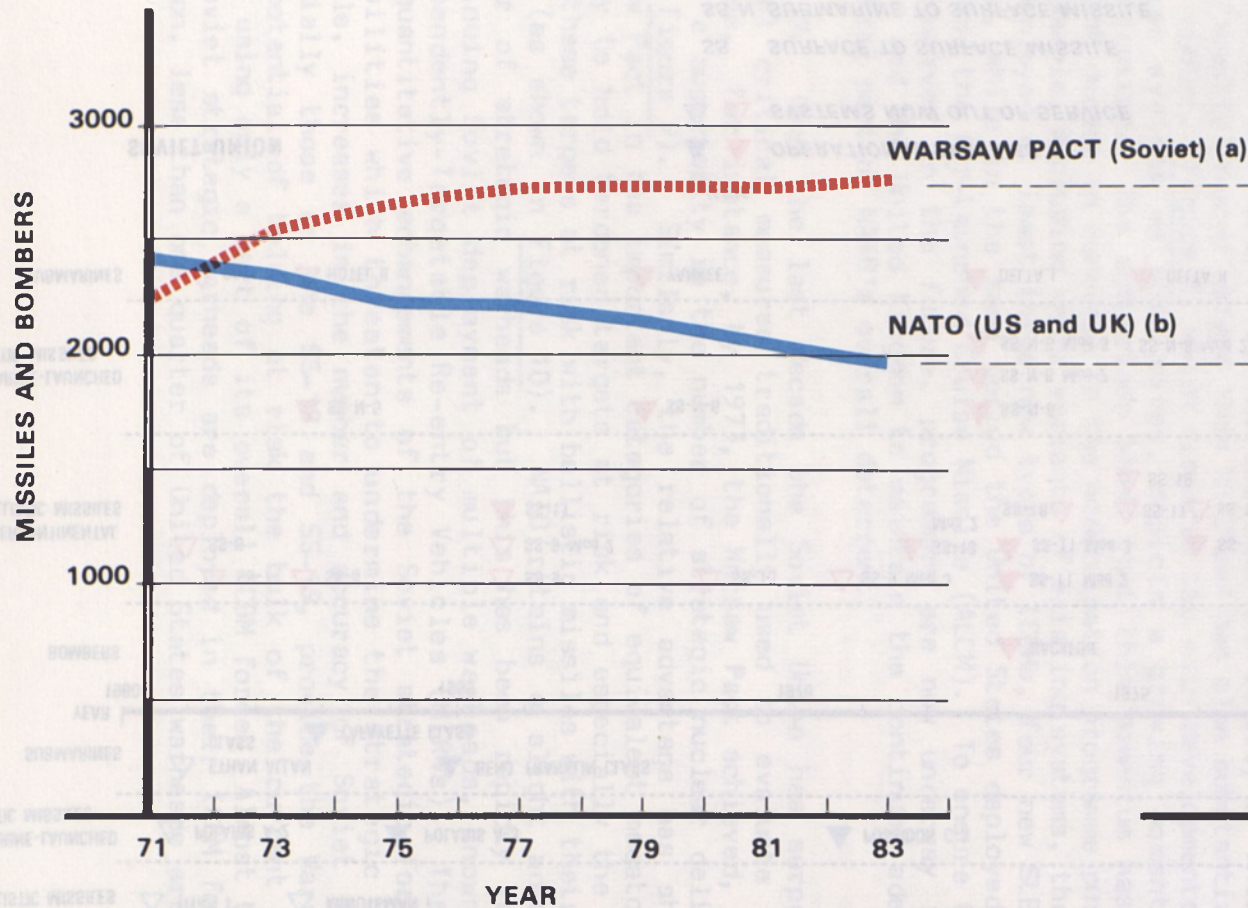
SS SURFACE TO SURFACE MISSILE
SS-N SUBMARINE TO SURFACE MISSILE

FIGURE 8

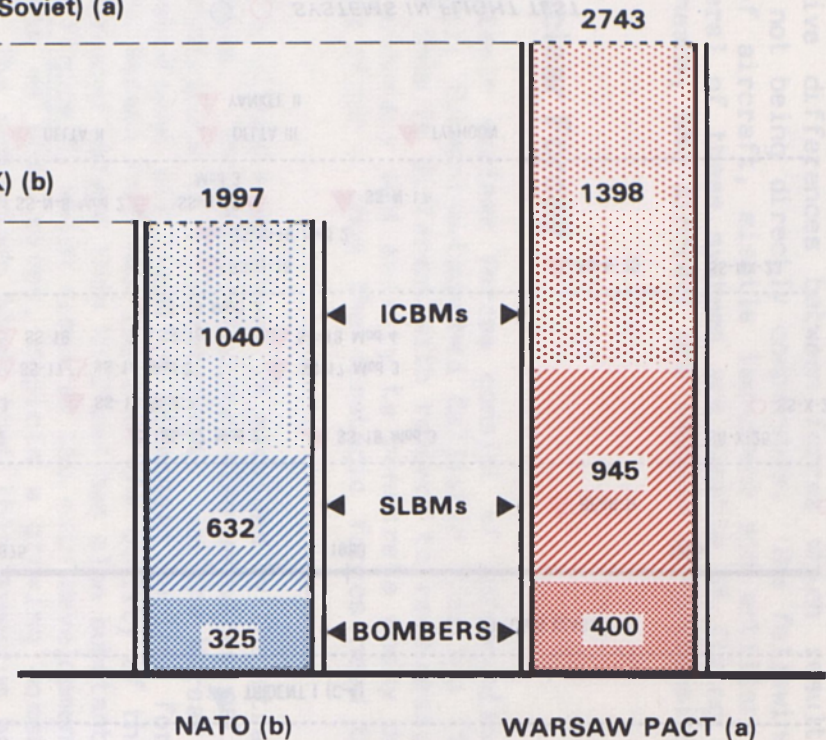
TOTAL STRATEGIC MISSILES AND BOMBERS

FIGURE 9

A. NUMBER OF STRATEGIC DELIVERY VEHICLES



B. TOTAL STRATEGIC DELIVERY VEHICLES BY COMPOSITION



(a) WARSAW PACT figures include Soviet strategic missiles and BEAR, BISON, and BACKFIRE bombers; the BACKFIRE bomber has been included in this figure because it has an inherent intercontinental capability although in its maritime and European land-attack rôles it poses a serious threat to NATO Europe.

(b) NATO figures include United States strategic missiles, 64 British strategic POLARIS SLBMs and operational United States B-52s and FB-111s. The United States-based FB-111 is included because it has a strategic mission.

STRATEGIC NUCLEAR FORCE - MODERNISATION COMPARISON

FIGURE 9

STRATEGIC FORCES

TRENDS IN RELATIVE ADVANTAGES

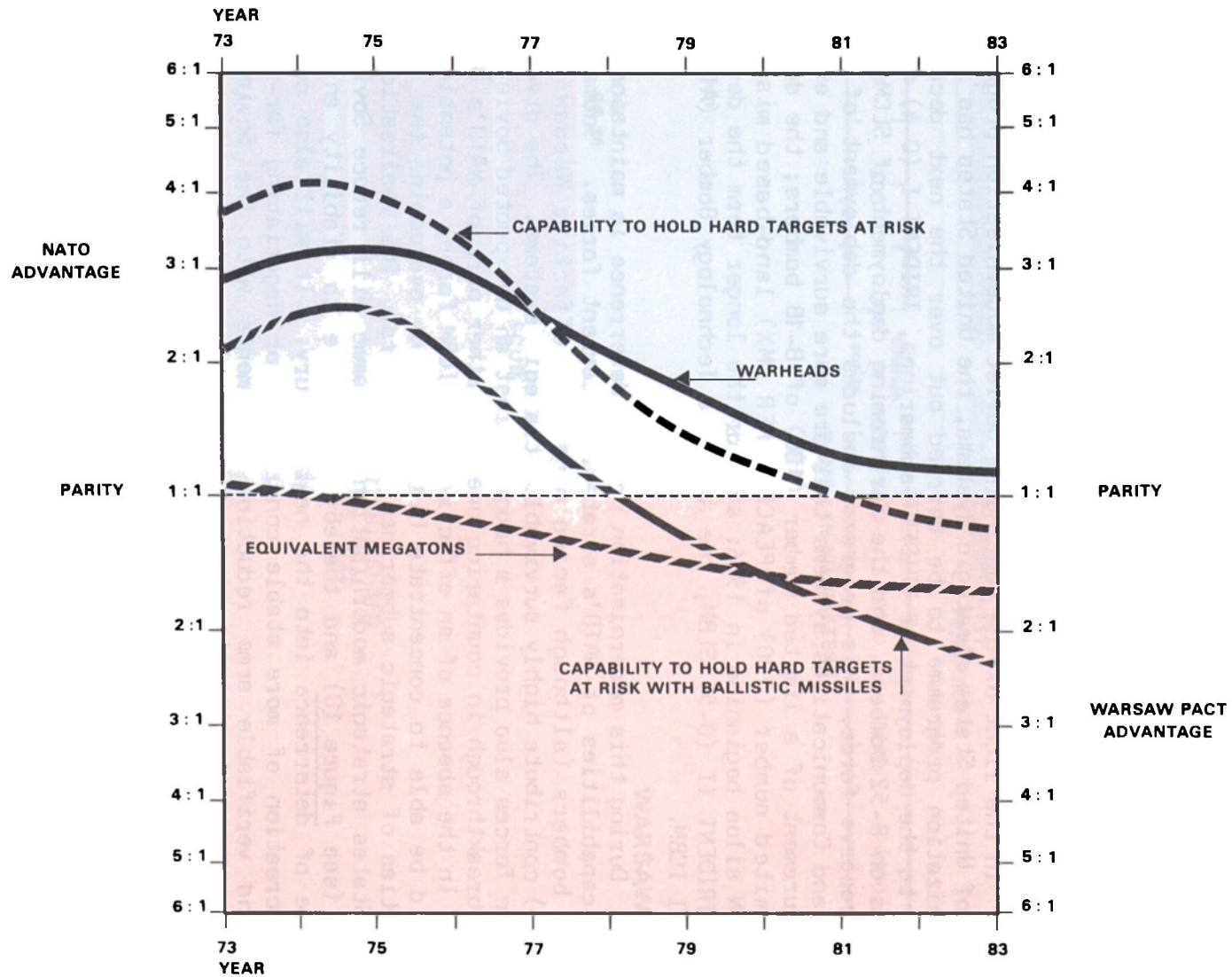


FIGURE 10

The United States maintains about half of its strategic warheads in its SLBM forces. This mode of deployment is more stable due to the great survivability of submarines at sea.

60. The Soviet Union is continuing to produce existing strategic systems such as the BACKFIRE bomber and the TYPHOON submarine (the world's largest) which is being deployed with the new SS-N-20 SLBM. It also has in an advanced stage of development two ICBMs (the SS-X-24 and the SS-X-25), a new SLBM (the SS-NX-23) and another strategic bomber, the BLACKJACK. Long-range cruise missiles for launch from sea and air are also under development; their deployment could take place within the next year or two. These cruise missiles, with ranges estimated at up to 3,000 kms, will be primarily for nuclear strike. In addition, the Warsaw Pact air defences - already the most comprehensive in the world - are being modernised with improved sensors, interceptors and ground-to-air missiles.

61. In the light of the continuing Soviet modernisation programme and the age of United States strategic systems, the United States has initiated a modernization programme to be carried out over the next decade. In addition to the deployment of TRIDENT submarines, TRIDENT I (C-4) missiles, and ALCMs on B-52 bombers, and the forthcoming deployment of SLCMs as part of the reserve force, this programme includes the deployment of Command, Control and Communications systems that are more survivable and effective; the procurement of a limited number (100) of B-1B bombers; the deployment of a limited number (100) of PEACEKEEPER (MX) land-based missiles in MINUTEMAN silos beginning in 1986; and for the longer term the development of the TRIDENT II (D-5) SLBM, the Advanced Technology Bomber (ATB) and a new small ICBM.

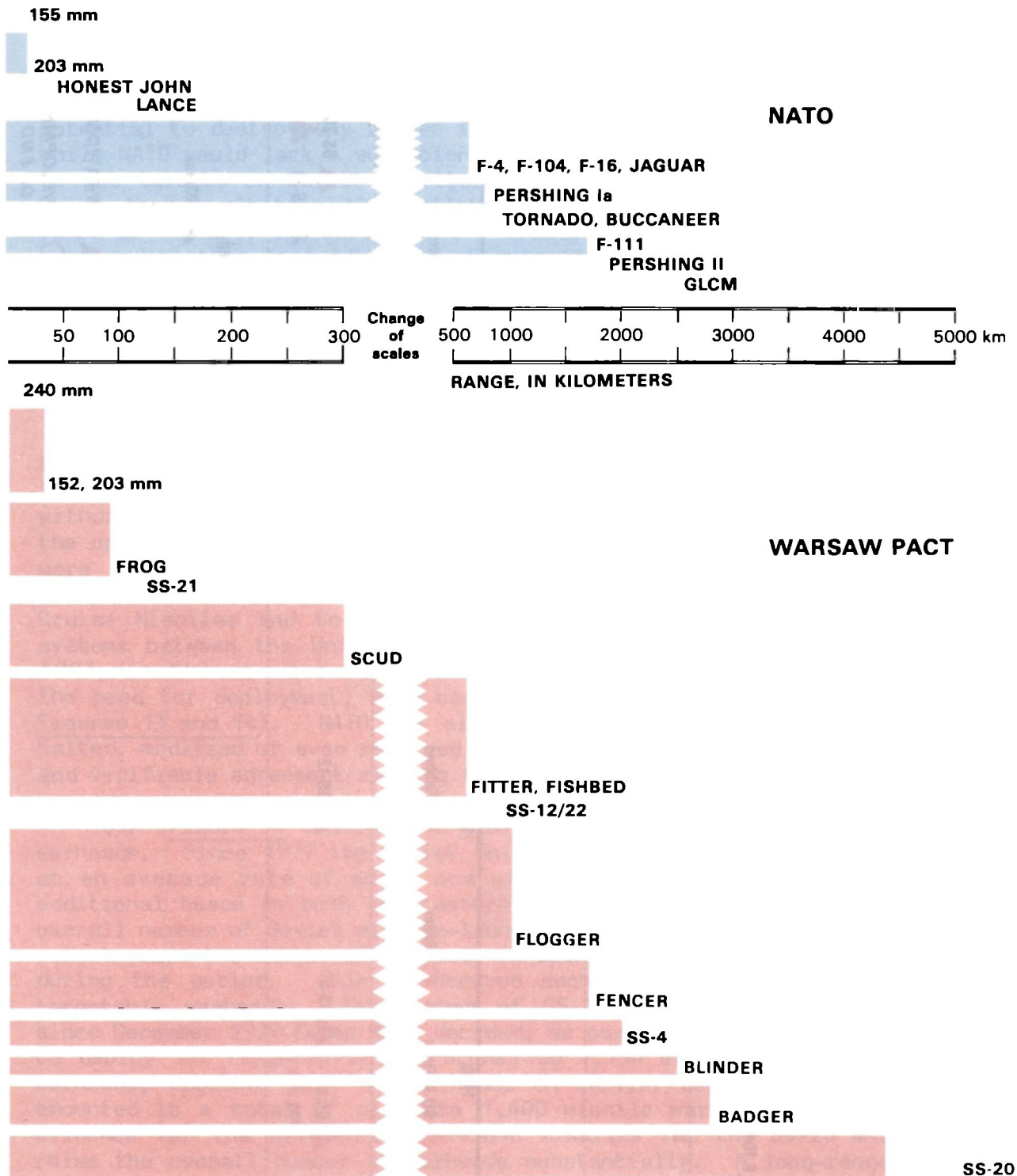
62. During this modernisation process deterrence is maintained by the overall capabilities of NATO's strategic deterrent forces. Submarines at sea and bombers (although facing dense and effective Warsaw Pact air defences) contribute highly survivable strategic systems. The diversity of strategic forces also provides a hedge against an unexpected Soviet technological breakthrough in countering one or another part of NATO's deterrent forces. In the absence of an effective NATO ICBM force, a potential aggressor would be able to concentrate his efforts on overcoming the deterrent capabilities of strategic submarines and bombers. The realisation of the United States strategic modernisation programme will reduce Soviet asymmetries (see Figure 10) and thereby contribute to stability and to the assurance of deterrence into the next century. It will also contribute to the creation of more stable conditions for negotiating far-reaching, sound and verifiable arms reduction agreements with the Soviet Union.

Intermediate- and Short-Range Nuclear Forces

63. Both NATO and the Warsaw Pact have a variety of systems of less than inter-continental range capable of delivering nuclear weapons. These include Intermediate-Range Nuclear Forces (INF), further sub-divided into longer- and shorter-range INF missiles and INF aircraft, and Short-Range Nuclear Forces (SNF). INF and SNF consist of land-based missiles, aircraft and tube artillery. There are major differences between the forces of NATO and the Warsaw Pact. Overall, the Warsaw Pact has a substantial numerical advantage. This is particularly significant in the case of land-based INF and SNF missiles where the Warsaw Pact maintains about 2,000 delivery

SHORT AND INTERMEDIATE RANGE DELIVERY SYSTEMS

RANGE COMPARISON (a)



(a) Bar length gives the range of the systems. Bar thickness gives a general indication of the relative number of delivery systems. For further information, including counting rules, see paragraphs 63 to 71. For NATO the data reflect forces deployed in NATO Europe; for the WARSAW PACT forces facing NATO Europe, except for SS-4 and SS-20 where global figures are given.

FIGURE 11

SHORT AND INTERMEDIATE RANGE DELIVERY SYSTEMS MODERNISATION COMPARISON

INTRODUCTION OF SYSTEMS BY YEAR

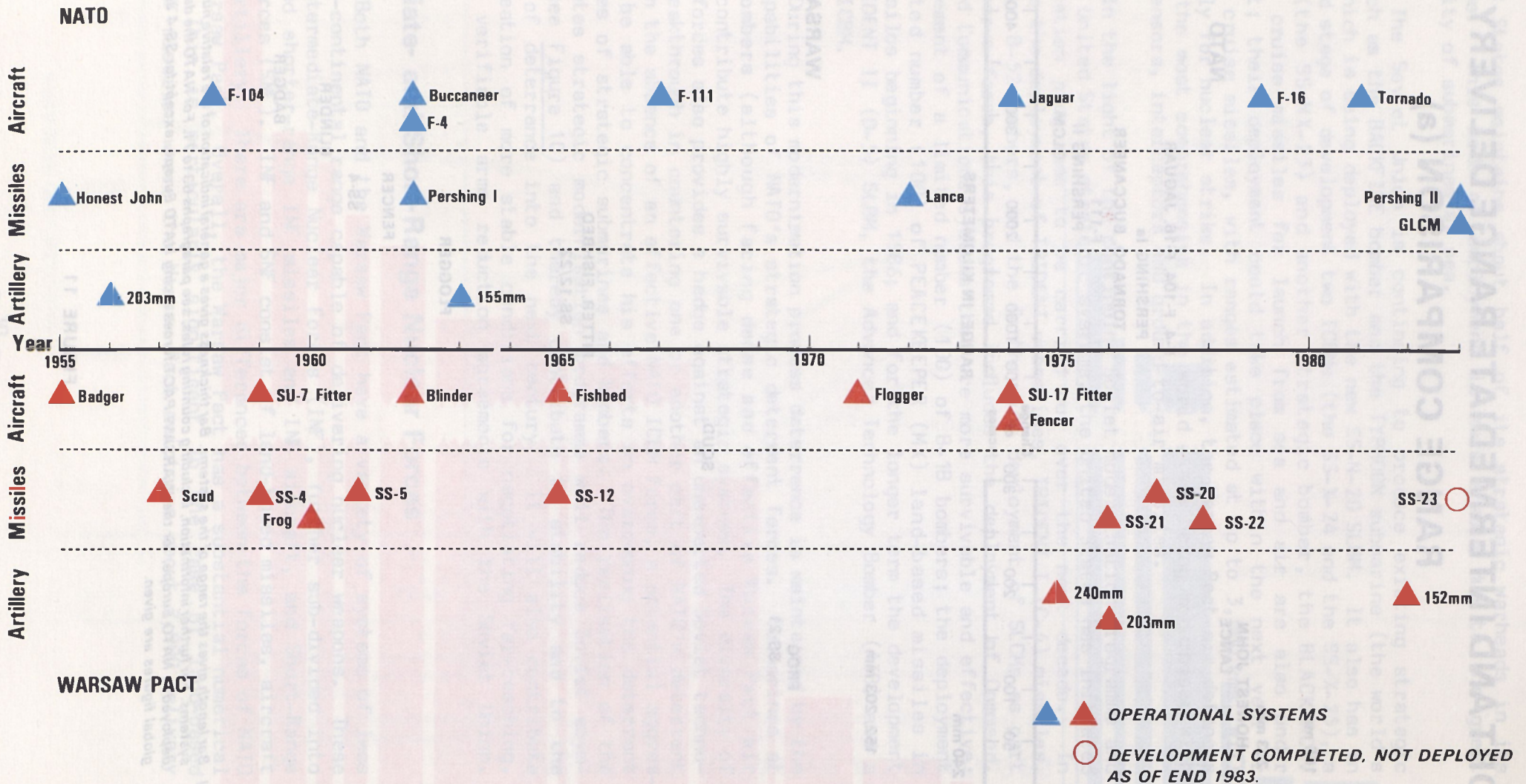


FIGURE 12

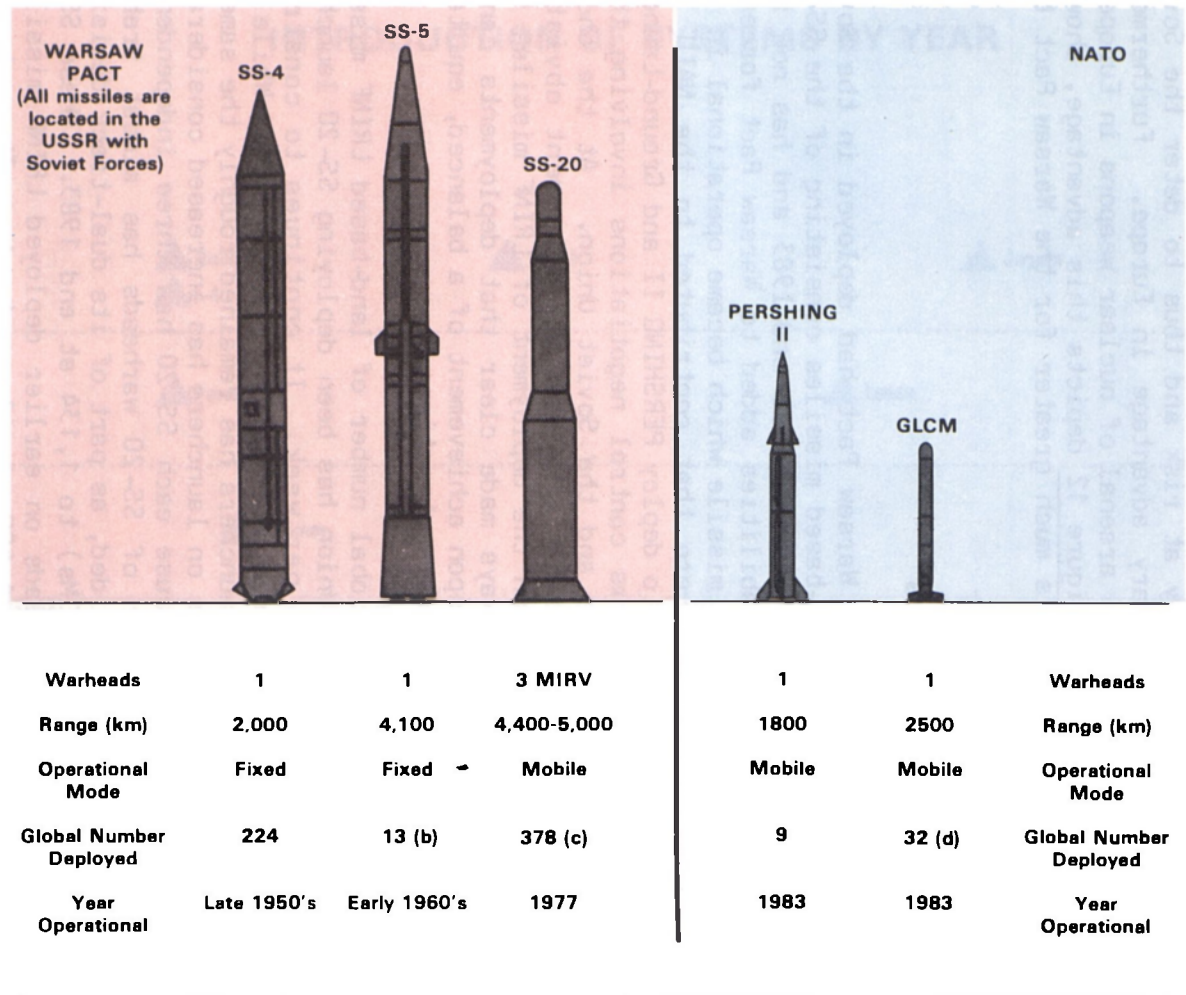
systems as opposed to about 300 for NATO. This Warsaw Pact advantage is further increased by the fact that missiles in flight are far less vulnerable than aircraft which form the greater proportion of NATO's INF. Since the 1950s the Warsaw Pact has maintained forces of sufficient range and so deployed as to be able to strike NATO Europe from all its member countries including the Soviet Union. Warsaw Pact SNF and INF systems have tended to have longer ranges than the NATO systems. The Warsaw Pact now has an advantage in every range band as can be seen in Figure 11. In fact, the Warsaw Pact retains a complete monopoly in land-based forces over 2,500 kms in range, and retains a very substantial advantage in the longer-range INF categories even following initial deployments of GLCM and Pershing II in Europe. A Warsaw Pact monopoly in these categories would give it the potential to destroy any target in Europe without using strategic weapons, while NATO would lack a sufficient capability, short of strategic weapons, to put targets on Soviet territory at risk and thus to deter the Soviet Union from exploiting this military advantage in Europe. Furthermore, taken as a whole, the Warsaw Pact's arsenal of nuclear weapons in Europe is more modern than that of NATO. Figure 12 depicts this advantage, showing that the extent of modernisation is much greater for the Warsaw Pact than for NATO.

Longer-Range INF Missile Systems

64. At the end of 1983 the Warsaw Pact had deployed in the Soviet Union a large force of these land-based missiles consisting of the SS-20, SS-4 and SS-5 (the SS-5 was being retired at end-1983 and has now been withdrawn from service). The capabilities added to Warsaw Pact forces by the deployment of the mobile SS-20 missile which became operational in 1977 were a particular source of concern that contributed to the NATO 12th December 1979 dual-track decision to deploy PERSHING II and Ground-Launched Cruise Missiles and to pursue arms control negotiations involving these systems between the United States and the Soviet Union. At the end of 1983, in the absence of a concrete arms control agreement obviating the need for deployment, NATO began the deployment of LRINF missiles (see Figures 13 and 14). NATO has always made clear that deployments can be halted, modified or even reversed upon achievement of a balanced, equitable and verifiable agreement calling for such actions.

65. Figure 14 depicts the global number of land-based LRINF missile warheads. Since 1977 the Soviet Union has been deploying SS-20 launchers at an average rate of about one per week. It continues to construct additional bases in both the Eastern and Western Soviet Union. While the overall number of Soviet missile-launchers has remained roughly the same in recent years the number of warheads on launchers has increased considerably during the period. This is because each SS-20 has three independently targetable warheads. The number of SS-20 warheads has almost trebled since December 1979 (when NATO decided, as part of its dual-track decision, to deploy 572 PERSHING II and GLCMs) to 1,134 at end 1983. These SS-20 warheads, together with the warheads on earlier deployed LRINF missiles, amounted to a total of close to 1,400 missile warheads. There is also evidence for the existence of reload missiles for the SS-20 which would raise the overall number of warheads substantially. A long-range ground-launched cruise missile is also under development by the Soviet Union and could be deployed within the next year or two. By comparison to the Warsaw Pact's LRINF build-up, NATO's deployment did not begin until late

LONGER-RANGE INF MISSILE SYSTEMS DEPLOYED END 1983 (a)



(a) This table is prepared on the basis of missiles on launchers.

(b) By end 83 all SS-5 missiles were being retired.

(c) Excludes refire missiles.

(d) Not all of the 32 GLCMs had reached initial operational capability at end 1983.

FIGURE 13

LONGER-RANGE INF MISSILE WARHEADS

(GLOBAL DEPLOYMENTS)

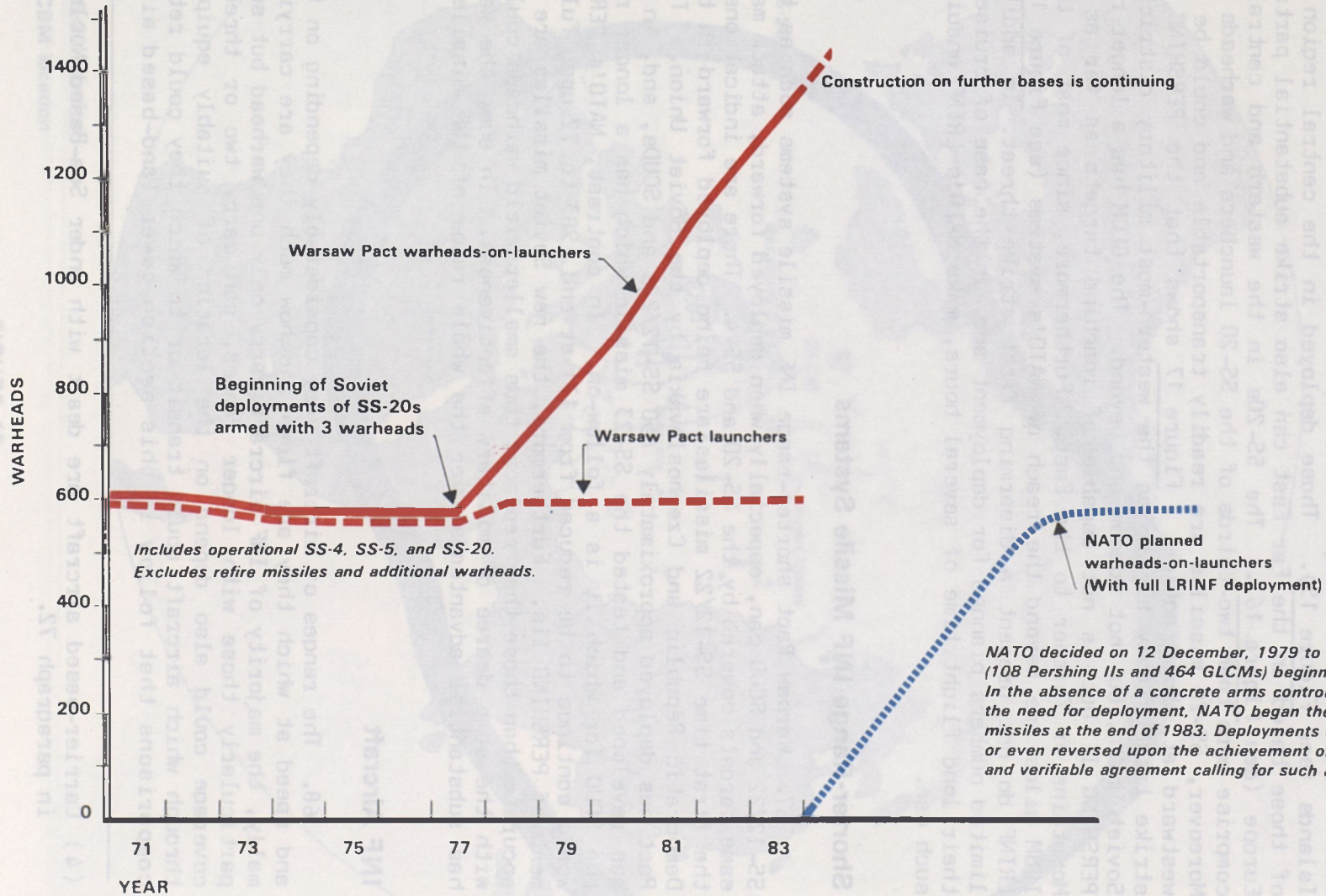


FIGURE 14

1983 when the deployment of the first 41 PERSHING II and GLCMs was initiated as scheduled. Moreover, this programme will not result in any increase in the total number of nuclear warheads in NATO Europe since NATO has agreed to remove one older nuclear warhead from Europe for each LRINF missile warhead deployed.

66. SS-20 missiles are deployed in the western, central and eastern regions of the Soviet Union. From sites in the western region SS-20s can strike all of NATO Europe including Iceland, the Azores and the Canary Islands (see Figure 15). Those deployed in the central region and some of those based in the Far East can also strike substantial parts of NATO Europe (see Figure 16). The SS-20s in the western and central regions comprise more than two-thirds of the SS-20 launchers and warheads deployed. Moreover, SS-20 missiles are readily transportable and could be relocated westward at short notice. Figure 17 shows that the PERSHING II could strike targets only as far as the western-most military districts of the Soviet Union, but not Moscow and beyond. The GLCM has a longer range than PERSHING II but is not capable of reaching targets as far as the Ural Mountains or further to the East. Furthermore, since most of the Soviet ICBM silos are beyond the reach of NATO's systems (see Figure 15) NATO's LRINF do not present a disarming first strike threat. In addition, the limited numbers planned for deployment and, in the case of cruise missiles their long flight time of several hours, make NATO's LRINF unsuitable for such use.

Shorter-Range INF Missile Systems

67. Warsaw Pact shorter-range INF missile systems such as the Soviet SS-12/22 and SCUD can, especially when deployed forward, attack many of the same targets covered by the SS-20 and SS-4. There are indications that for the first time SS-12/22 missiles are being deployed forward in the German Democratic Republic and Czechoslovakia by the Soviet Union. The Warsaw Pact has deployed approximately 650 SS-12/22s and SCUDs, and, in addition, has developed and tested the SS-23 missile which has a longer range than the SCUD for which it is a follow-on. In contrast, NATO's PERSHING IAs would continue to be reduced from 171 at end 1983 to 72 upon full deployment of PERSHING IIs. Furthermore, the new Soviet missiles are much more accurate than those they replace; thus smaller yield warheads could be used with the same degree of military effectiveness. In sum, the Warsaw Pact has substantial advantages over the whole range of INF missile systems.

INF Aircraft

68. The ranges of aircraft vary considerably depending on the height and speed at which they are flown and how much they are carrying. Normally, the majority of INF aircraft carry only one warhead but some types, particularly those with longer ranges, can carry two or three. Their coverage could also depend on the location of suitably equipped bases through which aircraft could transit or to which they could return. The comparisons that follow in this section cover land-based aircraft(4)

(4) Carrier-based aircraft are dealt with under Sea-Based Nuclear Forces in paragraph 72.

TARGET COVERAGE OF SOVIET SS-20 AND TARGET COVERAGE OF NATO PERSHING II AND GLCM



┆ SS-20 location
▲ ICBM location

FIGURE 15

COVERAGE OF EUROPE FROM SS-20 BASES EAST OF THE URALS

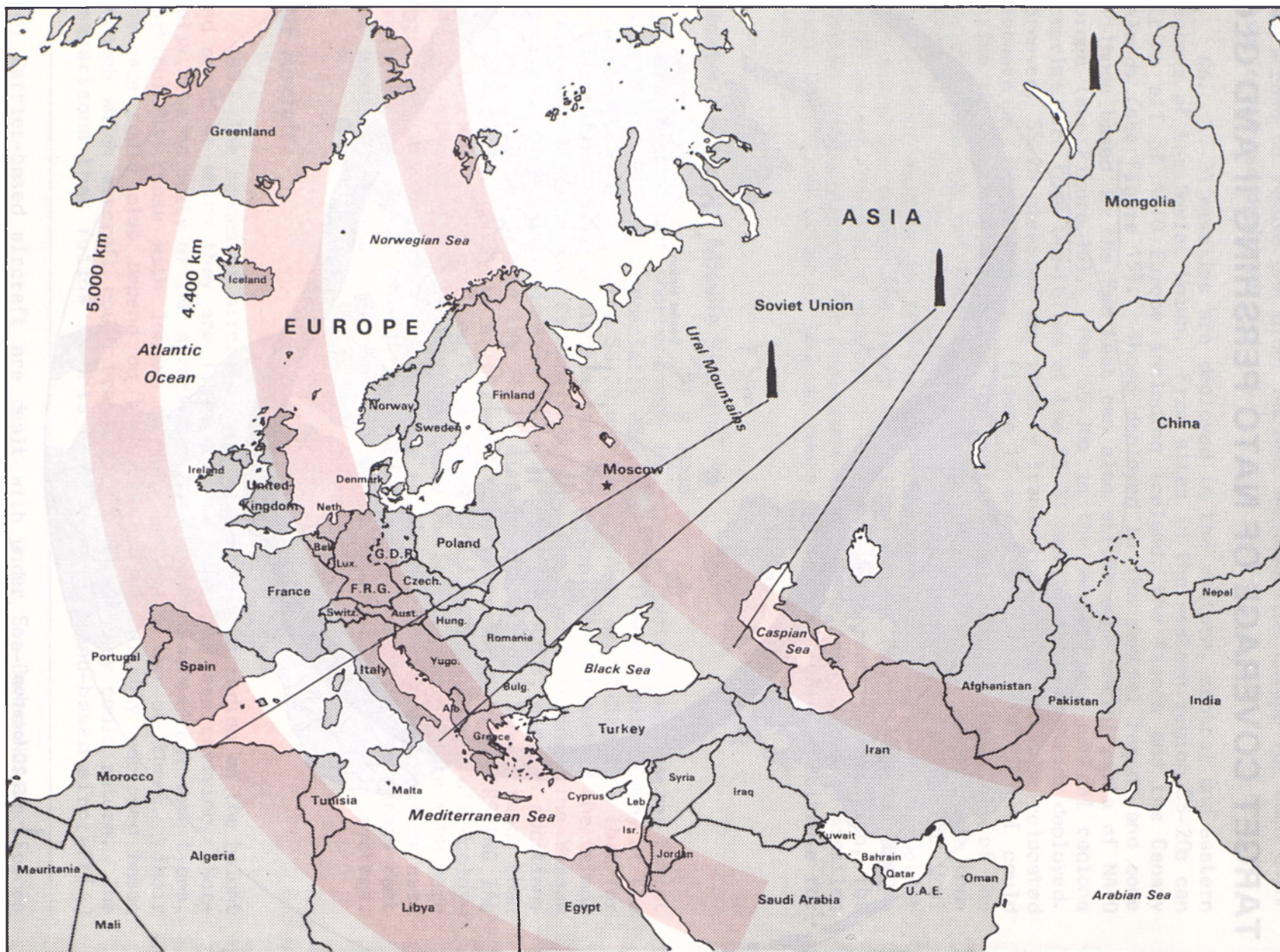


FIGURE 16

NATO GLCM AND PERSHING II COVERAGE



FIGURE 17

located in NATO Europe and, in the case of the Warsaw Pact, opposite NATO Europe. The BACKFIRE bomber with its primary nuclear role has been included in the strategic section because it has an inherent intercontinental capability. However, in its maritime and European land-attack roles the BACKFIRE also poses a serious nuclear and conventional threat to NATO Europe.

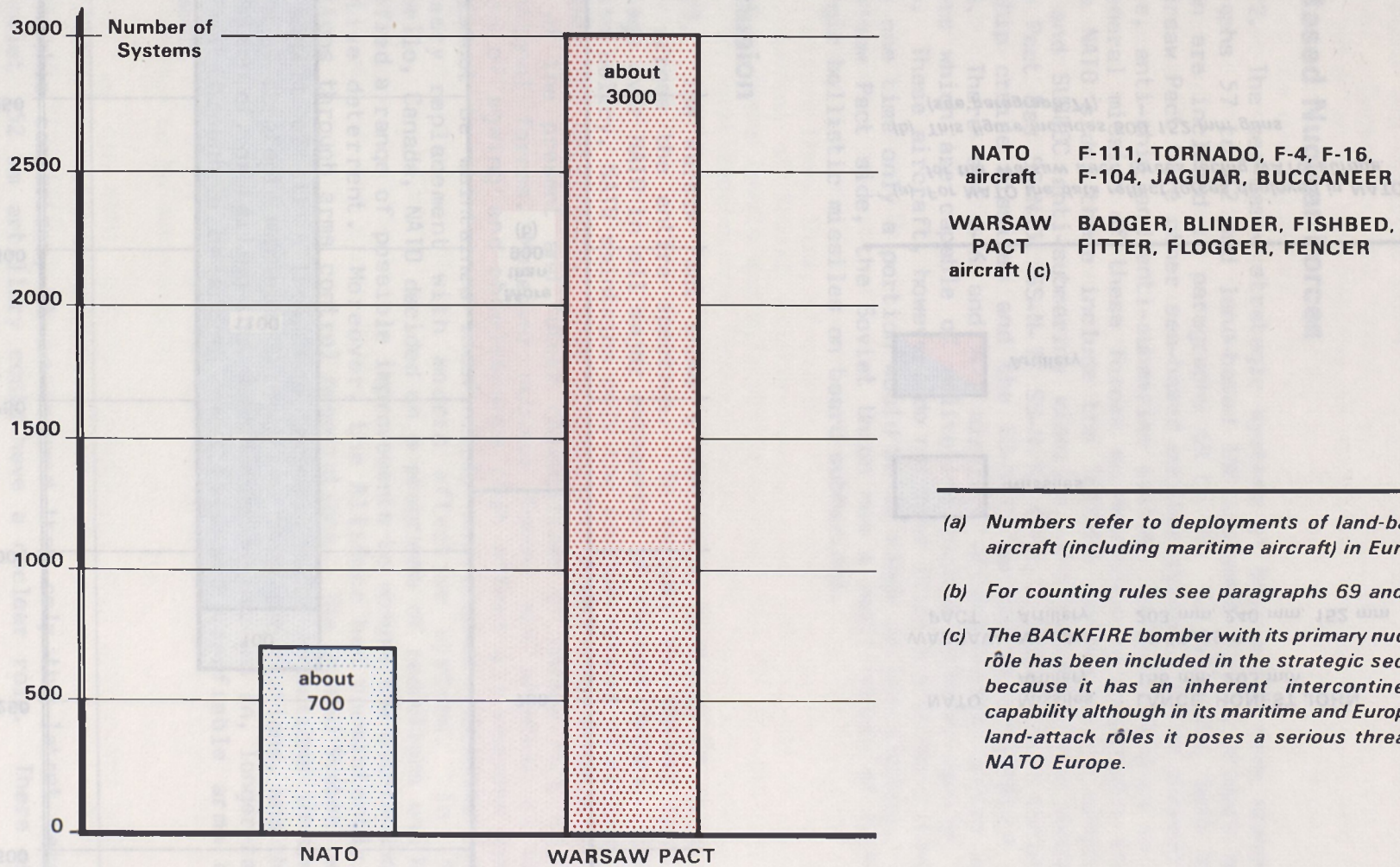
69. The comparison of longer-range INF aircraft in operational units shows that the Warsaw Pact has a considerable numerical advantage. NATO has about 150 F-111 aircraft in Europe; the Soviet Union has about 325 nuclear capable BADGERS and BLINDERS in its Strategic Aviation forces and an additional 175 aircraft of these types in the Soviet Naval Aviation (SNA) forces, making a total of 500 longer-range INF aircraft. This total excludes BADGERS and BLINDERS not configured for weapons delivery, such as those for Electronic Counter Measures (ECM), reconnaissance, and air-to-air refuelling. It also excludes trainers that can be used on combat missions. Both the United States and the Soviet Union maintain longer-range INF aircraft outside Europe (in the United States and in the Soviet Far East, respectively).

70. Most of the types of combat aircraft of both NATO and the Warsaw Pact are technically capable of delivering nuclear weapons, but not all of these aircraft would be available for nuclear use for a variety of reasons. A substantial portion of these aircraft would be assigned to conventional missions and not all pilots who fly these aircraft are trained to deliver nuclear weapons. Taking these factors into account, it is estimated that overall the Warsaw Pact could employ about 3,000 of its operational INF aircraft in a nuclear rôle. On the NATO side, the number of operational aircraft committed to a nuclear rôle is about 700 (see Figure 18). For NATO, the decreases since the first edition of this Force Comparison publication in 1982 in the area of INF aircraft are mainly due to the retirement of United Kingdom VULCAN bombers and the ongoing replacement of older aircraft with F-16 and TORNADO. For the Warsaw Pact, the number of INF aircraft has increased through the further deployment of FLOGGER and FENCER aircraft. Thereby, the Warsaw Pact has increased even further its numerical advantage over NATO with regard to INF aircraft.

Short-Range Nuclear Forces

71. Short-Range Nuclear Forces (SNF) consist of tube artillery and missiles of much shorter maximum range than INF missiles. Most SNF on both sides are capable of being used to deliver either conventional or nuclear weapons. Figure 19 gives a comparison of NATO and Warsaw Pact SNF systems that could have a nuclear role. Within this category, the Warsaw Pact has some 700 land-based short-range missile launchers, mainly FROGS which are being replaced by SS-21s. About 40 SS-21s are already deployed with Soviet forces in the German Democratic Republic. By comparison NATO has about 100 LANCE and HONEST JOHN. The greater range, and consequently the improved target coverage and survivability, of land-based missiles provides the Warsaw Pact with a considerable advantage. The other system in this category is artillery. Although NATO retains a slight advantage in artillery, this has decreased very substantially in recent years as a result of massive Soviet deployments. Besides their 203 mm and 240 mm artillery which have had a nuclear capability for some time, the Soviet Union has recently made its 152 mm artillery nuclear capable. At this

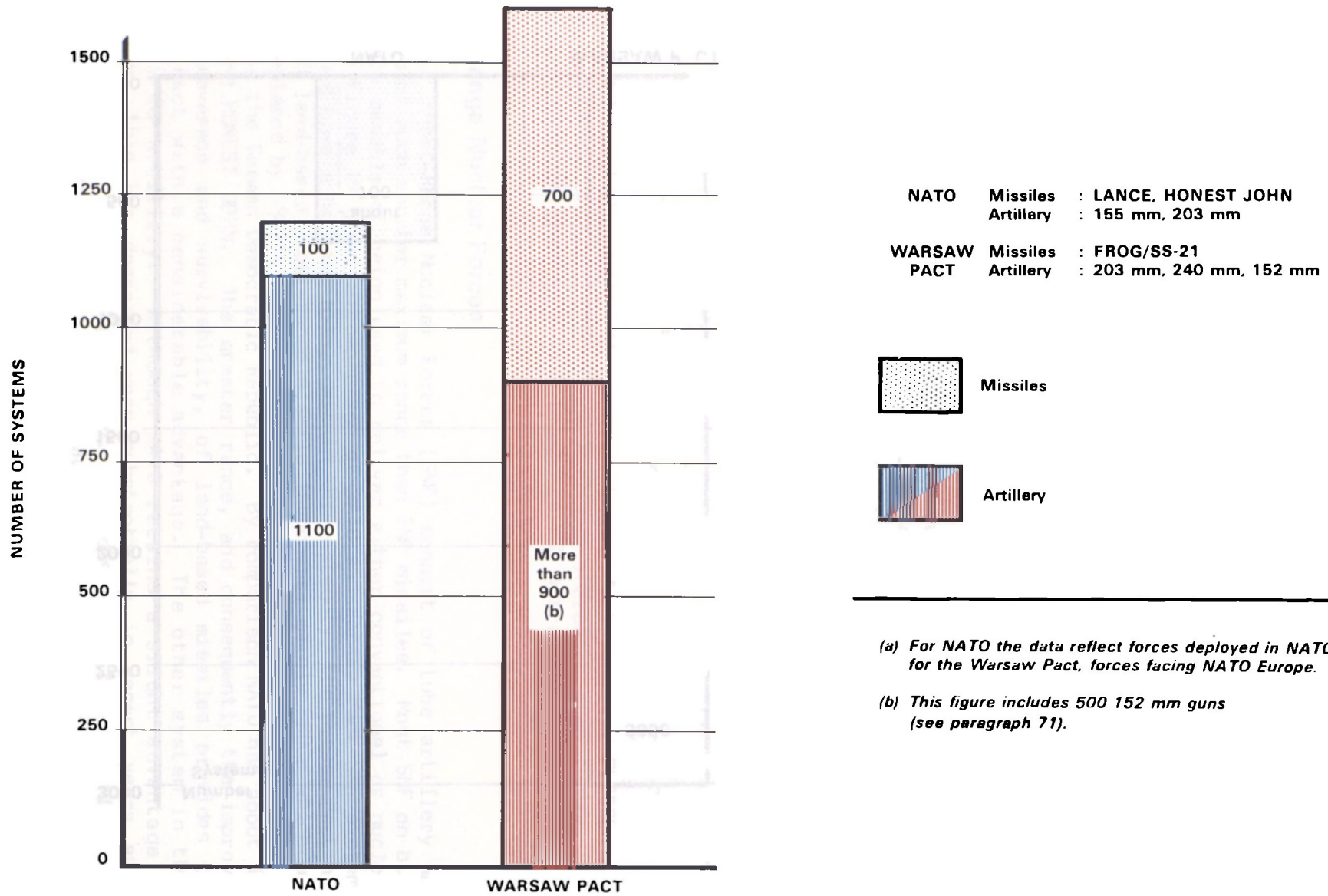
LAND-BASED INF AIRCRAFT DEPLOYED END 1983 (a), (b)



- (a) Numbers refer to deployments of land-based aircraft (including maritime aircraft) in Europe.
- (b) For counting rules see paragraphs 69 and 70.
- (c) The BACKFIRE bomber with its primary nuclear rôle has been included in the strategic section because it has an inherent intercontinental capability although in its maritime and European land-attack rôles it poses a serious threat to NATO Europe.

FIGURE 18

SHORT-RANGE NUCLEAR FORCES (SNF) DEPLOYED END 1983 (a)



(a) For NATO the data reflect forces deployed in NATO Europe; for the Warsaw Pact, forces facing NATO Europe.

(b) This figure includes 500 152 mm guns (see paragraph 71).

FIGURE 19

time, the number of 152 mm Warsaw Pact artillery pieces committed to a nuclear role cannot be determined with certainty but given the large quantity of Soviet 152 mm artillery systems, the number could be substantial(5). In sum, the Warsaw Pact has now surpassed NATO in the overall number of SNF systems - an area where NATO traditionally had a numerical lead.

Sea-Based Nuclear Forces

72. The sea-based strategic systems of both sides were discussed in paragraphs 57 to 62 and land-based INF aircraft with a primary maritime mission are included in paragraphs 68 to 70. In addition, both NATO and the Warsaw Pact have other sea-based nuclear systems; these consist of air defence, anti-ship and anti-submarine systems and are designed to support the general mission of these forces as described in paragraphs 29 to 42. On the NATO side, these include the TERRIER surface-to-air missile, the ASROC and SUBROC anti-submarine missiles, and air-delivered bombs. The Warsaw Pact has SS-N-3, SS-N-7, SS-N-9, SS-N-12 and SS-N-19 varieties of anti-ship cruise missiles and the SS-N-15 nuclear anti-submarine missile system. There are A-6 and A-7 aircraft aboard United States aircraft carriers which are capable of delivering nuclear weapons against targets ashore. These aircraft, however, do not have this as a primary mission and at any one time only a portion would be in range of land targets. Also on the Warsaw Pact side, the Soviet Union has a small number of SS-N-5 non-strategic ballistic missiles on board submarines.

Conclusion

73. The Warsaw Pact shows a continuing build-up of their nuclear forces across the entire spectrum. In Europe, the Warsaw Pact has an advantage over NATO in all major categories of nuclear forces. In keeping with its policy, NATO maintains only the minimum number of nuclear weapons necessary for deterrence. This minimum level must take account of what is known of the present and future capabilities of Warsaw Pact nuclear and conventional forces. Moreover nuclear forces are affected by the same process of ageing and obsolescence that affect all weapons systems - they cannot be maintained indefinitely and require improvement or when necessary replacement with modern effective systems. In 1983, at Montebello, Canada, NATO decided on a programme of reductions and has also identified a range of possible improvements to ensure the maintenance of an effective deterrent. Moreover, the Alliance has consistently sought reductions through arms control negotiations. The United States, with the full support of its Allies, has proposed major reductions in the total numbers of strategic warheads through the START negotiations, and the total elimination of, or failing that substantial reductions in, longer-range INF missiles through a balanced, equitable and verifiable arms control agreement.

(5) In this comparison, it is assumed that only the latest version of Soviet 152 mm artillery could have a nuclear role. There are more than 4,000 older 152 mm guns.

NATO AND WARSAW PACT DEFENCE/MILITARY EXPENDITURE

74. In NATO countries, governments justify their expenditures before parliaments and detailed defence budgets are subject to public debate and scrutiny. Generally the Warsaw Pact countries only disclose a single budget entry under the heading of defence. These figures are open to question, particularly in the case of the Soviet Union for which NATO has developed its own estimates. No such estimates exist for the time being on non-Soviet Warsaw Pact defence spending, owing to such problems as the lack of reliable information, widely differing pricing systems and the absence of valid exchange rates between Warsaw Pact and NATO countries. It is therefore difficult to produce conclusive comparisons of total NATO and Warsaw Pact defence spending - expressed in a common currency, whether in dollars or roubles. The problem is best approached by first looking at the defence expenditures of the Soviet Union and the United States. As the two major powers, the United States and the Soviet Union account for approximately 65% and 85% of total defence/military spending of NATO and the Warsaw Pact respectively, the changes that take place in their defence spending tend to dominate the overall pattern of expenditures for these two groups of countries.

75. The Soviet Union claims that its defence spending is just over 17 billion roubles and its official figures give the impression that Soviet spending has not only not increased since 1972, but that it has actually declined since then. This, of course, is in marked contrast to the significant expansion of Soviet military procurement and is quite incompatible with known force levels and military programmes. As the Soviets continue to keep their real expenditure figures secret, NATO experts attempt to estimate Soviet military spending by costing the known Soviet force levels and procurement etc. On this basis, NATO experts agree that in 1982 Soviet military spending was about 5 times the officially published figures, amounting to 14% to 16% of estimated Soviet GNP which clearly underlines the importance the Soviets attach to military strength.

76. The Soviets have not, however, maintained the momentum of the rapid military expenditure growth they had achieved during the years 1970 to 1976. NATO estimates indicate that during this period Soviet military spending increased by 4% to 5% annually in real terms. None the less, since 1976, according to NATO assessments, overall growth of Soviet military spending is estimated to have declined to less than half the annual average rate of the early 1970s. This slowdown mainly reflects a less rapid rate of growth in procurement expenditure although a decline in rate of growth can also be observed in other major categories of expenditure. Despite this slowing down, military procurement remained, if compared with NATO, at a very high level throughout the period under review. Experts agree that even if the Soviet Union does not return to the expenditure growth of the early 1970s the improvements in its military capabilities will continue to be substantial.

77. As for NATO, defence budgets are well publicised and not infrequently the subject of intense parliamentary debate. Preliminary figures put total NATO defence expenditure for 1983 at \$309 billion(6). In

(6) 1981 prices and exchange rates.

many countries defence expenditure over recent years increased slightly faster than GDP, the growth of which remained depressed due to the world economic recession. The increase was particularly marked in the United States where defence was again given a higher priority after years of decline in real spending. Over the period 1979 to 1983, the real increase in defence spending in the United States averaged 6.2%. Other Allies also increased their defence expenditures in real terms but not to the same extent. As a result, the share of defence in GDP grew to 6.9% in the United States and 5.5% for NATO as a whole.

MILITARY PRODUCTION AND TECHNOLOGY CAPABILITIES

Production

78. NATO and the Warsaw Pact each possess an extensive armaments production capability. In NATO, the capability is largely the aggregate output of a limited number of major arms producing nations, whose defence industries both compete and co-operate in producing equipment to meet NATO needs. There is thus no centralised procurement in NATO, indeed the sovereignty of NATO member countries is particularly evident in equipment procurement decisions and all nations possess distinctive materiel acquisition systems and procurement regulations.

79. The situation in the Warsaw Pact could hardly be more different. One nation - the Soviet Union - dominates armaments production and exerts strong influence over the planning and procurement of the other Pact countries. The Soviet procurement process is based on rigorous, conservative planning with the result that risk taking is minimised. The consequence is a degree of inflexibility but this discipline helps new equipment programmes to keep to planning schedules. Nevertheless, subsequent upgrading of designs often occurs with modified variants of the original weapon systems appearing only a few years after the basic design.

80. These contrasting acquisition processes bring their own advantages and disadvantages. The processes of the NATO member nations are based on, and serve to encourage, an efficient, responsive defence industry that has to compete in the market place. In doing so, moreover, it draws heavily on the more advanced civilian technologies of the West to improve its products. The Soviet system, on the other hand, is extremely bureaucratic and although it shows relatively fast developments and deployments of weapons, it does not always facilitate the speediest translation of new technology into weapons design.

81. There is one area where the centralised acquisition process in the Warsaw Pact yields important dividends as compared to the decentralised processes in NATO - and that is standardisation. Coalition warfare places an exacting premium on the ability of equipments of different forces to work together. The high degree of standardisation in the Warsaw Pact is contrasted, on the NATO side, by glaring examples not only of a lack of interoperability, but of the danger of mutual interference.

82. In the area of production technology, the Soviet Union has developed the largest forging and extrusion presses in the world. It has considerable expertise in heavy manufacturing and engineering and, as a result, it has a lead over NATO nations in its ability to produce large, single piece components. However, NATO nations continue to lead in the area of automated manufacturing technology, such as numerically controlled machine tools and high precision equipment. Present trends indicate that the Warsaw Pact will continue to out-produce NATO in major military systems.

Technology

83. Technology is an important gauge of industrial and military strength. However, the differences in the levels of military technology between NATO and the Warsaw Pact cannot be usefully summarised in general terms since the picture varies from one technology or weapon system to another. Any discussion of technology differences is inevitably selective. Nevertheless, a comparison of trends shows that the Soviet Union, which is the undisputed technological leader of the Warsaw Pact, is making significant progress in areas where NATO has previously been leading. Moreover, when it considers it to be to its advantage, the Soviet Union does not hesitate to take advantage of the freedom of Western societies in order to acquire Western technology/equipment and know-how.

84. NATO nations until recently enjoyed clear leadership in most areas of technology though, as noted above, this lead is being eroded. A major reason for this is that the level of resources devoted to military related research and development in NATO nations has not in general kept pace with worldwide inflationary trends, and the increasing costs involved in moving into new technology areas.

EXPLANATORY NOTES FOR DATA IN THIS PUBLICATION

Sources

1. Sources of data for NATO forces have been taken from national annual reports to NATO Headquarters. These reports do not necessarily reflect all the forces of each nation, but only those forces allocated to NATO. For example, some nations reserve a proportion of their forces for national purposes. Accordingly, figures in this publication have been supplemented with additional information, which has permitted the overall global context to be set out in paragraphs 13 and 14. Similarly, whereas Warsaw Pact data for the European area is from generally agreed Western intelligence sources, additional information has been obtained to show the Soviet Union's global strength in the Far and Middle East and other locations where Warsaw Pact forces are known to be. Details are in paragraphs 13 and 14.

Conventional Forces Counted

2. The information presented in this publication is as of the end of 1983. All exceptions to this rule are specifically identified. In the main, the forces counted are those at present in place in Europe (assuming mobilisation, since some units on both sides have only a cadre strength in peacetime). In addition, the comparison also includes the rapidly deployable forces of both NATO and the Warsaw Pact. For example, NATO totals include 3 United States divisions whose equipment is stored in Europe but two-thirds of their personnel remain based in the United States. For the Warsaw Pact, the comparison includes all the forces belonging to the Eastern European countries, all the Soviet forces stationed in those countries, but only the high readiness Soviet forces based in the six Western Military Districts. Except in the case of the 3 United States divisions just mentioned, both United States and Canadian transatlantic reinforcements have been excluded on the one hand, and the Soviet Strategic Reserves from the Moscow, Ural and Volga Military Districts have been excluded on the other. The forces set out below and used for the comparisons in this publication include:

(a) For NATO

(i) The Northern and Central Regions

The indigenous ground and air forces of Norway, Denmark, the United Kingdom (including those in the UK), the Netherlands, Belgium, Luxembourg and the Federal Republic of Germany, plus the forces of the United States and Canada stationed in those countries, plus the 3 United States divisions whose equipment is stored in Europe and two-thirds of their personnel based in the United States.

(ii) The Southern Region

The ground and air forces of Portugal, Italy, Greece and Turkey (split into three geographically distinct sub-regions).

(b) For the Warsaw Pact

The indigenous ground and air forces of the German Democratic Republic, Poland, Czechoslovakia, plus all Soviet forces stationed in those countries and in the Leningrad Military District (MDs), and the Archangel and Leningrad Air Defence Districts (ADDs) and the Legnika Air Army of the Soviet Union are considered in the Northern and Central Regional balance. In addition, only the high readiness units of the Western MDs are considered (Baltic, Byelorussian and Carpathian MDs). The Southern Region includes the Hungarian, Bulgarian, Romanian and all the Soviet forces stationed in those countries together with Soviet forces from the Trans-Caucasus MD, Kiev and Sverdlovsk ADDs plus the Vinnitsa Air Army. In addition, the high readiness units only of the remaining three Western MDs are considered (Kiev, Odessa and North Caucasus). Excluded completely are the Soviet forces in the Moscow, Volga and Ural MDs (considered as the Soviet Strategic Reserves), and the Moscow Air Defence District together with all the forces to the East of the Ural Mountains.

(c) Naval Forces

Because naval forces frequently move from one sea area to another and must return to port for replenishment and refits, it is difficult to be precise on the relative strength of the NATO and Warsaw Pact fleets in European waters at any one time. For NATO, the greater part of the European navies has been taken to be permanently within European waters (though here again not all NATO nations assign all their naval assets to NATO). The United States has the 2nd and 6th Fleets committed to the support of NATO in the Atlantic and Mediterranean respectively; but parts of the 6th Fleet are currently detached out of the NATO area into the Indian Ocean. The non-Soviet Warsaw Pact navies generally remain in European waters, but the Soviet Union occasionally practices deployments outside the NATO area from its Northern, Baltic and Black Sea Fleets. Brief reference has been made to the maritime forces of the United States, Canada and the Soviet Union that are located in the Pacific, but on balance, the nearest correlation used in this publication has been to subtract the Pacific Fleet from the total naval forces of each of these countries and count all of the remaining NATO and Warsaw Pact navies - and this is what has been done in paragraphs 29 to 42.

(d) French and Spanish forces

France and Spain are members of the North Atlantic Alliance but do not participate in its integrated military structure. At their request therefore, no account of French and Spanish forces is taken in this comparison, although full statements of these forces are available in documents published nationally.

Nuclear Forces

3. In the section on Nuclear Deterrence and the Nuclear Equation (paragraphs 52-73) the rationale for the data given is explained in the text. Equivalent megatonnage (used in Figure 10 and paragraph 59) is a technical term which measures the overall destructive power of nuclear warheads.

4. Denmark and Greece have expressed their positions on the INF question in the appropriate NATO fora.

NATO AND WARSAW PACT COUNTRIES IN EUROPE AND SOVIET MILITARY DISTRICTS



FIGURE 20

