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# Intelligence Report

*Evolution of Soviet Concepts and Forces for  
Nuclear War in Europe*

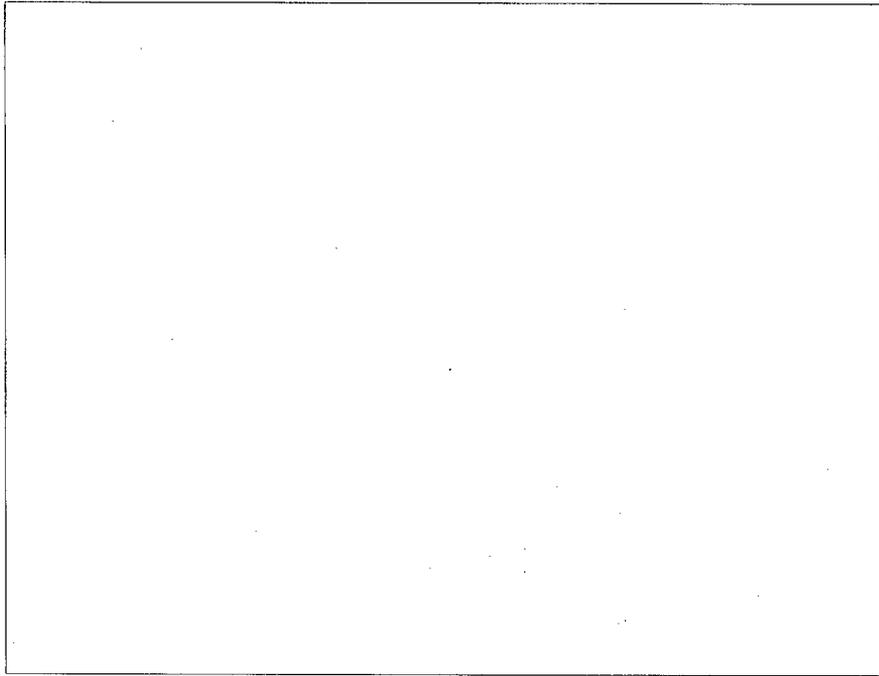
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SR IR 74-4-S

November 1974

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### Evolution of Soviet Concepts and Forces for Nuclear War in Europe

Developments in Soviet forces and strategic planning in the past few years suggest that the Soviets are attempting a more flexible posture for nuclear contingencies in Europe. This growing flexibility includes options for the selective use of tactical nuclear forces in Eastern Europe as an alternative to exclusive reliance on massive strikes delivered primarily by USSR-based strategic systems.

During the Sixties, Soviet views of European war were modified to include a likely initial phase of conventional fighting and to deemphasize the linkage between theater and global conflict. Throughout the decade, however, Soviet military writers held that strategic forces would play a predominant role in European nuclear operations.

- The Soviets concluded, partly on the basis of NATO exercises, that only massive use of nuclear weapons by NATO would enable it to halt a Warsaw Pact advance and mount a counteroffensive.
- Soviet military doctrine underscored the decisive role of an initial massive nuclear strike in ensuring a Pact victory over NATO.
- Because of range and payload limitations, Soviet tactical nuclear forces were targeted mainly against opposing field armies, while the bulk of NATO targets in the theater were assigned to strategic systems based in the USSR.

By about 1970, the Soviet view of nuclear war in Europe changed significantly, probably in part as a response to NATO's adoption of guidelines for graduated nuclear escalation.

- Military writers espoused the initial limited use of nuclear weapons rather than immediate recourse to full-scale nuclear operations, indicating that selective strikes would be conducted primarily by tactical forces and would avoid civilian-losses wherever possible.



- Recent improvements in Soviet tactical nuclear forces could permit high-intensity nuclear strikes against NATO targets throughout Western Europe without involving USSR-based strategic forces.

Particularly as they lessen the need for early participation by Soviet strategic forces, these changes could limit a nuclear conflict initially and reduce pressures for escalation to global war.



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November 1974

INTELLIGENCE REPORT

Evolution of Soviet Concepts and Forces  
for Nuclear War in Europe

Introduction

Soviet views on the character of any future European war have changed significantly in the past decade. Military thinking during the mid-Sixties evolved from the concept prevalent under Khrushchev that a European war would involve an almost immediate global nuclear exchange, to acceptance of the notion that a European conflict would most likely begin with conventional forces but would escalate to the widespread use of nuclear weapons. Since 1970, military planners have also modified long-held views that the response to the use of nuclear weapons by NATO should be massive, theater-wide nuclear strikes by strategic systems based in the USSR as well as by tactical weapons in the theater. In an apparent effort to develop greater flexibility for theater nuclear war, they have significantly augmented Soviet tactical nuclear forces and begun to examine options for fighting in a variety of circumstances including those which would limit both the intensity and geographic area of a nuclear conflict in Europe.

The impetus for these changes comes in part from new strategic concepts adopted by NATO, in part from

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the evolution of Soviet military forces which have set the permissible pace of change. While Soviet theoreticians have clearly been influenced by NATO dialogues on flexible response and the selective use of nuclear weapons, the introduction of new doctrine into operational planning has lagged. Tactical aircraft and missile systems deployed since the late Sixties have eased the constraints on planning imposed by forces structured under Khrushchev, however, and the Soviets are moving toward a capability to conduct intensive nuclear operations in Europe with theater weapons. The Soviet leadership may reason that a growing ability to withhold USSR-based strategic forces--hence to avoid or delay an attack on Soviet territory--could enhance the prospects for a political settlement should a European conflict occur.

This paper reviews the evolution of Soviet doctrine and forces for nuclear war in Europe and explores the implications of recent evidence on future trends.

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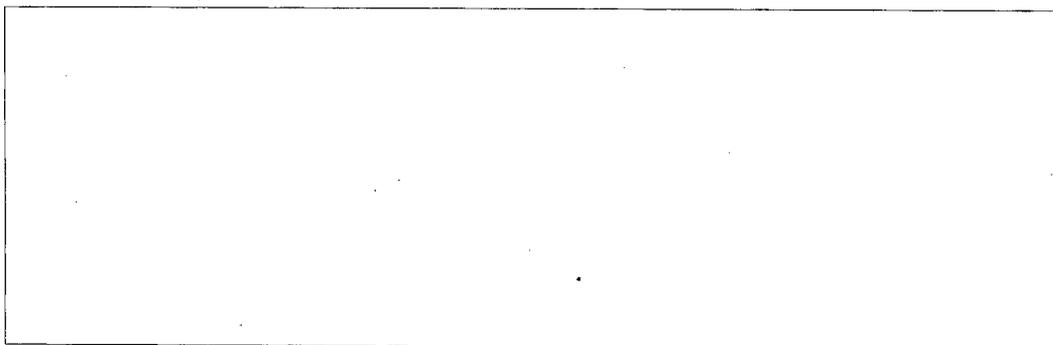


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The Khrushchev Era: Massive Response  
and Strategic Weapons

Soviet military doctrine under Khrushchev was substantially revised in response to the development of nuclear weapons. From the mid-Fifties to about 1960, the Soviet military attempted to reconcile traditional concepts of a sweeping European ground force offensive with the new environment created by nuclear arms. Nuclear weapons were seen primarily as a substitute for concentrated artillery and aerial bombardment. Combat might be nuclear from the outset, the traditionalists reasoned, but the decisive role would still be played by massed armies which would destroy opposing forces and occupy enemy territory.

Khrushchev sought to change this attitude. He stressed the preeminence of strategic nuclear weapons and discounted the need for large conventional forces to conduct theater war. In Khrushchev's view, any war involving the Soviet Union and the West would be a decisive global conflict between the superpowers, its outcome largely determined by massive US-Soviet nuclear exchanges during the first hours. Strategic exchanges also would decide any European conflict.

Forces procured under Khrushchev were thus aimed primarily at the development of strategic nuclear power. Conceding the US a substantial lead in intercontinental bombers, the Soviets concentrated on the development and rapid buildup of ballistic missile forces, a comparatively new area of competition in which neither country had a clear advantage. Missilery appeared to offer the USSR the quickest means of reducing its strategic nuclear inferiority. Soviet MRBM/IRBM deployment, for example, which began in the late Fifties, climbed to about 650 launchers by the time of Khrushchev's fall in 1964. These, along with medium bomber forces, provided a nuclear strike force for areas contiguous to the USSR--mainly Europe. Intensive programs were also under way for the deployment of ICBMs and SLBMs, the intercontinental weapons of the strategic forces.

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Tactical nuclear delivery systems were regarded during this period as ancillary to the strategic peripheral strike forces. Conventional forces were assigned lower priority. Between 1960 and 1964, for example, the Soviet ground forces received only a small number of new tanks and armored personnel carriers and suffered a sharp decline in artillery strength. At the same time, the tactical air forces were drastically reduced.

The fact that Soviet nuclear power for both the European theater and for intercontinental strikes was vested in USSR-based forces underscores the degree to which conflict in Europe was seen to be linked to global war. So long as Khrushchev's view of war prevailed and strikes against the USSR were considered an inevitable result of NATO-Warsaw Pact conflict, there was little incentive to develop significant forward-based nuclear forces. On the contrary, reliance on strategic systems deployed in the USSR offered the advantages of conserving resources and facilitating centralized control and planning.

Under pressure from Khrushchev, the Soviet military was forced to modify its approach to a theater campaign in Europe. The military came to acknowledge the decisive role of the initial nuclear strike, but ground force proponents within the military continued to adhere to traditional views of the subsequent campaign. Even if war were nuclear and characterized by missile and air strikes from the USSR, they argued, a large-scale ground offensive with armored forces was required to exploit the gaps in NATO's defenses created by nuclear attacks, destroy NATO's military forces, and occupy Western Europe.

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Soviet Conventional Options  
for the Sixties

Following Khrushchev's removal in 1964, proponents of ground forces expansion gained greater influence in shaping the course of Soviet military developments. Proposals advanced hesitantly under Khrushchev found a more receptive audience in the Brezhnev-Kosygin regime. Acceptance of the proposition that a European conflict might begin with a conventional phase of indeterminate duration set in motion a train of events that would change the composition of Soviet theater forces and the concepts for their use.

Impact of Flexible Response

US critics of the strategy of massive nuclear retaliation began in the late Fifties to seek less drastic alternatives for an East-West conflict. More flexible war-fighting options were discussed openly within NATO in the early Sixties, at which time the US pressed for a reexamination of the feasibility of conventional defense. European governments expressed concern that an added emphasis on conventional forces would jeopardize the credibility of NATO's nuclear deterrent. The doctrine of "flexible response" represented a compromise of these concerns. It provided for a range of options--conventional operations, limited nuclear strikes, and massive strategic attacks--the type and scale of which would depend on the nature of the Pact assault. Although this doctrine did not become formal NATO policy until 1967 (with the adoption of MC 14/3), its basic tenets were accepted within the Alliance in the mid-Sixties.

A major NATO exercise, Fallex-64, held in September-October 1964, was the first to incorporate a period of conventional fighting into the European war scenario. It began with Pact-initiated conventional operations in the Central Region and on both flanks. The following June, Pact maneuvers echoed the theme in a major exercise which portrayed an initial conventional assault by NATO. Soviet writers

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also acknowledged the possibility that war in Central Europe might begin with conventional forces and by the late Sixties apparently were convinced that a period of conventional conflict was the most likely way in which a war would begin in Europe.

The shift in views on how a European war might start may have accelerated the modernization of Soviet conventional forces. In the ground forces, the addition of field artillery and the introduction of improved conventional weapons, such as a new multiround rocket launcher, restored some of the conventional firepower that had been lost in the Khrushchev force reductions. New mobile air defense missile systems were procured to protect ground force operations. New tactical fighters with better range and payload capabilities--the MIG-21 Fishbed J, K, and L series--were deployed, and development of a new generation of tactical aircraft was begun. Pact fighter unit training also placed greater emphasis on the conventional attack role. There was as well during the late Sixties a gradual growth of Soviet transport capabilities, but the overall logistic posture continued to be designed for a short, high-intensity war--whether conventional or nuclear.

#### Continuing Expectation of Nuclear Escalation

Throughout the late Sixties the Soviets indicated in writings and exercises that they regarded conventional conflict in Europe as only a prelude to nuclear war. Their belief that the conventional phase of a European conflict would be of brief, if indeterminate, duration appears to be based on the assessment that NATO lacked sufficient conventional forces to succeed in its policy of "forward defense"--the intention not to yield West German territory in a conflict with the Warsaw Pact. The Soviets have cited NATO exercises as support for this view and have probably been reinforced in it by Western writers who argue the superiority of Pact conventional forces.

If the Pact could achieve a conventional breakthrough of the forward defenses, NATO would be faced

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with the prospect of rapid Pact advances across West Germany before reinforcements could arrive. According to the Soviets, this prospect has produced strong pressures in British and West German military circles for the immediate use of nuclear weapons--pressures that have not been lessened by NATO's adoption of flexible response as a strategy. The Soviets saw in NATO exercises in the Sixties a consistent pattern of NATO use of nuclear weapons when a breakthrough of the forward defense line was threatened.

It is not clear to what degree Pact authorities credit themselves with a conventional advantage over NATO. Pact exercises of the late Sixties consistently portray an ability to contain a NATO attack with conventional forces. Conversely, NATO exercise scenarios in the same period almost as frequently have pictured NATO falling back before a Pact-initiated conventional invasion and having to rely on nuclear forces to reverse the tide of battle.

NATO exercise scenarios also contribute to Soviet skepticism toward the notion that nuclear strikes, once begun by the West, would remain limited for more than a brief period. Rather, NATO exercise scenarios tend to depict selective nuclear strikes as ineffective in stopping Pact armies or in forcing them to withdraw. The West then quickly shifts from selective to massive strikes in order to halt the Pact and prepare for a NATO counteroffensive. In this context as in others, Pact military analysts apparently regard NATO exercises as authoritative indications of Western intentions.

In sum, the Soviets interpreted the changes in NATO policies during the Sixties as modifying the way in which European conflict would probably begin without altering its principal character. In the Soviet view, NATO was still likely to use nuclear weapons soon after combat began and to employ them on a large scale in an effort to defeat the forces of the Warsaw Pact.

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The Transition Dilemma

Having come to accept the likelihood that a European war would begin with a period of conventional fighting, the Soviets were faced with the doctrinal problem of how and when to effect the transition to the use of nuclear weapons. Because they apparently believe the military balance in Europe would favor the Pact during the conventional fighting, they have an incentive to avoid the introduction of nuclear weapons as long as possible to minimize damage to their own forces and place the onus of nuclear escalation on the West. On the other hand, the Soviets, in pursuing such a course, would run the risk of allowing NATO to seize the initiative with a massive, possibly decisive, nuclear strike against targets in Eastern Europe and the USSR. The problem of forestalling a NATO nuclear attack is an issue of central concern to Pact planners. The same concern helps to explain the importance accorded to achieving pre-emption in the Pact's initial massive nuclear strike.

Soviet planning for war in Europe uniformly adheres to a concept of maximizing initial conventional combat power and rates of advance, while maintaining constant readiness for sudden and massive nuclear escalation. Throughout the late Sixties, the Soviets rejected the concept of graduated nuclear escalation encompassed in the NATO flexible response doctrine, and this continues to be their publicly stated position. Probably the most entrenched axiom of Soviet nuclear doctrine has been that, because of the decisive potential of nuclear weapons, their initial use should be as large as possible, whether in a theater or general war, so as to have maximum impact on the ultimate outcome of the conflict.

There is reason to believe that the Soviet declaratory doctrine of massive theater nuclear response reflected, during the Sixties, as much a genuine attitude as a public posture to deter NATO. Because of the secondary importance attached to tactical nuclear weapons by Khrushchev, Warsaw Pact nuclear delivery systems based in Eastern Europe were grossly inferior to NATO's in both number and range. This placed

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serious constraints on the ability of Warsaw Pact commanders to fight a theater war without the support of USSR-based strategic systems.

For the Soviets, then, large-scale theater nuclear war meant reliance on USSR-based MRBM/IRBMs and medium bombers, even though NATO might employ only weapons based in Europe. This in turn could be expected to lead to NATO nuclear strikes against the USSR. Thus, the Soviets rejected US concepts for limited nuclear war in Europe as ruses designed to insulate the US from damage while devastating Europe and the USSR.

In the Soviet view, escalation of a theater nuclear war not only would threaten Soviet territory but also would provide powerful incentives for preemption. To a degree, this view is a natural outgrowth of a military doctrine which emphasizes the decisiveness of the initial large-scale strike. But the incentive to preempt was probably also driven by considerations of force viability. Soviet MRBM/IRBMs, the primary nuclear means for the European theater, are deployed in fixed, clustered, largely soft sites which are vulnerable to preemption by NATO. Most of these older Soviet missiles, moreover, cannot be kept in a high state of firing readiness for extended periods of time while waiting for a conflict to take a nuclear turn.

#### The Nuclear Campaign

Once the conventional phase of a European conflict had ended and the war became nuclear, Soviet doctrine throughout the Sixties specified that the initial massive strike--whether preemptive or in response to a NATO nuclear initiative--was to consist of a series of salvos conducted primarily by USSR-based peripheral strike forces with the participation of front-level nuclear delivery systems. This strike would be designed to create gaps in NATO's defenses, disrupt its reserves, and decapitate the command structure. Delivered over a period of several hours, the strike would consume about a quarter of all nuclear weapons allocated to participating

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forward fronts, making it the largest concentrated nuclear attack of the entire war. Most of the targets for the initial strike were to be hit by USSR-based strategic weapons.

Whether preemptive or retaliatory, the initial massive strike would be "decisive," creating conditions for successful completion of the initial and subsequent missions. Subsequent strikes were to be directed at main NATO armies and strategic areas, enabling Pact armies to advance rapidly across Europe.

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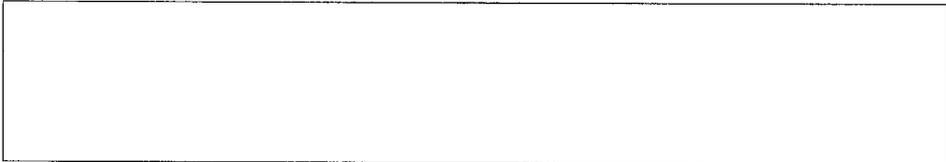


Emerging Nuclear Flexibility  
for the Seventies

Limiting Nuclear Escalation

There is recent evidence that some Soviet planners now believe that operations with limited use of nuclear weapons might take a variety of forms, ranging from the firing of a few tactical rockets, through larger strikes by weapon systems controlled at front echelon, to the participation of USSR-based peripheral strike forces as well. At the lower end of this spectrum, limited strikes would supplement conventional operations on the battlefield. At the higher end, such attacks would have much in common with the massive use of nuclear weapons envisioned in an all-out theater nuclear war and would be restricted in scale and targets only by the boundaries of the European theater. The Soviet view of limited nuclear operations apparently does not, however, exclude the possibility that a European war might skip this phase and instead start with the massive use of nuclear weapons by both sides. Nor does it rule out a Soviet response to limited nuclear operations by NATO with an immediate general nuclear attack. The Soviets thus are now emphasizing flexibility, not the establishment of a new orthodoxy.

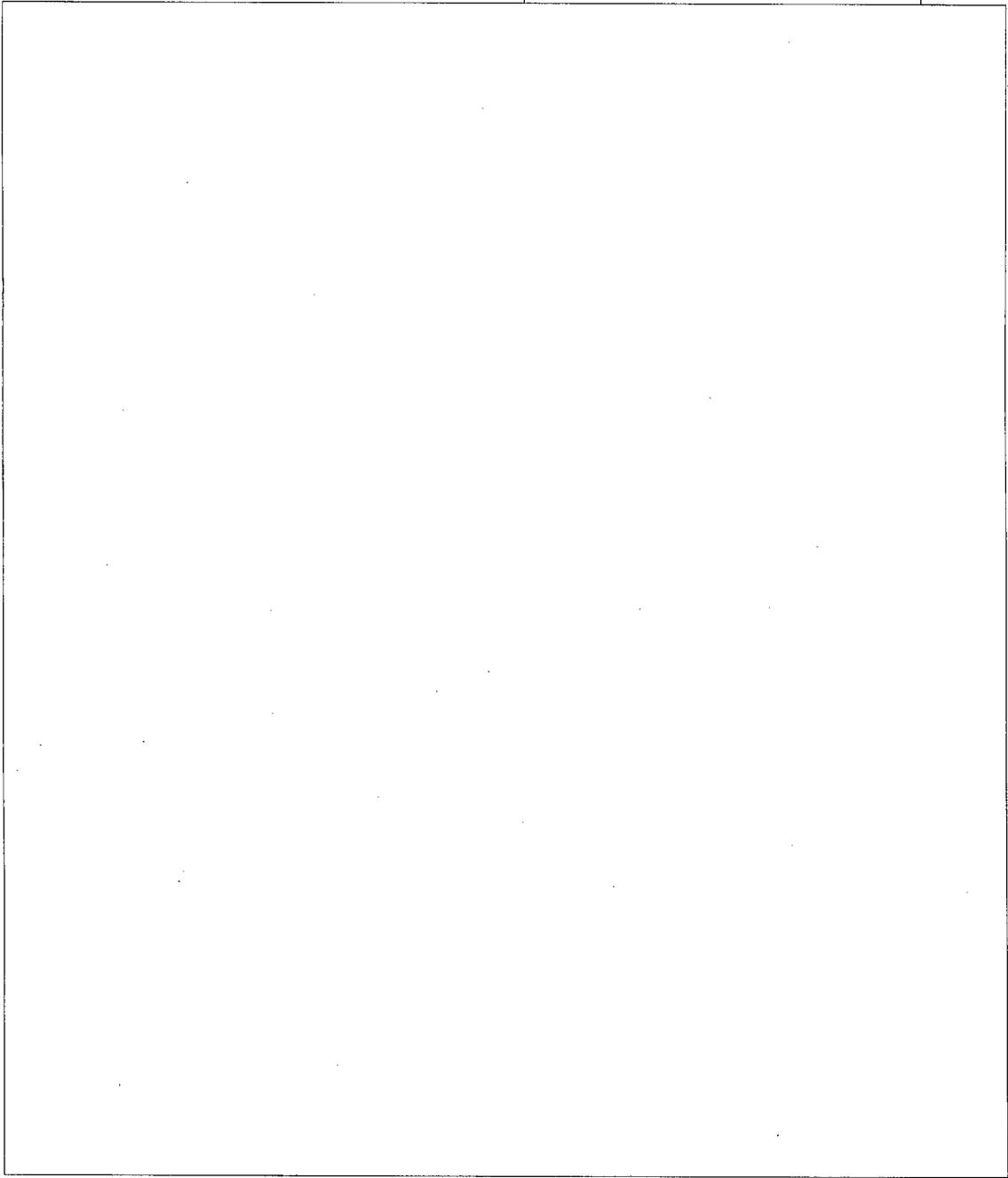
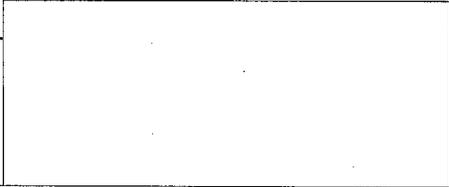
Other Soviet planners have recently indicated that selected nuclear strikes would be conducted in a brief period preceding delivery of the first massive nuclear strike by Soviet forces. In contrast to theater-wide attack, selected strikes would avoid targets near large population centers whenever possible, to minimize civilian damage, a concern new to the Soviets. The idea of selected strikes apparently is regarded by these planners as an important option for the transition from conventional to nuclear war in Europe.



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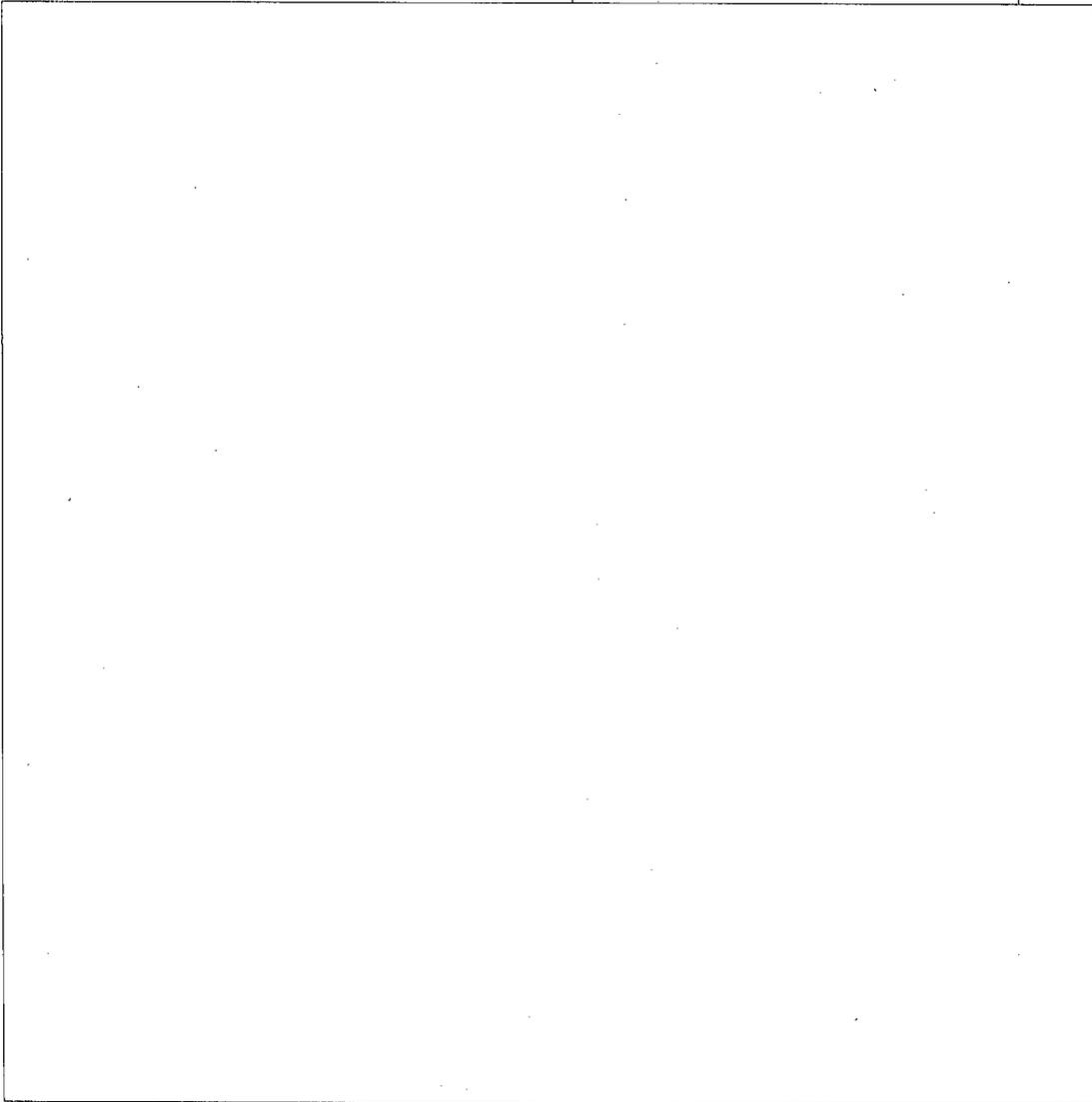


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The sharp increase in nuclear strike capabilities portrayed in the exercise activity probably reflects the substantial increases that have recently taken place in theater nuclear delivery systems. [redacted]

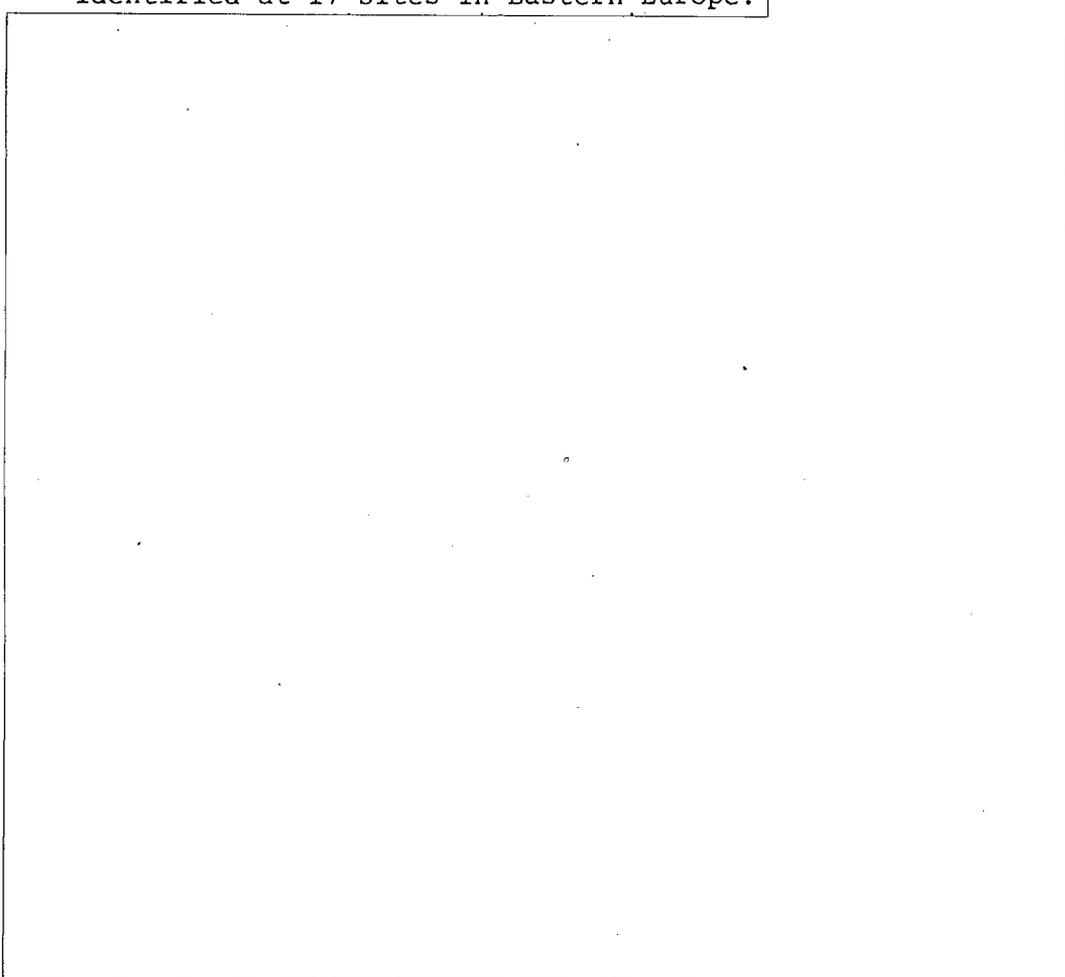
[redacted] Tactical nuclear aircraft have more than doubled. In 1968, Soviet nuclear delivery aircraft based in East Germany and Poland totaled

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about 300. Since then, deliveries of MIG-21 Fishbed J, K, and L and MIG-23 Flogger aircraft have brought the total in these countries to over 700. Similarly, the tactical surface-to-surface missile force consisting of FROG and Scud missiles has increased from about 150 launchers in 1968 to over 200 launchers in 1974. There is also evidence of new warheads with higher yields for tactical nuclear systems.

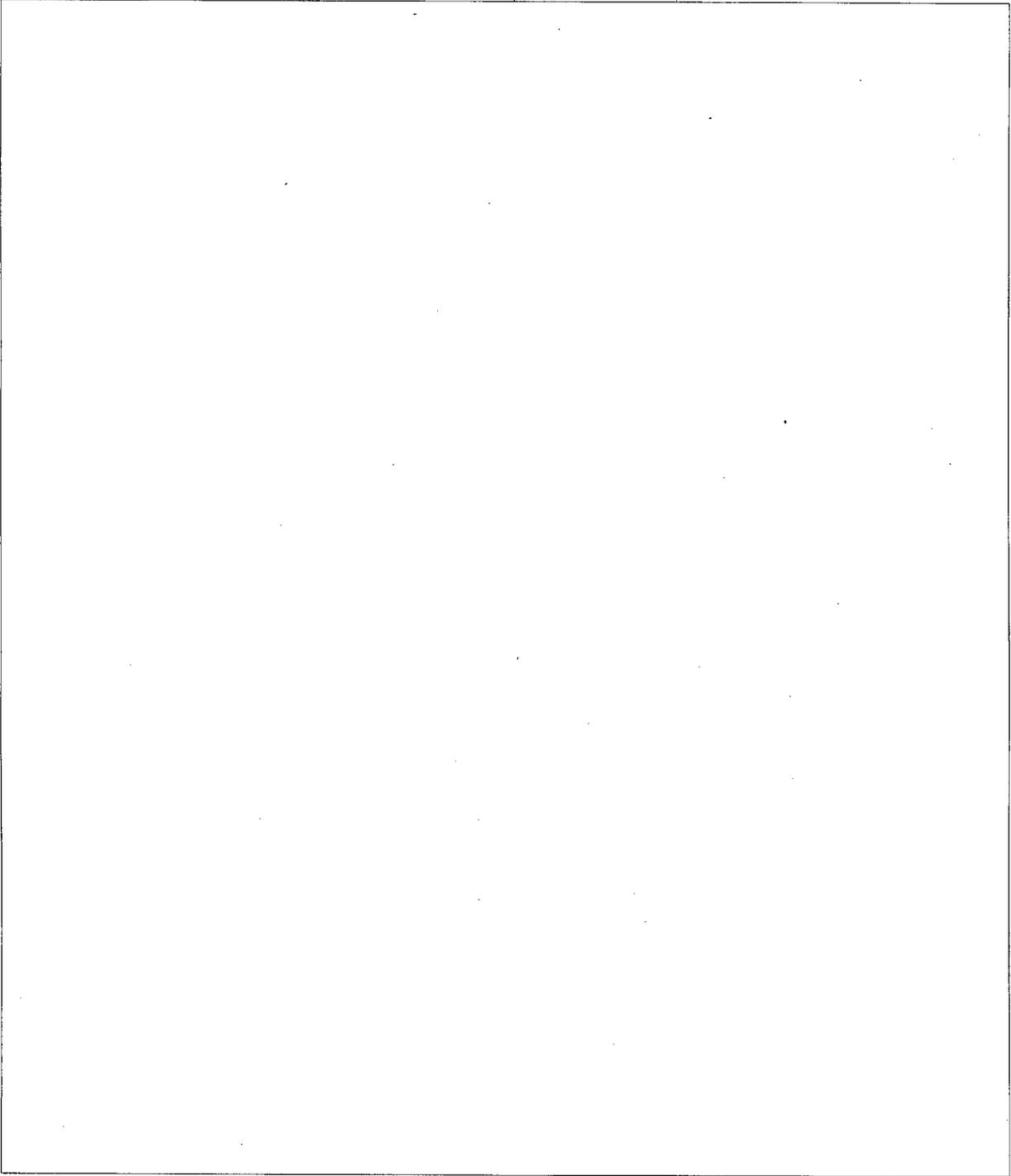
Storage facilities for tactical nuclear weapons, constructed in the mid- to late Sixties, have been identified at 17 sites in Eastern Europe. 



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### Prospects and Implications

The evolution of Soviet forces and doctrine, which led to more flexible conventional war-fighting options in the Sixties and the beginnings of more flexible theater nuclear options since 1970, is continuing. The direction of change is clear--an intent to broaden the spectrum of Soviet nuclear war-fighting options to include limited, selective strike capabilities as well as the more traditional massive uses. The pace of Soviet progress is less clear but depends, to a degree, on the procurement of new nuclear delivery, reconnaissance, and control systems.

#### Delivery Systems

To fight a theater nuclear conflict without involving USSR-based strategic systems the Pact must have tactical nuclear delivery systems of sufficient range to strike deeply into the NATO area and they must be procured in sufficient numbers to redress past imbalances. To the extent these requirements are satisfied, the feasibility of limited nuclear strategies increases.

New aircraft and missile systems under development or being deployed probably will satisfy these requirements for range and numbers within the next several years. The MIG-23 Flogger, operational since 1970, has been introduced in small but growing numbers in Eastern Europe. It is a multipurpose aircraft of swing-wing configuration which will be more stable at the high-speed, low-altitude flight profiles needed to penetrate NATO air defenses. It has about half again the range of current fighter bombers and can probably reach all West German targets. There are about 50 Floggers currently operational in Eastern Europe.

The SU-19 Fencer A will become operational in 1974. This is a swing-wing, multipurpose aircraft comparable to the US F-111 and has sufficient range to reach tar-

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## Soviet Tactical Aircraft With Nuclear Strike Missions

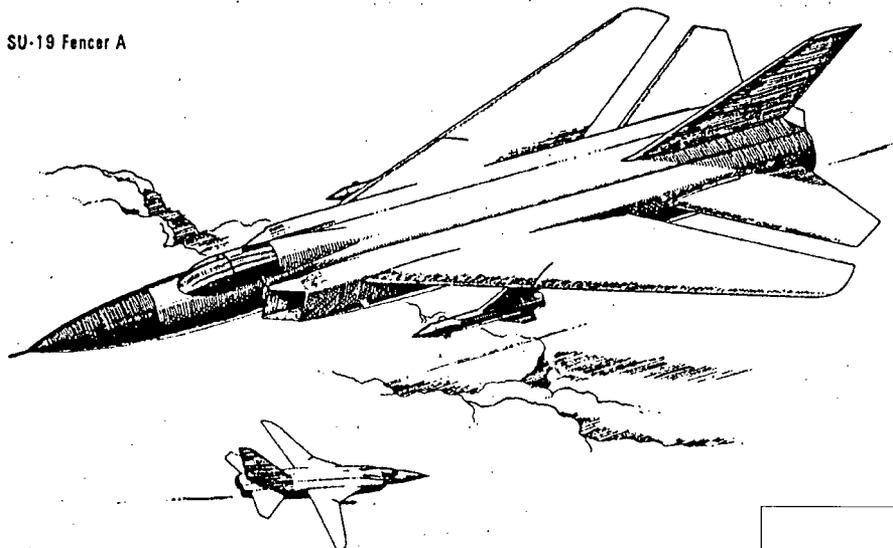
MIG-23 Flogger C



MIG-21 Flahbed K



SU-19 Fencer A



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gets in the United Kingdom. The deployment of this aircraft will be most significant in lessening the dependence of theater commanders on USSR-based weapons for deep theater strikes, the role normally assigned to Soviet strategic systems.

Targeting and Control

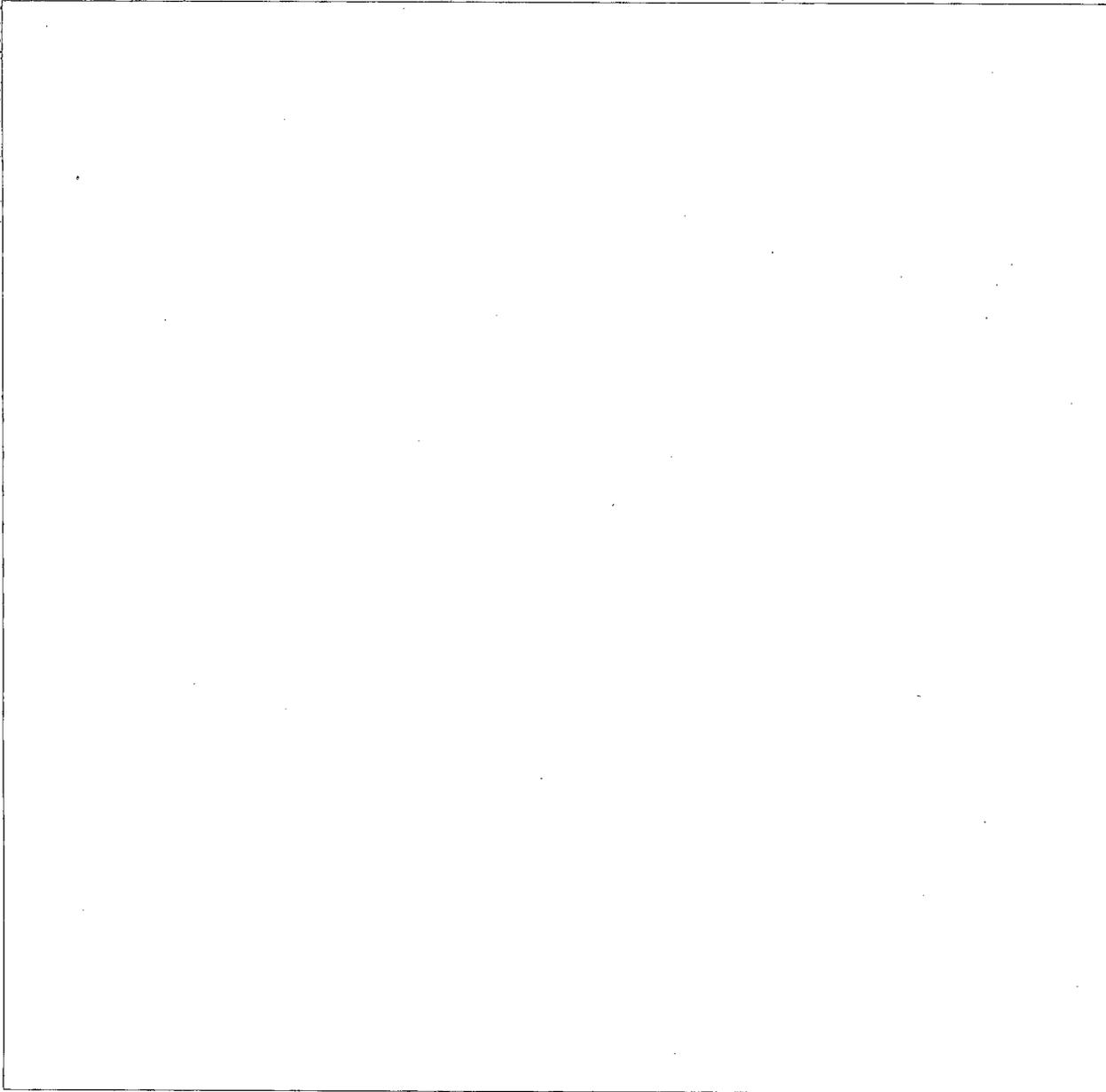
In addition to procuring tactical nuclear delivery systems, the Soviets must make other force changes to secure an effective and flexible option for use of nuclear weapons. Soviet planners apparently believe that targets for selective strikes should include forces being mobilized and deployed--mobile as opposed to fixed targets. This introduces a problem that is highly intractable and expensive to solve, that of target acquisition and real-time target data relay to the strike forces. Pact writings indicate serious shortcomings in both areas. MIG-25 Foxbat reconnaissance aircraft, now deployed in Poland, are an important step in bolstering target acquisition capabilities, but substantial additional deployment is required for a significant target acquisition system.

A new system of positive nuclear release and control probably would also be required. Under current nuclear procedures, the Soviet Supreme High Command

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would order the initial massive use of weapons, with the control of subsequent strikes decentralized within the theater. Soviet writers have indicated concern that the present system might break down in practice, leading to unauthorized firings by commanders threatened with severe reverses. A strategy of using selective nuclear strikes and controlling the scale and scope of a conflict places a heavier demand on the command and control system than does the older strategy of massive strike and decentralization.

#### Warhead Inventories

Some expansion of Warsaw Pact nuclear storage capacity in Eastern Europe may also occur as the size of the nuclear force grows. [REDACTED]

[REDACTED] A more flexible and ready theater nuclear posture probably will include expanded nuclear inventories in the theater.

#### Conclusion

Soviet concepts of, and forces for, nuclear war in Europe have undergone a major transition in the past decade. Most importantly, Soviet doctrine has been broadened to recognize the probability of an initial phase of conventional operations and the feasibility of limited nuclear operations. These modifications have resulted in force improvements and appear, in turn, to have been affected by them. For example, nonnuclear conflict came to be accepted as an indeterminate, possibly extended, phase only after conventional forces had been upgraded and strengthened, whereas the adoption of plans for limited nuclear strikes appears to have paralleled the development of tactical delivery systems capable of reaching targets deep in Western Europe. Thus a close interconnection is evident between

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Soviet doctrine and force changes, each being both driven and constrained by the other.

An important relationship also appears to exist between NATO and Warsaw Pact doctrinal shifts. Soviet recognition that an outbreak of fighting in Europe need not escalate immediately and automatically to nuclear exchanges followed several years of US and NATO debates on the feasibility and desirability of nonnuclear defense of Western Europe. Soviet interest in limited nuclear operations came after a similar period of NATO deliberation on the initial and follow-on use of tactical nuclear weapons preceding the implementation of a general strike. The pattern of NATO doctrinal initiative and Soviet response suggested here does not imply that NATO developments determine Soviet military policy or that other changes would necessarily produce the desired, or any, reaction. The relationship does indicate, however, that NATO statements and exercises are closely monitored as reflecting the strategic thinking of the Alliance leadership and that Soviet doctrine is shaped with these perceptions in mind.

The basic trend of Soviet doctrine has been away from a concentration on a single scenario for European conflict and toward the encompassing of multiple contingencies. The original concept of large-scale nuclear war from the outset has been retained as one possibility, but other, more probable, variants have been added to it. The implied aim is to prepare plans and forces to achieve basic objectives in each of the different contexts in which fighting might erupt and develop. Soviet concepts for nuclear war in Europe are likely to undergo further significant evolution as these alternatives are explored and as force improvements and NATO modifications occur.

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