

1977

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Recommended Citation

Norton, Augustus R. (1977) "NATO and Metaphors: The Nuclear Threshold," *Naval War College Review*: Vol. 30 : No. 4 , Article 5.
Available at: <https://digital-commons.usnwc.edu/nwc-review/vol30/iss4/5>

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Ever since the development of nuclear weapons their employment has been a major concern of military planners. Fortunately, we have had no practical experience with their use. However, in the event of war in Western Europe a decision determining the threshold for their employment would be critical if not decisive. Captain Norton discusses four possible thresholds within the context of nuclear and conventional deterrence.

NATO AND METAPHORS: THE NUCLEAR THRESHOLD

by

Augustus R. Norton

In the wake of the U.S. involvement in Indochina, many tenets of the U.S. foreign policy have been subjected to the severe scrutiny of a Congress renewed in its power and a public noticeably less quiescent concerning American commitments abroad. One cornerstone of American foreign policy has thus far survived relatively intact from this searching and painful period of introspection. That is, of course, the U.S. commitment to the security of Europe.

The declaratory policy of the United States remains clear in its dedication to the defense of Western Europe from external aggression through the policy of flexible response which was adopted by NATO in 1967. The policy of flexible response promises to meet an act of aggression with the requisite level of force necessary to defeat the aggression, including the recourse to strategic or theater nuclear weapons if necessary.

Thus, given conventional parity at

best,¹ NATO may well depend on nuclear weapons as the final arbiter of conflict and accordingly they are the bedrock for the deterrence of the Warsaw Treaty Organization.

Unfortunately, the mere possession of nuclear weapons, in whatever numbers, may not be adequate to deter a determined adversary. Deterrence is by no means automatic. If it is to be successful, it must be based upon an action policy that is credible to adversary and ally alike. The counteraction credibly promised must so raise the cost of the aggressor's gambit as to make any prospective benefit pall in comparison. In addition, deterrence should not be

I wish to acknowledge my intellectual debt to Morton Kaplan and Albert Wohlstetter whose influence and cerebral stimulation are largely responsible for this article being written. Naturally I alone am responsible for the conclusions reached herein.

based upon postures or policies which *unintentionally* heighten the likelihood or intensity of conflict. Unfortunately it is not at all evident that the current NATO deployment is adequately credible, and more seriously it may well be escalatory and dangerous.

I

With NATO's defensive capacity so clearly and closely intertwined with nuclear weapons, a critical focus must be the circumstances which may justify or even demand a decision to "go nuclear"—i.e., the location of the nuclear threshold.² The position of the threshold will influence the effectiveness of nuclear weapons as an element of deterrence and consequently the stability of the balance of forces in Europe. Almost any serious discussion of the military relationship of NATO to the Warsaw Treaty Organization (WTO) starts or ends with reference to the nuclear threshold. If a new weapons system is under consideration (e.g., the cruise missile), we ask: "Will it raise or lower the threshold?" If troop withdrawals are under consideration, the concern is: "What will be the probable effect upon the threshold?" To some a high threshold is sacrosanct, to others it is anathema. Those who are dissatisfied with the nuclear status quo for whatever reason, and desire to adjust, maneuver or propose policies which might affect the threshold, are frequently attacked as dangerous heretics.

Through all this concern with the nuclear threshold, one can perceive certain obvious truths. No one knows where the threshold really is at any given time, although its location is certainly dependent upon the declaratory policies and deployed military capabilities of the respective adversaries. We know that crossing the threshold means that at least one nuclear weapon has been exploded in anger or in error.

But no one knows if that first shot will

lead to yet another and another . . . *ad infinitum*. We know also that the threshold has political and military significance only so long as it does not become so high that nuclear weapons become unalterably irrelevant. We know finally that this amorphous but central concept—the nuclear threshold—can be ignored only at NATO's peril, for it is a critical element in the deterrence of WTO from an attack upon NATO territory.

The defense of Western Europe is inextricably linked to the 7,000 theater nuclear weapons controlled by the United States and deployed within the NATO alliance. Ultimately, the theater nuclear weapons are "coupled" to the strategic nuclear arsenal of the United States by their very presence and the uncertainty which would surround their use. How sure or short that coupling is or should be, has been a matter of fundamental if inpersistent debate. Simply stated, the length of the coupling reflects the degree to which strategic weapons may be isolated from a land war in Europe; while the inviolability of the coupling is a matter for political, rather than objective determination. In short, the Europeans prefer a short, secure coupling, which they perceive as the most effective—and locally least costly—deterrent. The U.S. preference seems quite different.

Conceding the central importance of the nuclear threshold, the purpose of this article will be to develop several conceptual models of the threshold; to discuss the model which best seems to describe existing circumstances; and to illuminate the model which would best satisfy NATO objectives at acceptable levels of risk. The vehicle for the discussion will be a set of four models which are proposed to depict the condition(s) of the threshold at its four logical extremities. Before discussing the models individually, it is important that the following definitions and assumptions be made explicit:

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• While the link between conventional defense and the employment of nuclear weapons may be obvious, its upper limit or threshold may be and often is ambiguous.

• Hence, the threshold may exist with varying degrees of clarity. Extreme clarity, i.e., lack of ambiguity, is said to exist when a given action is known to be a sufficient (and frequently a necessary) condition for crossing the threshold. On the other hand, disclarity—"fuzziness"—indicates that the exact level of violence which will result in crossing of the threshold is ambiguous (the sufficient condition is not precisely made known). Each condition of clarity has inherent advantages and disadvantages.

• A high threshold does not necessarily predict a lesser likelihood of nuclear weapons employment, since the speed with which the threshold will be approached is a function of conventional capabilities on both sides. That is to say that a reluctance to use nuclear weapons may be quickly overcome if the conventional defense proves inadequate at early stages of combat. In the case of a low threshold, a conventional defense sustainable over time is less important, since the low threshold describes by definition an early resort to nuclear weapons.

• The first use of nuclear weapons by the Soviet Union is a possibility which should not be, but often is neglected. There is a tendency for choosing preferred worst cases.³ Many commentaries on potential conflict in Europe tend to assume a *massive conventional* attack by WTO forces. This predilection ignores the very real advantages to be gained by WTO by the first use of nuclear weapons. Thus, when considering the positioning of the threshold from the Western perspective it is well to remember that such positioning may affect the adversary's use of both conventional and nuclear forces, just as the options from the opposite direction may be similarly affected.

• For the purpose of this examination, nuclear weapons are held to be qualitatively distinct from nonnuclear weapons. While the "firebreak" between nuclear and nonnuclear weapons may only be psychological, it is nonetheless significant.⁴ However, it should not be inferred that this assumption implies incontrovertible escalation once the threshold is crossed, although conjecture to the contrary is singularly unconvincing.⁵

• There is no universally correct or appropriate model. Each is affected by the logic and facts of its environment and is accordingly situational.

II

Condition one—High and Fuzzy. In this condition the nuclear threshold is discernibly high, but it is not clear how high. Such a posture would be built on a declaratory policy which stresses the grave consequences of nuclear conflict while not specifying the precise level of aggression or attack that would trigger the use of nuclear weapons. As with condition two (below), such a threshold must not be so high as to indicate that nuclear weapons would never be used in connection with conflict in Europe. To do so would remove the "nuclear option," and render nuclear weapons irrelevant to conflict in the European theater.

High thresholds are associated with an expressed basic reluctance to use nuclear weapons. The prudent and reluctant power in this context would allow itself adequate options at the conventional level, combined with the pursuit of nuclear arms control or reduction. The imprudent actor would depend on the *ultima ratio* (his nuclear arsenal), while avoiding arms control processes which would eliminate the nuclear force upon which he so dearly depends. The imprudent actor would find himself in an inherently unstable situation and would tend to overcome

his reluctance and thus to move to condition three or four (see below) or would find himself faced with the prospect of *faits accomplis*.⁶

There is a degree of risk with this posture, although the risk is not as great as with other postures. The potential adversary, perceiving a high and fuzzy threshold, could elect to conduct low-intensity or even midintensity military operations with relatively modest objectives. The attacker would tend to allow himself a margin of safety to account for his perceptual shortfall in order not to engage inadvertently the nuclear arsenal of his victims or their sponsors. Were the attacker to misperceive grossly the threshold, there would be a grave risk of a nuclear exchange. To enhance the latter risk (and thus deterrence), it would be desirable to build on the existing ambiguity concerning threshold clarity with yet further ambiguity.

A condition one threshold would be most desirable when a broad spectrum of conventional capabilities exists on the part of the defender. Since higher levels of violence will enter the zone of ambiguity, any choices for defense posturing would be wisely directed to credible conventional capabilities to enhance deterrence. Should conventional-level deterrence fail to dissuade low and midlevel military actions, there must be an alternative to nuclear weapons employment.

Condition two—High and Clear. This is a readily discernible, precisely specified threshold. This posture is of the genre of the Hollywood scene in which the cowboy draws a line in Main Street of Laramie and declares to the outlaw: "Cross this line and we'll meet at thirty paces with six-guns." In the cinema the line has been frequently crossed; in the nuclear arena one hopes otherwise. This is truly the post of a rich and extravagant state-actor (at least in the context of the U.S.-Soviet military balance), for if it is to be both credible as a deterrent

and effective in practice (which will largely determine credibility anyway), it necessitates plenary conventional capabilities.

This condition has the advantage of clearly delineating the precise point at which there will be a resort to nuclear weapons. It is likely to be internally credible since it will take a major act of war to cross the threshold. Unfortunately, it does nothing to deter lower levels of aggression and it compounds the failure by defining by omission just what a lower level of aggression would be. This posture would be most appropriate in two conditions: First, where a preponderance of conventional force rests with the defender and second, where the adversary has neither the conventional force nor the desire to seek even modest military objectives. Obviously, neither the first nor the second condition has existed, nor is likely to exist for NATO forces in Central Europe.

Without a conventional capability adequate to deny the adversary gains at the nonnuclear (i.e., below the threshold) levels, this condition would be incredible for deterring Warsaw Treaty Organization (WTO) attack in Central Europe. While such a threshold condition is not the most dangerous, it raises the risk of serious miscalculation especially with regard to tardy reappraisals by the defender. Specifically, the declaratory policy may be recognized as inadequate too late, and thus the action policy may be early resort to nuclear weapons. This could readily occur because of friendly miscalculations of their own or enemy conventional strengths. Condition two would tend to be highly unstable and would likely evolve to condition one, or less frequently conditions three or four. Condition two would have several serious side effects, in addition to its inherent instability.

- It may encourage further nuclear proliferation among allies to reduce the

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clarity and/or height of the threshold. The French *force de frappe* may be correctly viewed as an early such response.

- It may lead to reduced expenditures, and resultant reductions in conventional capabilities unless the need for a broad spectrum of conventional capabilities is recognized and accepted. Accordingly, it may actually increase the prospect of a nuclear exchange in the event of conflict.

- It may erode allied faith in NATO and create a sublimation effect (e.g., "Finlandization"). This may occur for two very different reasons: First, the perception by the Europeans of non-nuclear capabilities as inadequate to the threat; or, second, the specter of a replay of World War II connoted by the emphasis on conventional defense. Either interpretation could make less belligerent or even submissive stances vis-à-vis the Soviet Union more appealing.

Condition three—Low and Fuzzy.

This condition can be very effective for limited periods and yet it is extremely dangerous. It espouses the effectiveness of nuclear weapons to signal resolve, or to defeat and hence deter a conventional transgression. Thus, it promises an early answer to the question of the degree to which theater nuclear weapons are coupled to strategic nuclear weapons. This posture promises an early resort to nuclear weapons while not being very clear exactly how early.

More than with any other condition, except the fourth, this posture raises major questions of credibility. This condition may only be credible if the Soviet Union continues to believe that nuclear conflict is a unity.⁷ That is, in order to be consciously implemented, NATO would have to assert publicly that restraint in nuclear conflict is attainable, while counting on the Soviet Union not to reach the same conclusion.⁸ For the United States to do otherwise would be

to subscribe to a doctrine for the employment of theater nuclear weapons which would be tantamount to firing the first shot in a nuclear exchange. The political costs of such positioning would be quite high, since it would fly in the face of the European aversion to any strategy which implies an extended (and grossly destructive) land war on the continent. This posture would be, however, one mode for allowing a parsimonious nation to reduce overseas deployments, but only at great potential political costs.

Not only would condition three enhance the danger inherent in East-West crisis, but it would substantively challenge the Atlantic alliance. For these reasons, this posture would tend to be transitional. The domestic and international political controversy it would engender would be a pressure for redefinition—tending at least to movement to condition four and perhaps condition one (which would be dangerous in itself if the move to condition three had been accompanied by reductions in nonnuclear deployments). More fundamentally, condition three would lose its disclarity and naturally evolve through requisite declarations and historical experience. As time progressed, it would become clearer through planned and inadvertent adversary testing.

Condition four—Low and Clear.

Aggressive actions at a specified level of violence trigger the use of nuclear weapons. The defender would have little reluctance to resort to nuclear weapons, although he would be discriminating in the choice of targets. As with condition three, this posture is associated with theater nuclear war-fighting capabilities and would be built upon the belief that a credible nuclear war-fighting capability would be the best deterrent. To espouse a condition four (or even condition three) threshold, there would have to be wide ranging theater nuclear

capabilities to complement a doctrine which must specify nuclear exchanges containable to the region. Thus, more limited stratagems to signal resolve, such as the nuclear shot across the bow, would be inconsistent with the containability notion to the degree that they imply linkage to strategic nuclear forces. Such a tact obviously raises the credibility oqre.

Credibility problems are obvious, since there will always be doubts concerning any nation's preference for early resort to nuclear weapons when faced with the prospects for retaliation in kind and escalation. Credibility would be enhanced by the pursuit of a declaratory policy which stresses the possibility of first use and the responsiveness of nuclear weapons systems. Secure, dispersed weapons systems would enhance this posture, as would improvements in the accuracy of nuclear delivery systems.

Some testing would be possible, although adversary inhibitions are likely to preclude a testing of the defender's resolve by crossing the line delineated. A credible condition four threshold would require modest and reasonable conventional capabilities in order to prevent the "designing around" of deterrence at subthreshold levels. More importantly however, consistent with the war-fighting capability would be substantial maneuver forces to fight a theater nuclear war. Not to have the number of forces deemed necessary for battlefield use would call into question the commitment to go to war and would naturally infer short coupling.

To the degree that the low and clear posture stressed a battlefield nuclear war-fighting capability and the containment of theater nuclear war, it would challenge the cohesiveness of the alliance. It would seem beneficial to reinforce European and Soviet perceptions of the escalatory process by stressing the link between "tactical" and "strategic" nuclear weapons, yet to do

so in too vocal a fashion would stress a posture which purports to initiate general war and would thus be incredible. This is certainly a posture demanding a delicate choice of rhetoric.

A low and clear posture would suffer from arms limitation and agreements unless such agreements reduce conventional forces in WTO in trade for theater nuclear forces in NATO. This is precisely the type of *quid pro quo* which WTO has been unwilling to accept to date however.

III

While theater nuclear weapons are certainly omnipresent in any calculus performed within NATO or WTO, they are not being bandied about by either Eastern or Western spokesmen. The days when President Eisenhower considered nuclear weapons just another weapon during the "New Look" and "Massive Retaliation" epoch are long past. Similarly, it has now been two decades since the Soviets overtly threatened Great Britain with a rain of "modern destructive weapons" as a result of British participation in the Suez crisis.

Under the flexible response rubric U.S. spokesmen have been persistent in portraying theater nuclear weapons (TNW) as a supplement to conventional forces, rather than a substitute. Essentially the U.S. position has delineated two roles for TNW. First, the deterrence of Soviet first use through the ability to reply in kind. Second, as insurance against the failure of NATO deployments in the face of an overwhelming attack of massive, but subnuclear dimensions. Accordingly, the option of a first use of theater nuclear weapons by NATO is quite plainly left open. A clear and typical statement of the U.S. position has been provided by Secretary of Defense Rumsfeld in the *Annual Defense Department Report, FY 1977*:

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If deterrence failed, and the Pact used nuclear weapons or NATO's conventional forces could not contain Pact Forces, we could consider the use of theatre nuclear forces. *The NATO objective in either of these situations—war termination on terms acceptable to the Alliance—would be sought by executing the appropriate options.* [Emphasis added]⁹

While the relevance of the theater nuclear weaponry deployed by the United States in Europe is stalwartly stressed, it is quite clear that the expressed position recognizes the great danger inherent in the use of such weapons. Excepting Soviet first use (which must always be considered a possibility),¹⁰ there is an evident reluctance to resort to nuclear weapons which belies a high threshold aspiration. The ability of the NATO powers to sustain a high threshold obviously requires the capability to deal with levels of violence below the threshold. This caveat is oft recognized. Reference to this fact can be found, for example, in a very important report presented to Congress in 1975 by then Secretary of Defense Schlesinger, wherein it is noted:

[Theater Nuclear Weapons] have a unique role to play in the spectrum of deterrence, and we should continue to maintain and improve them. But they should not be viewed as a crutch that can replace a strong conventional leg of the deterrent Triad [Triad in this context refers to conventional, theater nuclear and strategic forces]¹¹

It should also be noted that conventional forces cannot substitute for an adequate theatre nuclear force.¹²

Thus, TNW are deemed essential for a NATO defense sufficiently buttressed with conventional capability to support high threshold. As was noted earlier,

high threshold—ambiguous or not—if not supported by adequate nonnuclear capabilities will tend to be quickly approached and perhaps crossed (with surrender being the alternative). In the section which follows, the aspiration will be measured against the reality, and a judgment will be made as to whether NATO capabilities seem to meet the requisites for the condition one threshold.

IV

It is a fundamental premise of this article that the declared U.S. policy for the use of TNW should be complementary to the realities of the European balance of forces. Using the position presented in the preceding section as our benchmark, it is quite clear that several capabilities should be present in NATO:

- NATO should be capable of defeating a significant range of offensive operations that may be mounted from the East.
- The NATO TNW posture should be sufficiently stable so as to remove significant temptations for a preemptive disarming attack by WTO.
- In the event that the use of TNW's is authorized by the West, the outcome of a TNW exchange must not be disadvantageous to NATO.

NATO Conventional Capabilities. Is the evident aspiration for a condition one threshold reasonably linked to the reality one finds when examining the balance of forces in Europe? We have seen already that an expressed reluctance to resort to nuclear weapons may be quickly overcome in the face of failure at the nonnuclear levels. Is such a failure likely? Over the past decade or so, there has been considerable controversy within the community of defense specialists over the relative capability of NATO versus WTO conventional forces. As might be expected, there

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is a surfeit of contentious arguments.¹³

Several bases for comparison do however suggest themselves as logical stopping points for examination along the familiar path which is being explored. The first of such points must be the numerical balance of forces. While recognizing that advantages of technology, disposition and resolve may be equally important, there can be little doubt that numbers count. Adjudging the quantitative comparison, it is plain that the balance is weighed heavily to the advantage of WTO in several significant respects. According to a recent study by the Library of Congress, the numerical balance leaves NATO outnumbered and outgunned in Northern and Central Europe as follows: Committed divisions 27:57; reinforcement divisions 17:51; reserve divisions 9:2; total divisions 53:152; tanks 7,000:19,000; tactical aircraft 2,500:2,900; medium and intermediate range ballistic missiles 0:583.¹⁴ The figures are sufficiently disparaging so as to raise questions concerning the level of relative NATO capabilities in the defense.

Even some of those who argue that NATO is not outnumbered in terms of committed forces, do concede a rapid mobilization advantage of WTO. One noted authority, Steven L. Canby, states:

The major Soviet advantage is the Warsaw bloc's rapid mobilization and reinforcement system. Whereas NATO could reinforce its division count by two to five divisions in the first thirty days, the comparable WTO figure is twenty-five to fifty divisions.¹⁵

There are several factors which mitigate the numerical balance discussed above. Certainly differences in force structure must be considered. For example, the manpower of U.S. armored and mechanized divisions is 17,500 and 16,000 respectively, as opposed to comparable Soviet divisions which are being

increased in strength to 12,500 men in the case of motorized rifle divisions and 10,000 in the case of tank divisions.¹⁶ Yet the Soviets are structured for a short violent war which emphasizes shock power as opposed to the staying power stressed in the NATO long-war deployment.¹⁷ Thus, the "division slice"—the division, itself plus a proportional share of nondivisional troops and administrative overheads—is 17,000 for Soviet mechanized divisions vis-à-vis 48,000 or more for a comparable U.S. division.¹⁸ Effectively then, WTO does have a numerical advantage which is yet further accentuated by its emphasis on "up front" strength.

As a mode for encouragement, classic attack ratios are frequently cited as an indication that WTO does not possess the requisite power to launch an attack confidently. It is commonly asserted that a superiority ratio on the order of 3:1 is necessary for an attack to be launched with reasonable confidence and prospects for success. What such assertions ignore however is that the 3:1 "rule" refers to local superiority as opposed to theater superiority. By paying heed to the principles of *mass* and *economy of force*, an attacking force may achieve the 3:1 force ratio locally while even suffering an imbalance in general. Thus, simplistic efforts to sum all forces available on either side, and then declare NATO is not outnumbered three to one and is therefore quite capable of a credible conventional defense, are patently absurd. A widely read study by the Brookings Institution makes just such an assertion,¹⁹ while adding the telling caveat that "only in tanks does the Pact have an overwhelming superiority."²⁰

Recent research, including this Brookings study, asserts that NATO can defend itself if it is restructured to meet the short-war threat.²¹ By maximizing immediately available combat power, NATO would enhance the credibility of its deployment to counter the most

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likely threat, rather than the current posture of short-war vulnerability which tends to validate Soviet doctrine. As Steven Canby observes:

Essentially, the Soviets have no alternative to their plan for a blitzkrieg war, so this is the kind of attack NATO must be postured to repulse, NATO does not have the required force today.^{2 2}

Canby's observation is well borne out by Andrew Goodpaster, former Supreme Allied Commander Europe, who notes:

NATO conventional forces alone do not give full assurance of preventing the overrunning of Western Europe, a fact that is well-known, both to NATO and to the Warsaw Pact.^{2 3}

The weight of such assessments and the proposals that flow from them has begun to be felt within the U.S. military establishment where there is a very recent emphasis on winning the first battle of the next war. Much of the impetus for the new focus may be found in the development of precision guidance technologies which promise to offset force imbalances, especially in armored vehicles, and perhaps most significantly complement a high nuclear threshold by destroying targets previously planned for TNW's.^{2 4} While precision-guided munitions (PGM's) hold great promise for NATO, the technology is not at all one-sided. The Western emphasis on quality high-cost weapons systems raises the specter of important vulnerabilities to PGM's deployed within WTO. Furthermore, while PGM's are said to favor the defense,^{2 5} it is important to remind ourselves that the defense being referred to is the tactical (i.e., local) as opposed to the strategic. Thus, a WTO attack of limited scale could result in the seizure of territory that could be regained only at a great price through a NATO attack which would have to overcome a PGM-armed defender. In summary then,

PGM's and other emerging technology can bolster NATO capabilities, but they are not a panacea, for as Kenneth Hunt observes,

... in the long run technology is rarely dominant... Counter-measures are always produced; an advantage is rarely enjoyed for long. At the moment, NATO is reaping some advantage from superior technology, but it can reap more by strengthening the defense and raising the price of aggression. Deterrence would thus be improved and the new weapons could be said to have provided some stability. However, the balance between offense and defense is likely to be changed temporarily, and perhaps only tactically, at that. Technology must certainly be pressed into service, but it must not be asked too much. Numbers count as well. Men are still important.^{2 6}

NATO TNW Stability: Temptations and Vulnerability. Theater nuclear weapons systems which are vulnerable to preemptive destruction could well lead to the very outcome—nuclear exchange in Europe—that should be avoided. Inadequately protected systems may tempt the adversary to pursue their destruction at the very earliest stages of conflict. The higher the first strike bonus, the more keen will be the preemption incentive. Furthermore, NATO recognition of such vulnerability could well form the impetus for an otherwise unnecessary first use by NATO in lieu of the destruction of the systems on the ground. Unfortunately such instability clearly exists. In fact, acknowledgment by important U.S. spokesmen of this undesirable state of affairs may be found on the public record.

In his fiscal year 1976 report to the Congress, then Secretary of Defense James R. Schlesinger stressed that,

"Vulnerability of these [TNW] forces to surprise nuclear attack should be reduced, and the more exposed dual-capable systems should have the capability to disperse quickly so as to match a surprise dispersal by the Warsaw Pact."²⁷ Obviously for there to be a characteristic to be affected (i.e., vulnerability), it must first exist... and it does. The evident concern of DOD with the problem of TNW vulnerability is clear in numerous statements that have been made on the open record. Others, with less cause for circumspection, have been far more explicit in treating the problem. Specific areas of vulnerability have been identified for example, by S.T. Cohen and W.C. Lyons, as follows:

(1) NATO's tactical air forces are concentrated at airfields (on the order of one hundred). Nearly all of which are within reach of Soviet tactical missiles.

(2) NATO's mobile tactical nuclear missiles and self-propelled 155 MM and 203 MM artillery weapon systems are usually parked in a limited number of large casernes (as are most of NATO's armored vehicles), thereby enhancing their targetability to Soviet tactical missiles.

(3) NATO's (U.S.-controlled) tactical nuclear warheads are kept, during peacetime, in a limited number of well-guarded storage areas at large military installations to thwart terrorist "bomb-nappers" and Pact saboteurs (in time of East-West crisis) and are only dispersed under extreme crisis conditions.²⁸

A partial response to these vulnerabilities may be found in the fiscal year 1977 report to the Congress by the Chairman of the Joint Chiefs of Staff, General Brown, who stated:

... the inherent mobility and dispersal capability of these weapons

enhance [sic] their survivability and reduce [sic] the temptation to attempt their destruction by preemptive strikes. A potential adversary is confronted with possible nuclear capability in every artillery position across the entire front. This spread of common delivery means presents the enemy with a most difficult targeting problem.²⁹

Notwithstanding the emphasis so obviously (if implicitly) placed upon strategic warning in order to take advantage of "inherent mobility and dispersal capability," this statement is noteworthy for several reasons. First, while it is made in the context of a discussion of TNW in general, the vulnerability problem only seems to have been solved in the case of the most numerous and least useful delivery system—tube artillery. Totally ignored in this official statement, and many others for that matter, is the potential vulnerability of aircraft, surface-to-surface missiles and rockets, and atomic demolition munitions (ADM's). Ironically, the least important (with the unimportant exception of ADM's) system may be the most survivable, and then only with adequate warning. The range of cannon artillery is limited to the confines of the battle area, and the yields of its warheads range from as low as .1 KT to only several KT.³⁰ Accordingly, artillery-launched nuclear munitions are least appropriate to the concept for the use of TNW that has been declared:

First use should be clearly limited and defensive in nature, so as to reduce the risks of escalation. However, the attack should be delivered with sufficient shock and decisiveness to forcibly change the perceptions of WP leaders and create a situation conducive to negotiations.³¹

Clearly the elements of "shock and decisiveness" require more than artillery can deliver in order to prevent mis-

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perception or misconstruction of intent. Thus, such systems as the Lance and the Pershing, as well as tactical air systems, must loom large as the preferable vehicles for delivery. Unfortunately, they also loom large by any measure of vulnerability. One specialist, Colin S. Gray, has summed up the situation as follows:

The current NATO posture is excessive in scale for any of the stated political or military purposes for which it is maintained. However, the scale and almost *ad hoc* character of the posture is perhaps justifiable, given, its vulnerability to nuclear and conventional PGM and (in many instances) to being overrun rapidly. Nuclear ammunition sites invite pre-emptive attack; similarly, most of the TNW delivery vehicles offer a very large first-strike bonus to the attacker. Save for Lance (which is in very short supply), NATO's SSM's are movable rather than mobile, and the QRA [Quick Reaction Alert] (and many other) aircraft should not be expected to survive a dedicated assault upon airfields. Given NATO's determination to delay TNW use for as long as possible, major elements of the TNW posture must survive the first day of war intact. Under present conditions, they cannot be expected to.³²

The preceding statement is reinforced in its seriousness by a comment from Malcolm Currie's recent Research and Development report to Congress:

The advent of Soviet capabilities to carry out deep-strike missions against NATO targets is of particular concern, especially in view of the developing asymmetry in tactical air defenses. . . . Comparatively, the new Soviet tactical aircraft facing NATO's thin and aging air defense environment are well-suited to attacking NATO

targets and are being produced in numbers.³³

Such vulnerabilities as have been alluded to above prompted James Schlesinger to announce in his report to Congress on TNW posture, that:

Past DOD theatre nuclear force modernization programs were not fully keyed to specific threats to their survivability. To reduce these uncertainties and improve our modernization programs, theatre nuclear force "security" R&D program has been initiated with the following objectives:

To assess the survivability of these elements under conventional and nuclear attack, identify deficiencies and develop improvements.

To develop technology to counter possible future threats to the survivability of these theatre nuclear elements. . . .

Studies are in progress to find ways of improving survivability under nuclear attack.³⁴

To date there have been scant public statements on the outcome of these studies.³⁵ We do know that efforts are currently underway to improve survivability of TNW's through improvements in mobility, hardening of aircraft shelters, camouflage of fixed systems, and active defense and increased communications security.³⁶ However, whether the vulnerability problem can be reduced to acceptable and stable limits must be a matter for conjecture at this point. Optimism would dictate that the problem being recognized will now be aggressively attacked and solved. But, as many previous Supreme Allied Commanders would probably agree, optimism may be misplaced.

(Dis)Advantages of the Current "Doctrine." If there is one unifying

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sentiment which draws together the disparate commentary on TNW in Europe, it is the recognition that the doctrine for use of TNW is nonexistent, or at best inadequate.³⁷ Notwithstanding the undesirability of a nuclear exchange in general, there are several very critical deficiencies in the deployment.

The decision to escalate beyond theater-based weapons would indeed be excruciating and a challenge to the continued existence of U.S. and Soviet society. Yet, realities tend to indicate that in the event of war in Europe the decision would have to be made sooner, rather than later, as a direct result of opposing capabilities. On balance the coupling seems to be short indeed. This conclusion is complicated by several factors which tend to bring to question the very logic of NATO dependence upon TNW.

Considerable analysis supports the conclusion that a nuclear war in Europe may actually require more men rather than less. As previously recognized by James Schlesinger, TNW do not substitute for conventional forces. Thus, even a limited early use of TNW may further place NATO forces at a disadvantage. The side with the most forces does perhaps have the most to lose, but it also stands to have the most survive. As noted by a German authority, Wolfgang Heisenberg, an adequate manpower supply is not obviated by TNW.

The original hope that the introduction of TNW might compensate for the Eastern superiority in manpower has largely been disproved by the American, British and German war games and studies . . . , which demonstrated that at least for the geographical conditions of Central Europe, the greater depth of the battle zone and the higher ratio of casualties would probably make the Western Forces more rather than less dependent on a sufficient supply of

manpower. [Emphasis in original]³⁸

Compounding these shortcomings is the lack of symmetry in the TNW arsenals of the opposing alliances. While U.S. supplied weapons are of relatively low yields, this characteristic is not shared by the U.S.S.R. which according to most estimates has opted for larger yield weapons with poorer delivery accuracy.³⁹ Thus, in the event of a first use by NATO, restraint in targeting and levels of destruction is unlikely to be reciprocated by the Soviets. Unless the West is willing to accept a heavier tit for its tat, the likelihood of further escalation must be deemed high. Having the ability to strike with discriminate yield and accuracy loses its value as a demonstration of intent, when the adversary is technically incapable of acting within such tacit parameters of restraint. Unless a first TNW use by NATO is adequate to demonstrate resolve decisively, thus causing WTO to desist in its attack, the propensity for further escalation can only be high.

Another disadvantage for NATO TNW use is the delay in real time that is likely to result from two factors: first, the obvious reluctance to cross the threshold and second, the sheer political mechanics of approving the use of nuclear weapons. On the latter point, it is interesting to note that a very recent U.S. Army Field Manual uses 25 hours as the illustrative delay between request and delivery.⁴⁰ When such delays are combined with the formidable daily rate of advance objectives (up to 100 kilometers per day) sought by the Soviets, it may well be that TNW's alone may be too much, too late.

V

The current U.S. position on theater nuclear weapons stresses ambiguity to the point that not only is the threshold obscured, but the very concept for use is chimerical. The aspiration is clearly

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for a high and fuzzy threshold, yet reality seems to point elsewhere. The very vulnerability of the TNW delivery systems invites a resort to TNW by the adversary, and hence provides the impetus for an early use by NATO. Conventional shortcomings in NATO add yet further incentive for a first and early use. Once the sacred threshold⁴¹ is crossed, NATO is ill-equipped numerically and in terms of material (e.g., NATO tanks are not as well equipped for a nuclear environment as their WTO counterparts) to fight a theater nuclear war. Thus, nuclear weapons may only be an opiate for an alliance unwilling to provide the nonnuclear wherewithal for a satisfactory defensive deployment.

Cogent objections are raised against efforts to dissipate the fog shrouding TNW doctrine. Precise definition of the doctrine may have deleterious effects upon alliance cohesion and may add precision to the adversary's planning which is undesirable. However, some balance must be found between total clarity and complete ambiguity (or should one read: "confusion"?). While the heuristic condition one threshold is appropriate to the situational requirements faced in NATO's environment, the requisites of ambiguity must not be excuses to ignore reality or to deny clarity where it is useful. To the extent that clarity can be safely achieved, conventional necessities will be highlighted, and this is desirable. Nuclear weapons are desirable insofar as they deter the use of nuclear weapons by the adversary, but they cannot offset conventional shortcomings. Perhaps the best way to gain recognition for non-nuclear force requirements will be to attain reasonable specification of the point at which a first use by NATO will be countenanced. While precise public

definition is unwise, careful (if somewhat imprecise) public specification should be viewed as a means for building support for stalwart nonnuclear capabilities. To deny the Soviet Union the capability of seizing West European territories by nonnuclear means is to put the onus of first use upon the Soviets. This desirable goal reverses current asymmetries.

Furthermore, careful definition of the threshold provides a rationale for the elimination of instable TNW systems and the improved protection of those that remain. The ability to defend Europe without nuclear weapons may, in a supreme irony, render NATO more capable of fighting a theater nuclear war. This is especially so since modern targeting technologies may demand deployments not unlike those envisaged for nuclear warfare. Thus, the rationalization of the NATO TNW posture may still satisfy European sensitivities while paying heed to martial realities.

The intentional use of nuclear weapons in Europe would be one of the trying acts in the history of civilization. That act should not be consummated out of ignorance or error.

BIOGRAPHIC SUMMARY



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NOTES

1. The conventional capability of NATO forces vis-à-vis the forces of the Warsaw Pact will be surveyed in some detail in Section IV of this article.

2. According to a recent study by the Library of Congress, the threshold is defined as: "An intangible and adjustable line between levels and types of conflict, such as the separation between nuclear and non-nuclear warfare. The greater the reluctance to use nuclear weapons, the higher the threshold." See *United States/Soviet Military Balance* (Washington: U.S. Govt. Print. Off., 1976), p. 68.

3. Bernard Brodie noted this tendency in his classic work, *Strategy in the Missile Age* (Princeton: Princeton University Press, 1959), p. 347. Brodie stated: "... we hear repeated expression of the idea that if the enemy starts the war, he will do it in the one way that enables us to annihilate him. This is only one of the many instances where we have let our fantasies dwell exclusively on 'American-preferred Soviet strategies.'" [Emphasis in original.] Samuel T. Cohen makes a similar comment more relevant to the instant examination:

Apart from predictions of future Soviet intentions, the Warsaw Pact's capability for initiating a tactical nuclear campaign against NATO can no more be disregarded than its capability to launch a large-scale conventional attack. Obviously a nuclear attack would be far more successful militarily; the Soviets would have the great advantage of a nuclear first strike and NATO's forces, which are not structured for tactical nuclear war, would be highly vulnerable. Yet the U.S. emphasis continues to be based on conventional attack, which somehow is assumed to be far more probable and credible. Ironically, emphasizing a NATO conventional capability to defend against a Pact conventional attack appears only to increase the likelihood that any attack will be nuclear at the onset, why would the Soviets opt for a mode of warfare that had a lesser chance for victory?

"Tactical Nuclear Weapons and U.S. Military Strategy," *Orbis*, Spring 1971, p. 182. Naturally Cohen's comments ignore the very real element of risk which the Soviets would have to contemplate if first use were being considered.

4. A most important development of this argument may be found in Thomas Schelling, *The Strategy of Conflict* (New York: Oxford University Press, 1960), pp. 257-266.

5. For an example of such conjecture see James H. Polk, "The Realities of Tactical Nuclear Warfare," *Orbis*, Summer 1973.

6. This possibility is widely asserted, e.g., Andrew Goodpaster, "NATO Strategy and Requirements," *Survival*, September/October 1975, p. 210; and Statement by Gen. Fred C. Weyand, Chief of Staff, before the Committee on Armed Services, U.S. Senate, *The Posture of the Army* (Washington: U.S. Govt. Print. Off., 3 February 1976), p. 15. Apprehension concerning *faits accomplis* seizures of territory is not a recent development as commonly assumed, e.g., Bernard Brodie, *War and Politics* (New York: Macmillan, 1973). See p. 398 particularly, where Brodie cites the "Hamburg grab" which was a popular scenario during the Kennedy and Johnson administrations.

7. According to Martin J. Miller in a May-June 1970 article in *Ordnance* magazine, "there has been little indication in recent Soviet military literature to suggest that they have seriously considered concepts such as controlled nuclear response. The Soviets still adhere to the strict 'nuclear firebreak' theory that any use of nuclear weapons will trigger a general nuclear war." The Miller article is reprinted in a most valuable volume of hearings: U.S. Congress, Senate, Committee on Foreign Relations, Subcommittee of the Committee on Foreign Relations, *Nuclear Weapons and Foreign Policy* (Washington: U.S. Govt. Print. Off., 1974), pp. 213-217.

8. The Soviet "conclusion" may indeed be changing. In contrast to this writer's pessimism regarding the viability of a condition three threshold, under conditions of Soviet dismissal of the unity notion, one might consult the hearings cited above, e.g., James Schlesinger asserted that the Soviets would be deterred regardless of their view. He stated:

The point that one has to emphasize here is that either way, if the Soviets believe that any initiation of the use of tactical nuclear weapons would be unconstrained or would result in an unconstrained situation, . . . that would improve deterrence. If they believe it can be constrained then they have in effect endorsed our strategy. I might add that there has been an evolution in that direction in Soviet strategic doctrine in recent years." *Ibid.*, p. 160.

9. Secretary of Defense Donald Rumsfeld, *Annual Defense Department Report, FY 1977* (Washington: U.S. Govt. Print. Off., 1976), p. 99.

10. See note 8 and Rumsfeld statement, *ibid.*, p. 101, where he states:

Doctrine and exercises indicate that the Warsaw Pact places high value on tactical surprise with nuclear weapons. Their doctrine states that if the Warsaw Pact believes NATO is about to launch a major nuclear attack, it will seek to preempt with nuclear strikes on

military targets. Moreover, there are clear indications that the Pact fully appreciates the initial advantage to be gained by a first use of theater nuclear forces in the absence of NATO indications to use nuclear weapons.

11. Report to Congress, "The Theatre Nuclear Force Posture in Europe," (required by the Congress in Public Law 93-365, popularly known as the "Nunn Amendment"), excerpted in *Survival*, September/October 1975, pp. 235-241. Quoted material at p. 241.

12. *Ibid.*, p. 237.

13. The interested reader might refer to the following two sources, the first of which asserts that the conventional balance is not necessarily disadvantageous and the second presents the opposite position: A. Enthoven and K.W. Smith, *How Much Is Enough?* (New York: Harper & Row, 1971); Morton Kaplan, ed., *NATO and Dissuasion* (Chicago: University of Chicago, Center for Policy Study, 1974), especially chapters by Kaplan.

14. Library of Congress, *United States/Soviet Military Balance: A Frame of Reference for Congress* (Washington: U.S. Govt. Print. Off., January 1976), p. 7. The figures provided exclude France which has two mechanized divisions (with 325 tanks) in Germany. It should be noted that the figures provided in the referenced study conflict in some cases with those provided by other sources, e.g., The International Institute for Strategic Studies, *The Military Balance 1975-1976* (London: 1975), states on p. 97 that the total divisions available to NATO total 65. Despite the discrepancy in figures, they are illustrative of the position under discussion.

15. Steven L. Canby, "Damping Nuclear Counterforce Incentives: Correcting NATO's Inferiority in Conventional Military Strength," *Orbis*, Spring 1975, p. 49.

16. Drew Middleton, "Haig Says NATO Must Deal with Soviet Expansion," *The New York Times*, 6 March 1976, p. 2:3.

17. For an excellent discussion of Soviet doctrine for Europe, see Trevor Cliffe, *Military Technology and the European Balance* (London: International Institute for Strategic Studies, Adelphi Paper #89, August 1972), pp. 29-35. A more recent treatment may be found in *The Soviet Theater Nuclear Offensive* (Washington: U.S. Govt. Print. Off., 1976).

18. Steven L. Canby, *The Alliance and Europe: Part IV: Military Doctrine and Technology* (London: International Institute for Strategic Studies, Adelphi Paper #109, Winter 1974/5), p. 3.

19. Richard D. Lawrence and Jeffrey Record, *U.S. Force Structure in NATO: An Alternative* (Washington: Brookings Institution, 1974), p. 45.

20. *Ibid.*

21. See especially Canby, *Alliance and Europe*; and Canby, "Damping Nuclear Counterforce."

22. Canby, "Damping Nuclear Counterforce," p. 64.

23. Andrew Goodpaster, "U.S. Military Strategy for the Eighties," *The National Security Affairs Forum*, Spring/Summer 1976, p. 6.

24. See for example Albert Wohlstetter, "Threats and Promises of Peace: Europe and America in the New Era," *Orbis*, Winter 1974, especially p. 1124. For an excellent treatment of PGM's see James Digby, *Precision-Guided Weapons* (London: International Institute for Strategic Studies, Adelphi Paper #118, Summer 1975).

25. See e.g., Canby, *Alliance and Europe*, p. 29.

26. Kenneth Hunt, "New Technology and the European Theater," in *The Other Arms Race*, ed. by Geoffrey Kemp, Robert L. Pfaltzgraff, Jr., and Uri Ra'anan (Lexington, Mass.: Lexington Books, 1975), p. 122.

27. Report of Secretary of Defense (Washington: U.S. Govt. Print. Off., 1975), p. III-3.

28. S.T. Cohen and W.C. Lyons, "A Comparison of U.S.-Allied and Soviet Tactical Nuclear Force Capabilities and Policies," *Orbis*, Spring 1975, p. 37.

29. Report of the Chairman of the Joint Chiefs of Staff (Washington: U.S. Govt. Print. Off., 1976), p. 70.

30. Jeffrey Record, *U.S. Nuclear Weapons in Europe: Issues and Alternatives* (Washington: Brookings Institution, 1974), p. 20.

31. Schlesinger, "Nuclear Force Posture," p. 237.

32. Colin S. Gray, "Theatre Nuclear Weapons: Doctrines and Postures," *World Politics*, January 1976, p. 307.

33. *Director of Department of Defense Research and Development Report to the Congress FY77* (Washington: U.S. Govt. Print. Off., 1976), pp. 11-12.

34. Schlesinger, p. 239.

35. A rare, if oblique reference may be found in Rumsfeld, p. 106, where it is indicated that many land-based and carrier-based aircraft have been relieved of interdiction missions with nuclear weapons, as a result of targeting changes.

36. *Ibid.*, p. 103.

37. In the unclassified literature, the closest thing to a doctrine is U.S. Army Field Manual 100-30 (Test), *Tactical Nuclear Operations* (Washington: U.S. Govt. Print. Off., 1971). This scant manual (about 32 printed pages) speaks of a conflict of "30 to 60 days and possibly as long as 120 days," (p. 2-2) which seems absolutely incredible especially in light of the naive belief in restraint which is evident. Casualties of from 10 to 50 percent are predicted in the forward divisions. Interestingly, the acknowledged need for redundancy in command and control, and support seems to militate against the current emphasis on "cutting the fat" and improving the "tooth to tail ratio."

38. Wolfgang Heisenberg, *The Alliance and Europe: Part I: Crisis Stability in Europe and Tactical Nuclear Weapons* (London: International Institute for Strategic Studies, Adelphi Paper #96, Summer 1973), p. 9. See also Record, pp. 11-13; and Canby, "Damping Nuclear Counterforce," p. 49.

39. On this point see for e.g., Miller; Richard Rosencrance, *Strategic Deterrence Reconsidered* (London: International Institute for Strategic Studies, Adelphi Paper #116, Spring 1975), especially pp. 22-23. For a dissenting view to the effect that Soviet mode of TNW employment may call for more discriminate types of weapons than are commonly ascribed by Western authorities, see S.T. Cohen and W.R. Van Cleave, "Western European Collateral Damage from Tactical Nuclear Weapons," *RUSI Journal*, June 1976, pp. 32-38.

40. U.S. Army Field Manual 100-5, *Operations* (Washington: U.S. Govt. Print. Off., 1976), p. 10-9.

41. Indeed, as Herman Kahn teaches us, there are thresholds beyond that under discussion, but avoiding the nuclear escalation ladder seems a laudable objective. See Kahn's, *On Escalation: Metaphors and Scenarios* (Baltimore: Penguin Books, 1968).

