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**SOVIET INTENTIONS 1965-1985**

**Volume II  
Soviet Post-Cold War  
Testimonial Evidence**

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*Interviews and Discussions with Cold-War Era  
Planners and Analysts*

This volume contains much of the raw material on which this study is based. All items in this collection represent the testimony, in some form, of Soviet and American strategic planners and analysts whose professional careers were largely dominated by the need to understand and respond effectively to the military threat from their Cold War opponents.

Most of the items are structured as records or summaries of interviews conducted on the basis of a specific list of questions. In follow-up interviews or interviews with difficult subjects, the questions served only as a general guide to research. Long, narrative responses also often did not address questions in the same format and sequence in which the questions were presented.

For many reasons, items do not follow precisely the sequence and contents of the interview questions. Soviet interview subjects often were uncomfortable with the interview situation, the questions, or the implications of the research (the Cold War was over and the West had won). As a result, the nature of the record of interview or discussion varies from interview to interview. Transcripts of taped interviews are the record of choice, of course, followed by records based on notes and, finally, summaries based on the memory of the interviewer prepared shortly after the interview.

Many Soviet interview subjects were uncomfortable with tape recorders, especially early in the project (1989-1990) when several were far from convinced that the Cold War was, indeed, over. Likewise, several of the questions caused discomfort which forced rephrasing and special prompting (provocative statements or allusions to other information) on the part of the interviewer. Some interview subjects responded with almost a stream-of-consciousness flow of information that moved from association to association through an entire series of related issues. Stopping such a response to adhere precisely to our questions could result in the loss of valuable insights and information not anticipated by the questioner.

## *Cold War Interviews*

This resulted in incomplete coverage of some questions requiring, when possible, subsequent, supplementary interviews focused on specific issues. To compensate when possible, we revisited some of the most knowledgeable interview subjects several times over the course of 3 or 4 years.

We tried, when possible, to isolate the interview subject from his colleagues during questioning to avoid mutual intimidation, collegial responses, and contamination of data and observations. We were generally successful in meeting this objective but were sometimes forced by those who helped arrange a given interview to involve them in the process. When possible, we would subsequently isolate the interview subject and revisit one or two key questions to validate the original response.

The record that follows, therefore, is inconsistent in level of detail and comprehensiveness despite the planning and good intentions of the researchers. Imperfect as they are, they nevertheless represent a unique record of information and beliefs of Cold War participants who were able to trust their former enemies sufficiently to share their thoughts and beliefs in some detail before they themselves passed into history.

For the convenience of the reader, a list of acronyms and abbreviations appears in the appendices, as well as a selective list of decision makers and analysts cited or referred to in the interview record.

## SUMMARY OF INTERVIEW

**Subject:** Gen.-Col. (Ret.) Andrian A. Danilevich

**Position:** A General Staff Officer from 1964 to 1990. Senior Special Assistant [*Pomoshchnik*] to the Chief of the Main Operations Directorate (GOU) in the 1970s. Assistant for Doctrine and Strategy to Chiefs of the General Staff Marshal Akhromeev and General Moiseev from 1984 and 1990. Director of the General Staff authors collective that composed and refined, between 1977 and 1986, the top-secret, three-volume *Strategy of Deep Operations* (Global and Theater), that was the basic reference document for Soviet strategic and operational nuclear and conventional planning for at least the last decade of the Soviet state.

**Location:** Office of Gen.-Maj. Iurii Kirshin, the Deputy Director of the Soviet Institute of Military History

**Interviewer:** John G. Hines

**Date/Time:** December 18, 1990, 12:00 p.m.

**Duration:** 1.5 hours

**Language:** Russian

**Prepared:** Based on notes

### Purpose of Interview

To review with General Danilevich his views on the product and process of Soviet military assessments in the 1970s and 1980s. Of special interest was the Soviets' thinking about military competition, assessments of Western capabilities and intentions relative to their own, and expectations of the nature of war should it occur. The role and expected effects of strategic and theater weapons of mass destruction were of central concern as was the Soviet perception of the effect of qualitative improvements on the nature of conventional war.

### General

I first met General Danilevich in Moscow in February 1990 through an introduction by General-Major Iurii Kirshin. I knew from Colonel (ret.) Vitalii Tsygichko that General Danilevich worked as Special Assistant to the Director of the Main Operations Directorate of the General Staff from the early 1970s until at least 1977 and, in that capacity, had a close working relationship with Ogarkov. General Kirshin informed me in January 1990, at a gathering in Cambridge, England, that General Danilevich had been working as special advisor for military doctrine for the Chiefs of the General Staff, Marshals Ogarkov and Akhromeev, from 1977 to 1988 and continued to work in the command group of the General Staff until December 1989. He added that Danilevich had

actually written much of the material published over Ogarkov's name in the late 1970s and early 1980s. Col. Tsygichko, chief of the Department for Theater of Strategic Operations Analysis (conventional and nuclear) in Research Institute Number 6 (NII-6), in the main research institute of the General Staff's Main Intelligence Directorate (GRU), ran an assessment effort for Ogarkov in the first half of the 1970s when Tsygichko himself did a great deal of analytical work for Ogarkov under Danilevich's guidance. Tsygichko, whose honesty, intelligence and analytical competence I have come to respect, has a very high opinion of Danilevich.

We met for this, our second, interview in General Kirshin's office. Also present were James Brusstar of National Defense University and Don Mahoney of RAND Corporation. I began the interview with a general description of the areas that were of interest after which General Danilevich made a rather lengthy presentation that was essentially chronological. The following is a paraphrased summary of the General's major points:

#### **Soviet Military Assessments and Decisions Leading up to the 1970s**

Danilevich asserted that Khrushchev was thoroughly involved in military matters on a personal level. His approach had both positive and negative consequences for military development.

#### **On the negative side:**

Khrushchev was not realistic and reasonable when it came to military affairs (presumably a reference to his severe reductions of ground, air, and naval forces in the early 1960s). Danilevich cited specifically the fact that Khrushchev "liquidated" the military infrastructure in the Far East.

#### **On the positive side:**

Khrushchev's interest in military technology led to major breakthroughs in military force development, especially in the nuclear area leading to the development and deployment of qualitatively advanced land- and sea-based missile systems. (He mentioned that one such advance, the sea-based cruise missile, was canceled under Khrushchev because of Soviet estimates of the effectiveness of Polaris.)

He explained that McNamara's analytical concepts were important for Soviet analysis because they represented a strategy for force development and employment. General Danilevich said that McNamara's ideas were "concrete" and implied that Soviet thinking was less specific and not as systematically developed. It was clear that he believed that Soviet strategists had borrowed from McNamara in developing their thinking about nuclear forces in the 1960s.

### **"Soviet Military Assessments and Decisions in the 1970s"**

#### **"Strategic Nuclear"**

General Danilevich opened the discussion by stating that there was no crisis in the 1970s of sufficient magnitude to cause the General Staff even to contemplate nuclear use.

He characterized the 1970s as the period of struggle for strategic superiority (he sometimes used the word "parity"). He clearly believed that the U.S. had strategic superiority going into the 1970s, and the Soviets were striving, at the very least, to take away the U.S. advantage. He said the Soviet General Staff believed there were a great number of areas where the Soviets were not only behind, but where the U.S. advantage was continuing to grow.

These included:

Missile systems quality, specifically—accuracy and survivability

Overall command and control of strategic nuclear forces

Naval strategic systems

MIRV technology - U.S. deployment of multiple, independently targetable reentry vehicles (MIRV's) in the early 1970s was extremely unsettling to the General Staff because MIRV represented a significant offensive advantage.

General Danilevich stated that this perception that the Soviets were falling behind stimulated military planners to set out on a period of rapid development of ICBMs. The SS-11 was one of the products of this process. At the same time, the Soviet military were indulging in deception to lead U.S. planners to believe that they were more advanced than was the case. As he put it, in the areas of nuclear and other advanced technologies, the Soviet military were not doing all that they claimed to be doing.

### **"Correlation of Forces Assessment Work"**

In the early 1970s a great deal of substantial [*krupnyi*] analytical, "scientific," work was being done in the area of strategic correlation of forces assessments. He stressed that the work was difficult but extremely important.

He criticized the work in that Soviet analysts "never did understand very well" how quality influenced the correlation of forces. Under quality he included the characteristics of control, accuracy, and reliability. To expand on this point he explained that analysis of quantity alone provides only half of the analytical picture. Because of qualitative deficiencies, one side could have a tenfold quantitative advantage and still be behind.

He added that analysis of the strategic correlation of forces involved assessments of more than strategic nuclear systems alone. The overall correlation depended on other factors as well, especially upon U.S. naval forces such as aircraft carriers.



**"Political Factors Influencing Broader Correlation of Forces Assessments in the 1970s and Early 1980s"**

**"External"**

Relations with China: The Soviet MoD was forced to create groupings of forces in the Far East. In the late 1960s and early 1970s the only area that demanded significant force buildup was along the Chinese border. China represented a major diversion of resources and attention:

For every one General Staff exercise carried out in the West, three were done in the Far East.

Warming of U.S.-Chinese relations was a major source of concern.

Vietnam: The Soviet military were extremely pleased to see the U.S. tied up in Vietnam because the war represented such a large diversion of military and economic resources away from areas that were more directly threatening to the USSR.

**"Internal"**

Brezhnev showed very little interest in the military area and was "very weak" in the area of military decision making. In exercises he would become very nervous and agitated even thinking about nuclear weapons and would physically tremble when required to make an exercise decision with respect to their use.

Because of his aversion to thinking about military questions, he ceded control over military decisions to the Minister of Defense (MoD). He also gave *carte blanche* to the MoD in terms of defining force requirements. Marshal Grechko, MoD until 1976, focused on planning strategic force deployments. Marshal Ustinov, MoD until his death in late 1984, concentrated on strategic force employment.

Given this political environment, according to Danilevich, forces were developed and deployed in the context of the arms race, not necessarily on the basis of any compelling analysis or intention to achieve a force advantage that would enable the Soviets to launch a surprise preemptive attack.

He explained that:

By 1972 there was already in existence a plan for employment of strategic nuclear weapons but that the plan did not envision a nuclear offensive—not an "OVN" [the expansion of the acronym may be *Operatsiia Vnezapnogo Napadeniia*—Surprise Attack Operation].

SALT I in 1972 led the Soviets to freeze all strategic force programs.

Serious resumption of force building in 1975-76 was stimulated above all by the desire to get ahead of the U.S. competition. It was *not* based on careful analysis that would support arguments for the utility of large numbers of nuclear weapons. Specifically, in force building decisions, no consideration was given to the consequences [*posledstviia*] of actually using any or all of the weapons being built on both sides. [The senior author, John Hines, knows from Tsygichko that major studies had been done in the General Staff in 1968 and 1972 on the various effects, including atmospheric, of strategic and theater nuclear use. Danilevich's statement confirms Tsygichko's view that this

analysis did not penetrate the decision process until the early 1980s.] "Neither side," according to Danilevich, appreciated the complex implications of the arms race for actual war planning.

#### **"Theater Conventional and Nuclear"**

General Danilevich acknowledged that in the early 1970s the Soviet Union enjoyed a significant quantitative advantage in conventional forces over NATO. There was, however, no Soviet plan to take Germany nor to take all of Europe. In this connection, he pointed out that the General Staff attributed to NATO a significant advantage in theater strategic aviation and in tactical nuclear weapons. The General Staff did have a counter-offensive plan which called for the Soviets to use their conventional superiority to launch a powerful strike in the event that NATO "unleashed" a war.

#### **"Changing Expectations About Nuclear Use"**

Early 1970s - Under Kulikov, there was genuine concern in the General Staff that NATO might launch a preemptive nuclear strike against the Warsaw Pact in a time of crisis. Barring NATO preemption, the General Staff expected that the conventional period of a war would last hours or days depending upon the Warsaw Pact's success conventionally. The General Staff expectation was that the U.S. probably would use nuclear weapons at the first main defensive line in Germany and would "always" use nuclear weapons to prevent a Rhine crossing by the Warsaw Pact.

1977 - When Ogarkov became Chief of the General Staff, the expected duration of the conventional phase extended out to 5 or 6 days.

1979 - The General Staff came to believe that the entire initial strategic operation "into France" could remain conventional.

1980-81 - The General Staff came seriously to expect that the entire war might remain conventional.

#### **"Rationale Behind Changing Assessments"**

The General Staff, by 1981, had come to a very firm, "scientifically derived," conclusion that nuclear use would be catastrophic in general and operationally counter-productive. Key in the General Staff expectation that nuclear use could be avoided indefinitely was an observable change in NATO's [exercise] behavior. NATO had become much more cautious in its treatment of nuclear weapons and clearly contemplated a very prolonged period of conventional war. In the opinion of the General Staff, NATO probably was responding to Soviet development and deployment of tactical nuclear weapons and Soviet achievement of strategic nuclear parity.

#### **"Limited Nuclear Use and Intra-War Termination of Nuclear Use"**

For most of the 1970s the Soviets rejected all Western theories about escalation control as either Western deception or the work of academic theorists whose work was not rooted in reality. To maintain strategic-to-theater linkage, the Soviets maintained the



policy that any nuclear use would result automatically in a full strategic nuclear response against the homeland of the initiating states.

1979-80 - By 1979, the General Staff began to contemplate the possibility of limited nuclear use or of limited nuclear war. This represented a new variant in addition to the two main existing variants: nuclear war or purely conventional war. The limited nuclear use variant did not enjoy much support because of Soviet pessimism about escalation control.

1979 - Intra-War Termination of Nuclear Use: The General Staff began to explore new scenarios for terminating nuclear use. Specifically, they began to evaluate the possibility of negotiations after the initial nuclear exchange in theater.

#### **"Theater Warfare Assessment Work"**

A great deal of work was done throughout the 1970s in the areas of assessments and comparisons of the combat potential of opposing sides. This work was helpful but mathematical analysis suffers from important limitations. At the operational and tactical levels, or for analysis of an operation or series of operations of limited duration, mathematical analysis generally is unable to predict outcomes reliably. The primary reason is that mathematical approaches do not capture effectively the art (or luck) of the commander who might make or fail to make the "critical" decision that will tend to dominate all other factors in determining the outcome of a given operation. Every operation usually has one such "critical decision point" that simply cannot be reflected in such analysis. He cited as examples that mathematical analysis would have predicted other outcomes for the Russian-German conflict in World War I and for the Pakistan-Bangladesh conflict.

He added that, on a large scale over a long time period, numbers do matter. He cited Soviet success in World War II as an example. He said that the Soviets did not win the Great Patriotic War because Soviet generalship and fighting skills were superior to those of the Germans. The Soviet Armed Forces simply overwhelmed the Germans with superior numbers of airplanes, men, tanks, and artillery.

#### **"Assessments and Decisions in the 1980s"**

1980-85 - The General Staff had the general expectation that war was becoming more likely during this period but that it was also increasingly more likely that, should war occur, it would remain conventional. This assessment led the General Staff to do a great deal of work to develop a more complete theory of conventional war.

Overall, the 1980s were a period of tremendous change for the General Staff because of changes in the general strategic situation, the rapid development and deployment of new technologies, and dramatic changes in the domestic and international political scene.

At least two factors emerged which greatly complicated General Staff assessments. One was concern about the need to calculate the effects of chemical use and the second was the introduction for the first time (after the 1986 Chernobyl disaster) of the consequences of the destruction of nuclear and chemical facilities in the event of war.

All of these factors—political, strategic, technological, and operational—greatly increased requirements for the General Staff to devise ways to meet “tremendous” increases in anticipated wartime demands for control capabilities, logistics, and infrastructure.

**“The 1982-1983 War Scare in the Soviet Union”**

I informed General Danilevich of the publication in the U.K. of KGB defector Oleg Gordievsky’s book in which was described a period of extreme crisis between 1981 and 1984. The general acknowledged that there was a “period of great tension” of which he had vivid personal memories, especially in 1983, but that there was never a “war scare” in the General Staff. No one believed there was a real likelihood (immediate threat) of a nuclear strike from the U.S. or NATO. He felt that the KGB may have overstated the level of tension because they are generally incompetent in military affairs and exaggerate what they do not understand.

## RECORD OF INTERVIEW

**Subject:** Gen.-Col. (Ret.) Andrian A. Danilevich

**Position:** A General Staff Officer from 1964 to 1990. Senior Special Assistant [*Pomoshchnik*] to the Chief of the Main Operations Directorate (GOU) in the 1970s. Assistant for Doctrine and Strategy to Chiefs of the General Staff Marshal Akhromeev and General Moiseev from 1984 and 1990. Director of the General Staff authors collective that composed and refined, between 1977 and 1986, the top-secret, three-volume *Strategy of Deep Operations* (Global and Theater), that was the basic reference document for Soviet strategic and operational nuclear and conventional planning for at least the last decade of the Soviet state.

**Location:** Center for Global Security, Russian Academy of Sciences, Gagarin Square, Moscow

**Interviewer:** John G. Hines

**Date/Time:** September 21, 1992, 12 noon

**Language:** Russian

**Prepared:** Based on audio cassette tape

**Q:** What consequences did Brezhnev, Ustinov, and other Politburo members expect from nuclear war? Did they think that they could survive a nuclear war?

**A:** In the early 1970s we conducted three exercises in which we considered the consequences of a strategic nuclear exchange assuming a U.S. first strike. In 1972, the GS conducted the final exercise in the series and Brezhnev, Kosygin, Grechko, and several members of the government took part. We presented to them the results of our computer models, as we then saw them, of the consequences of a nuclear first strike against the Soviet Union. Brezhnev and Kosygin were visibly terrified by what they heard. We explained our conclusions that after the strike the Armed Forces would be reduced to 1/1,000 of their previous strength; 80 million citizens would be dead; 85% of the industrial capability of the Soviet Union would be destroyed; the European part of the USSR would be contaminated by radiation at extremely lethal levels of 3,000 roentgens. Given all of this, the consequences of a retaliatory strike against the U.S. would be even more lethal to that country. During the exercise three launches of ICBMs with dummy warheads were scheduled. Brezhnev was actually provided a button in the exercise and was to "push the button" at the appropriate time. Marshal Grechko was standing next to him and I next to Marshal Grechko. When the time came to push the button, Brezhnev was visibly shaken and pale and his hand trembled and he asked Grechko several times for assurances that the action would not have any real-world consequences. "Andrei Antonovich, are you sure this is just an exercise?"

This study was prepared by various authors and organizations, including GS officers, members of GS Institutes, Intelligence, others. I personally prepared the summary section. However, this summary section was never published, because its

message was judged too psychologically detrimental to morale and resolve. All of the results from this study were "buried."

After this study, attempts were made to ameliorate its devastating impact on decision makers. For subsequent studies, coefficients were introduced into the models which artificially reduced the level of destruction predicted by the results: a certain percentage of warheads would fail to explode, not hit their targets, the percentage of ecologically "dirty" ground bursts was reduced, etc. As a result the picture of nuclear use was artificially made more palatable and made somewhat more possible a willingness to fight a nuclear war in the classical sense. This attitude continued until the early to mid-1980s.

One example of our appreciation of the consequences of nuclear use: In the early 1980s Fidel Castro pressed hard for a tougher Soviet line against the U.S. up to and including possible nuclear strikes. The GS had to actively disabuse him of this view by spelling out the ecological consequences for Cuba of a Soviet strike against the U.S. This changed Castro's positions considerably.

The 1972 model was based on a U.S. first strike, in which 70% of the U.S. strategic arsenal was used, with a Soviet retaliatory strike. This model presented a terrible picture. From then on the percentage of weapons used in a first strike was maximized and a first strike was planned because the first to strike would be the one to win. However, technology changed this policy. In 1972 most of the targets were countervalue targets, since it was assumed that all of the enemy's weapons will already have been used in a strike, or would be used before they could be hit. After 1975 MIRVs appeared, which allowed a single missile to attack several targets at once.

Brezhnev was not a military-technical man and did not have an understanding of the impact of military technology. Kosygin had the best such understanding, and played an important role in moving military thought forward. Ustinov had the best technological understanding, but he did not have a very good military understanding. The conclusion from all of this is that there was an understanding at both the military and political levels of the catastrophic consequences of a nuclear war. The Castro incident confirms this.

Q: What about SSBNs?<sup>11</sup> How did they effect the calculus?

A: The main fear was to be late for a first strike. Survivability was not important. Later, in the early 1980s, the emphasis shifted to avoidance of a war by finding alternatives to a massive first strike/retaliatory strike, and creating options on the ladder of escalation. This concept led to a series of technical difficulties. How to protect forces: SSBNs, hardened silos, etc.? Later still, the first strike was rejected outright and the launch-under-attack [*otvetno-vstrechnyi udar*] became doctrine.

In all of these processes, both objective (scientific) and subjective (political/power) factors played important roles.

Q: In the Soviet view, could the USSR increase its chances for survival by gaining an edge in nuclear capabilities?

A: We considered that we held advantages in certain areas, such as throw-weight, land-based systems, in control systems, in silo protection, in number of weapons, so we

<sup>11</sup> SSBN — Submarine, Ballistic Missile equipped, Nuclear powered — a submarine designed to launch strategic nuclear ballistic missiles (SLBMs).



thought that we could win a nuclear war by striking at the Americans and then using our general superiority to bring the nuclear war to victory. Regarding the possibility of survival, it was accepted up until the beginning of the 1980s. After the rise of Gorbachev this assumption was put under question. But it was not just a matter of Gorbachev, because by this time we had 12,000 strategic nuclear warheads, it became clear that a preemptive strike could not guarantee protection from a retaliatory strike, that a retaliatory strike is absolutely inevitable, under any conditions. A first strike could take out 50, 60, 80%, but the remaining 10% would be enough to completely put out of commission all elements of the viability of a state, and put that state to death. Under any scenario of actions, the damage was unacceptable. This was not really related to Gorbachev, but rather to the evolution and development of systems. MIRVs appeared, other new systems, the triad was more fully developed, and besides the strategic weapons, huge tactical arsenals were created, which were superimposed on the situation, so the situation changed. Also all of our estimates regarding the secondary use of nuclear weapons also had their impact. What would follow the first nuclear strike, the irreversible changes in the world's ecology, came to be perceived as the death of civilization and the death of the Soviet Union. So at this stage we came to the opposite conclusions from before. This, in turn had its influence on strategy, then on policy and on the coming together which occurred between you and us. All of the decisions which were made at the strategic negotiations—at SV-1, SV-2, SV-3 [SALT I, SALT-II, START]<sup>12</sup>—were strongly opposed by the military because the concessions that we made outweighed the benefits by two, three, four times, but we were forced into these concessions because we saw that not to concede would not solve the main problem. The picture at these negotiations was very complicated and very dramatic. If it were described factually and in detail, showing what effect it had on our hearts and minds, it would be a tragedy, in the spirit of Shakespeare. We were forced to sign something that our hearts were against.

Q: How did the Politburo and the General Staff come to the realization that nuclear weapons had no military utility?

A: Neither the Politburo nor the GS came to this conclusion. The question was about the *rational* use of nuclear weapons. Large-scale use of nuclear weapons really does become senseless since it leads to mutual destruction. After this was realized, we started looking for alternatives—to what levels were reductions acceptable, etc. Gorbachev talked about total reductions, but we in the GS did not think that this would really happen. We supposed that this could be some far-off prospect, but did not believe it. We came from the premise that an acceptable level compatible with mutual deterrence should be found. We still maintain that nuclear weapons should be preserved as an element of deterrence, given the real possibility of the appearance of nuclear arsenals among third countries. And the second questions of finding ways to use nuclear weapons so as to give them a role in deterrence, but also the role of a strategic military factor, a factor in armed conflict. So that those methods of using nuclear weapons that were envisioned in the 1950s, 1960s, and 1970s are unacceptable and we need other methods. So now we are seeing the return of the selective strike [*vyborochnyi iadernyi udar*], limited strike [*ogranichennyi iadernyi udar*], warning strike [*predupreditel'nyi iadernyi udar*], disarming strike [*razoruzhaiushchii iadernyi udar*], decapitating strike [*obezglavlivaiushchii iadernyi udar*] . . . —a whole series of concepts allowing for the limited, flexible use of nuclear weapons which, on the one hand would not cause global ecological changes, and on the other hand gained the given military-strategic objectives. As to the claim that they held no military utility, this was not concluded. The conclusion

<sup>12</sup> Russian SV is shorthand for the last two words of the expression *dogovor po sokrasheniiu strategicheskogo vooruzhenii* [agreement on the reduction of strategic arms].

was only that in that form, and on that scale, which existed before, nuclear weapons could not be used.

Q: Did the Soviet Union accept the concept of mutually assured destruction? Was the strategic balance considered stable? How did the USSR gauge its vulnerability to U.S. nuclear forces?

A: In the late 1970s we talked about reaching a strategic balance. In reality, there was not and could not be a real military balance, because you had advantages in certain systems; we had advantages in others. You were ahead in SSBNs, in control systems, in protection means. In weapon yield, in the land groupings of nuclear weapons we held the advantage, in early warning systems there was rough parity. But with the massive potential we both had, all these distinctions tended to lose their meaning. So one could talk about a strategic balance, meaning that under any set of conditions, each side could cause unacceptable damage to the other. So in this context one could draw conclusions about strategic parity—equal capabilities for mutual destruction. But the fact is that these were all theoretical conclusions. In practice it often happens differently, especially in military affairs. If the military art could be reduced to arithmetic, we would not need any wars. You could simply look at the correlation of forces, make some calculations, and tell your opponent, "we outnumber you 2:1, victory is ours, please surrender." But in reality you could outnumber your opponent 3:1 and still suffer a crushing defeat, like Hannibal defeated the Romans, or like the German victories over us in 1941. So the correlation of forces is significant, but there is also a sea of specific, subjective factors, or even random events, which reduce these objective factors to nil. Therefore, in theory we may have the possibility to totally destroy the U.S. and vice versa. But in practice this may not happen. In practice the result could be completely unexpected. Because perhaps not all of these forces you have would be used. Because in the end you might not find the man who will press that button. That depends on many, many things. In the military art it is impossible to make predictions because things may go otherwise than you had planned. Although with nuclear weapons everything is subject to analysis, calculations, you can say exactly what damage there will be, etc. But in practice, things may go otherwise. And it is the fear of that "otherwise" that forces us to modernize nuclear weapons, the control systems, to develop various options for their use, etc. We and you both have tens of options programmed on board our rockets, depending on the situation. And to go from one option to another it takes just seconds now.

Recently El'tsin gave an order to remove the targeting programs from our weapons systems. But the U.S. reaction to this was very cool, even though the order removed the targeting of cities. You probably did not believe us and preferred to maintain the status quo.

Q: These theoretical and practical approaches, to what time period are they relevant?

A: They apply to the latest [Gorbachev] period.

Q: In your opinion, was nuclear war best prevented by mutual deterrence or by developing Soviet nuclear warfighting capabilities? Were the Soviet Armed Forces prepared to fight if nuclear deterrence failed?

A: [beginning missing]. . . On the other hand it played a deterrent role. It is an unprecedented historical situation which has not yet been fully understood. If deterrence failed, was the Soviet Union ready to fully use its nuclear weapons? I think that we would not have refrained from using them. If we reached a certain threshold we would have pushed the button, especially under Khrushchev. Under Brezhnev there was already

a fear and an understanding of this thing, but under Khrushchev it was absolutely well within the realm of the possible, both ideologically and practically. For instance, I remember being in the Northern Group of Forces during the Cuban Missile Crisis. We were ordered to stop all exercises, return to our command posts, and be ready for action. We were completely sure that the war would begin within 24 hours. So the situation was really on the edge of the precipice, and if there were a careless move on either side, it could have led to a nuclear war.

Q: Did the Soviet Union adopt a launch-under-attack [*otvetno-vstrechnyi udar*] doctrine?

A: As I said before, it was considered, and it was the basis for our thinking until recently, when we moved to new principles for war-planning.

Q: Was the Soviet retaliatory strike aimed at U.S. missile silos or only at soft military targets and economic infrastructure?

A: Yes [Does not specify targets of strike].

Q: You have said that cities were the most probable targets. Did this strategy change after 1972 or not until 1985?

A: In the 1960s and 1970s the main targets were cities. After that the correlation of forces change, but cities, and economic targets and military targets were always considered as targets in a certain mix. The proportion of cities was determined by particular scenarios or variants of strikes. For instance, if a first strike was planned, then military targets would be targeted. In a retaliatory strike, when the enemy's weapons had already been used, cities were targeted. But both kinds of targets were always considered.

Q: Was it technically difficult to change the targeting?

A: No, it wasn't. It was difficult at first, but later different targeting orders were programmed into the systems and it took minutes to change from one to another.

Q: How did the USSR intend to respond to a selective U.S. nuclear strike at the strategic level?

A: At first, the theory of selective strikes was completely rejected. It was considered that we would react to any use of nuclear weapons, even a single nuclear explosion, by a massive retaliatory strike with our full arsenal of weapons. Later this thinking began to change. Later we also considered the possibility of limited nuclear strikes, including different scenarios of limited strikes. For example, only tactical strikes in certain zones, only certain categories of targets. So we began to accept the American point of view in this, which caused changes in our political situation and also changes in our forces. In short, as we began to understand the catastrophic consequences of the unlimited use of nuclear weapons, we concluded that it was inevitable to have some intermediate or transitional period from conventional to partial or warning use of nuclear weapons, designed to stop further escalation, but it was always understood that any use of nuclear weapons threatened its full-scale use. So it was a very slippery situation.

Q: Did you believe that the Soviet Union was capable of winning a war in Europe with only conventional arms?



A: Yes, based on the fact that our forces greatly outnumbered the forces of NATO. There were different assessments of our chances. We had some plans which called for an advance to the English Channel. Later we limited our appetites, our goals, but we thought it was realistic to achieve victory in Europe using our strategic advantages.

Q: How would Soviet forces respond to a small-scale U.S. strike using tactical nuclear weapons?

A: We always understood that the U.S. held certain advantages in this area and that the situation was unequal. With a tactical nuclear strike, you can hit targets on the territory of our allies: Poland, Czechoslovakia; and moreover, with tactical strikes you can reach only targets on European territory. A clearly unequal situation. To balance it, we considered limited use of nuclear weapons, but limited not by the size of the charge—tactical or operational, but, by the kind and size of the target. So we considered a limited balancing strike against certain targets in the United States, not with tactical, but with strategic weapons. Of course, this was all tentative and subject to political direction, but there was this "dosage" strategy.

Q: What would have been the response to a limited strategic strike from the territory of the U.S. on the Soviet Union, limited in terms of the number of weapons?

A: As I say, and this has been published in the open press, the answer would have been full-scale. We took this position because we thought it would play a deterrent role vis-à-vis the Americans. It would make them afraid to make a limited strike.

Q: But U.S. strategists in the late 1970s called for initial attacks on the radar locations north of the Arctic Circle to demonstrate . . . .

A: We don't really understand this position of the Americans. They even said that jamming of the early warning system would be considered as a nuclear attack and lead immediately to the use of nuclear weapons. This was not a serious statement, given that there were numerous occasions when the warning systems gave signals that could have been interpreted as a nuclear attack. Therefore, these kinds of statements and actions like early warning jamming, could not have led to nuclear war, although they led to an aggravation of relations, and malfunctions did happen. But an actual nuclear strike against specific targets, even on a limited scale, would quickly have led to nuclear escalation on a global scale. But, as I say, all of this was subject to change and development, and these views were always changing with time, and with the understanding of what would be the global consequences of the global use of nuclear weapons from just one side, not to mention both sides.

Q: Did the USSR have plans to escalate from theater to global nuclear use?

A: It is less a matter of plans than of the fact that the on-board scenarios allowed for the possibility of any actions—against specific regions, like America, Europe, Asia, but to predict all of these scenarios was impossible. You would have planned 2,000 scenarios on paper, but the real situation would certainly have been the 2,001st. Therefore, at the base lay a concrete decision based on a concrete situation. Then, the time needed for such decisions was counted in minutes, and it had to be taken at the highest political level. So between the planning and the scenarios of military actions there is a large divide.

Q: Why did the USSR build up its SS-20 and other theater nuclear forces in the late 1970s and early 1980s?



A: We had R-12 [SS-4] and R-14 [SS-5] missiles, of which there were stationary and mobile variants. These missiles were not fully modern. The SS-20 was a mobile, solid-fuel missile, which made possible the solution of problems at a totally different level. Also, we had a competition—you were developing the Minuteman, Midgetman, and the Typhoon-Trident missile. And we were also developing various new strategic weapons. And the SS-20 was a breakthrough, unlike anything the Americans had. We were immediately able to hold all of Europe hostage. Therefore, in the strategic sense, this decision was justified. And in the technological sense it was a breakthrough. But we did not anticipate some of the consequences of their deployment. The Pershing II only appeared about 10 years later, and that made us rethink the original decision. It was of enormous advantage to us. By the way, in many kinds of strategic weapons, perhaps with the exception of MIRVs, the Soviet Union had the advantage. For instance, we began developing submarine-based ballistic missiles at a time when the U.S. never for a minute thought about developing them. But Khrushchev unilaterally shut them off. So the scientific and technological ideas were there as a product of the confrontation between our countries. Our design bureaus were working in this direction, and so were yours. We both knew that if there were a breakthrough, it would take a certain amount of time to develop the means to counteract it, and that every such time lag gave a temporary technological superiority, and that technological superiority allowed political pressure to be brought to bear, and all of this was linked into a single chain. So there were technological, strategic, and political reasons for further development of systems. But we never thought that we would some day have to destroy these missiles. It made sense, of course, when, I don't remember which president proposed the Zero Option, of not introducing intermediate-range forces to Europe, because we did not believe that it was possible, but in the end we were forced to accept this plan on terms not favorable to us.

Q: Was the Soviet Union striving for strategic nuclear superiority?

A: Of course we strove to achieve superiority, just like you did. We chose different paths; we emphasized land-based systems; you emphasized sea-based systems; we tried to catch up in this field, and actually overtook you at one point. So it was a natural process caused by political factors in the world.

Q: Was it a competition in quality as well as quantity?

A: Our primary tendency was to overtake you in quantity. Later the question became one of quality also. We were behind in the control systems, in the protection of silos, and we tried to catch up. In such areas as MIRVs you put us in a difficult position. And this very highly complex technological problem was solved by us in a very short period of time.

Q: Were particular nuclear weapons developed and deployed in order to fulfill specific military missions?

A: Yes, precisely for military missions. It was later that the term "deterrence" appeared, which was first invented by politicians, but in time we ourselves came to rely on it. But they were *weapons*, not means of deterrence, but weapons. Later, they came to be looked upon as a means of deterrence.

Q: Did the General Staff have more influence over force structures than the Military Department of the Central Committee [*Voennyi Otdel*]?

A: Well, there was no such thing as the Military Department of the Central Committee. There was the Defense Council [*Sovet Oborony*], which solved military problems, a

government-Party organ, the military took part in it. Of course, the General Staff developed proposals, developed assessments and forecasts, and greatly influenced military decisions. But the final say belonged to the political-military leadership.

Q: Under what circumstances was the Soviet Union prepared to employ chemical weapons? What kinds of chemical agents were contemplated for use?

A: Chemical weapons were considered to be a secondary means of armed conflict, since with the advent of nuclear weapons chemical weapons had lost their significance. We planned for its use only in the sense that if events did not reach the nuclear stage, we could adequately respond to the U.S. without resorting to the nuclear potential. Although chemical weapons are a means of mass destruction, it is incomparable in its consequences with nuclear weapons. It does not lead to the death of humanity, but it does carry enormously tragic consequences. But they are limited and localized in nature. They were developed primarily as a secondary means in the conduct of armed conflict. But it was assumed that if we reached the nuclear stage, then we would not spare anything and we would use chemical weapons on a scale that would be possible, but we did not attach any great hopes to it. Despite the relative unimportance of chemical weapons, the Soviet Union could not concede to the U.S. superiority in this field and matched all U.S. means, including delivery and agents used. We could deliver it by means of aircraft bombs, and rockets, in sufficient amounts. The arsenals were on the order of 1,000s of tons. So we were ready for chemical warfare, but only as a retaliatory means.

Q: In your view, did Pershing II and cruise missiles give U.S. forces the capability to launch a surprise attack on Soviet territory?

A: Yes, both types of weapons were perceived as a very serious threat, since their time of flight was only 6 minutes to vitally important regions. The flight times to U.S. targets were 32 - 35 minutes. Also, our air defense systems were not designed to detect such missiles. And pushed us to such a quick response. You had hardly deployed 1/3 of these missiles and we were already compromising. They were considered to be a great threat to our administrative-political centers, and the possibility of a surprise attack was very threatening, although we did possess a huge arsenal of medium-range SS-20 missiles which could completely destroy Europe in response to such a strike.

Regarding cruise missiles, these appeared later. Actually, we began work on them in the 1950s. There was Chelomei,<sup>13</sup> who was the ideologue of cruise missiles, and there was a great competition between the two directions: ballistic missiles and cruise missiles. Khrushchev was a good friend of Chelomei and he supported him in the development of cruise missiles. In short, we began to develop cruise missiles at about the same time as you, and we won some measure of technological superiority, but later, during the 1960s and early 1970s, there was sharply more emphasis on ballistic missiles, and work on cruise missiles was abandoned. By the late 1970s, we again returned to cruise missiles, but we had lost time and the U.S. had a new generation of cruise missiles which we again had to catch up. There were no warning systems for cruise missiles. There were no and are no means to intercept ballistic missiles and whether or not SDI is possible is . . . we still think that this problem is not resolvable for now. But at least there were means of detection. We could detect both the launch and the flight and predict where the missile would hit, and thereby activate our own forces. Regarding the cruise missiles, we did not even have the means to detect them. Therefore, there was this double jeopardy. Especially threatening were the land-based and sea-based classes of cruise missiles,

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<sup>13</sup> One of the original Soviet chief designers of strategic nuclear missiles.

which put us in a very serious position. They caused serious worries in the GS and in the political-military leadership in general. And so we began intensive research and development programs. But to this day we do not have parity, and this is aggravated by the fact that the Americans are constantly trying to take these weapons out of the negotiations. Even this latest agreement does not involve cruise missiles. And this threatens to upset the strategic balance by 1,000s of weapons. This is a cause of serious concern, although in the technological arena the situation is more equal and in response to your missiles, we can now use our own. But the geophysical conditions are such that they give the U.S. an advantage in the use of cruise missiles. I mean the naval and air bases which still surround the Soviet Union, our distance from you, all give great advantages to the Americans. Second, cruise missiles can be used to carry both nuclear and conventional warheads. Their use in the Persian Gulf showed them to be highly effective, in combination with good targeting systems. This creates a second problem. I think that if what happened to the Soviet Union had not happened, this would have reached a balance. But now our state does not have the means to develop cruise missiles, and all of these considerations become secondary.

Q: Were decisions on force development and deployment based on expert analysis, particularly on quantitative analysis?

A: Of course there were various studies made for all kinds of weapons systems; different variants and solutions were suggested; different weapons systems were suggested. Right now, because of the development of weapons based on new physical principles—neutron weapons, low-frequency weapons, and others—these began first in the U.S., and we also, as a measure of adequate response, began R&D work in laser weapons, and these other areas, and reached certain successes. I don't know how these studies will be conducted now, as now there are not the means nor the scientific cadres, not, most important, the full-fledged financial support to do it. The work is being conducted in the U.S., and is continuing here to some degree, but the solutions are very complex, the temporal parameters are very problematic in the near term, so it is very difficult to say when and if these new weapons will appear, and if we will be able to create them. I think that the Americans will be able to create them. Regarding ourselves, my personal opinion is that right now we do not have the social and economic resources to bring these R&D programs to fruition. But the American advantage in these fields will not be of great significance, given the current political-military situation because that situation is such that, to be frank, the Americans can reach their political goals relative to the Soviet Union freely without any war, and they are doing just that.

Q: The essence of the questions is what roles did research and analysis play?

A: Well, I have already said, the recommendations of the research organizations and design bureaus were taken into consideration, but the decisive word was that of the political and military leaders. Whatever they decided, that was the system that was developed; that system had the priority; all efforts and financial resources were focused on it, etc.

Q: Did the Politburo inner circle of Brezhnev, Ustinov, Gromyko, and Suslov listen to the advice of the General Staff?

A: Suslov participated in the Defense Council, but he had very weak influence on military matters because that is not what he did. He worked mainly ideological issues. Gromyko had some influence, and he had his own opinions, although he had a weak understanding of military affairs. Ustinov, of course, had great influence, he knew his stuff. Brezhnev also had a great influence, although he was not current on the issues, but



he did do a lot of work on missiles and cosmonautics, i.e., he was familiar with these issues. There were two kinds of questions: military-technical and political-military. Of course, the majority of military-technical programs were developed in the General Staff and were put up for discussion in the Politburo and the Defense Council by the General Staff and the General Staff had a decisive significance for the adoption of decisions. The decisions were not always supportive of the General Staff for various reasons, but the opinion of the General Staff was very significant. But not all of the proposals of the General Staff were adopted, especially when they contradicted political considerations and when they conflicted with the policies of disarmament in the latest period, when Shevardnadze came into power, when Gromyko also followed this line regarding reaching arms control agreements, etc. The General Staff always expressed strictly professional views, based on the real correlation of forces, on the advantages that one or the other side would receive, based on our strategic military plans, on our operational-technical plans. We attempted to defend these positions in order to minimize the damage to our side. The politicians based their decisions on different considerations: the relaxation of international tensions, the improvement of relations. More often than not, they won out. In this case, the considerations of the General Staff were rejected and the decision did not reflect them.

Q: Did Ustinov and the chief designers consider there to be a need for rapid technological improvement in Soviet weaponry and command and control?

A: Yes, Ustinov understood this and ordered many R&D programs in this regard. They were conducted with some lag behind the required deadlines, because there were many difficulties. Of course Ustinov understood this need and facilitated these efforts to a considerable degree, although he played a dual role. On the other hand, he exercised considerable influence in the military-industrial complex and knew all the subtleties. Even during the war, when he was the minister for armaments, he never entered a plant through the front door, but always from the back, so that he really knew the full story of the military industry. It was very difficult to fool him. He was feared, and the industrialists and OKBs<sup>14</sup> acknowledged his absolute authority. But at the same time, he allowed certain weaknesses in relation to them. Grechko, for example, when performance did not meet specifications, or when it was suggested to procure certain weapons systems even though they were not fully developed, he categorically rejected these suggestions and objected very strongly to the industrialists, and put them up against the wall. But Ustinov, even though he also scolded them, in the end he would give up and concede to them, because the industrialists were closer to him than the strategists. So he was full of internal contradictions. He acted as the client, the contractor, and the customer. In practice his position was such that he was often forced to compromise with himself. It seems that he should have played a tremendous role in military-technical progress—in a quick leap forward in our military technical capabilities, and there was a certain leap. But it did not turn out to be as great as it could have been if there had been a division of responsibilities.

Q: Did he represent the interests of the industrialists or of the military?

A: He stood on the edge of the blade, and waffled in both directions. He stood on the border. On the one hand he considered the interests of the military, and on the other hand, those of the military-industrial complex. But more often, since he worked there for 30 years, he sided with the military-industrial complex. But he understood the

<sup>14</sup> OKB — *Opytno-konstruktorskoe buro* — [Experimental] Design Bureaus. These were R&D facilities in the military-industrial sector that originated major weapons designs (aircraft, missiles, etc.) and followed their development through to mass production and deployment.

requirements. Take Grechko; take Malinovskii. All of them considered foremost the military-strategic objectives, the political objectives, which demanded the creation of weapons in order to achieve them. Under Ustinov, we had weapons, and the strategic objectives were subordinated and built around the weapons, although this was not quite right. In this way, he put pressure on Ogarkov, etc. In any great figure, including Stalin, including the politicians, the military leaders, you cannot find anyone who is whole, who can be characterized in a single word or by a single action. They are all self-contradictory. It is the same with our military leaders—their decisions, their actions were self-contradictory. It cannot be otherwise—such is life.

Ustinov was not a conservative, and he appreciated and understood the significance of new technologies, new systems, modernization, etc., and did not simply reject them. But the personal relationships with particular OKBs was also significant. When there were difficult decisions and it is difficult to choose between two technologies that are being proposed, and both have positive qualities, and neither has yet been built, and it is hard to see the results, then the personal relationships come into the fore. I trust you, you are closer to me because of joint work, and I tend toward your solution, although often it is the wrong choice. And the other technology, which would sometimes prove itself to be desirable in the future, was neglected. There was a time when Khrushchev wanted to do away with tanks altogether. And because of relationship with Chelomei, we fell 10 years behind in ballistic missiles. And if you look for some rational reason, you will be lost. When I first came to the General Staff in 1963, I thought that every decision was thoroughly worked out and researched until they got the right answer. Later I understood that this was not so. Often the leadership will come, look, and simply say, "This is all nonsense—do it this way." And that's it.

I assume it is the same with you. Maybe not, because you have somewhat less latitude. But with us, these subjective factors had tremendous significance, although of course, in the final tally, because of objective reasons, our line of behavior paralleled yours. Even in strategic thought and concepts, now you were ahead, now we were, now we both made the same blunder, now we both did something useful. Life imposed certain borders which limited the stupidities. In the end, reality and practice pointed out the voluntaristic errors, which were subsequently corrected.

I have raised only one side of the story—the objective and subjective processes which operated in the Soviet Union. But you have to add to that the political-military situation, the technological policies of the U.S., the breakthroughs that you achieved, the struggles that went on there—all of this was taken into consideration. Take the intelligence data. You confused us terribly. Remember the group missile basing options you considered, and other variants of systems. Or we had information that you were developing silos hardened against 1,000 kg/cm<sup>2</sup> [14,225 psi]. We had to investigate it all. All of this was superimposed on the whole.

## RECORD OF INTERVIEW

**Subject:** Gen.-Col. (Ret.) Andrian A. Danilevich

**Position:** A General Staff Officer from 1964 to 1990. Senior Special Assistant [*Pomoshchnik*] to the Chief of the Main Operations Directorate (GOU) in the 1970s. Assistant for Doctrine and Strategy to Chiefs of the General Staff Marshal Akhromeev and General Moiseev from 1984 and 1990. Director of the General Staff authors collective that composed and refined, between 1977 and 1986, the top-secret, three-volume *Strategy of Deep Operations* (Global and Theater), that was the basic reference document for Soviet strategic and operational nuclear and conventional planning for at least the last decade of the Soviet state.

**Location:** Institute of Military History, Moscow

**Interviewer:** John G. Hines

**Date/Time:** September 24, 1992, 12 noon

**Duration:** Approx. 1.5 hrs. total

**Language:** Russian

**Prepared:** Based on audio cassette tape

**Q:** Regarding the effect of the development of MIRVs<sup>15</sup> on counterforce vs. countervalue targeting strategies, first strike strategy, etc.

**A:** Regarding the targeting policy and the choice of targets, when the rocket forces were first created, they possessed certain technical characteristics. One of the shortcomings of these first missile systems, like the R-16,<sup>16</sup> which was one of the main intercontinental systems, consisted in the fact that the probable radius of error was from 2 - 3 km. This despite the fact that they possessed fairly powerful warheads, ranging from 100s of kilotons to 8 or 10 megatons. But their radius of accuracy was limited, and their number was limited. When Khrushchev boasted about how we produced missiles like sausages, the fact was that we could launch only 200 - 250 missiles. So we planned to use them with the maximum possible effectiveness by delivering the maximum possible damage with this limited number of missiles. Therefore, they were all aimed at the biggest cities: New York, Washington, Los Angeles, San Francisco, etc. In order to increase the effectiveness of the strike and yield the maximum possible damage, this group of missiles had to be increased quickly, and this is one of the reasons for Khrushchev's decision to deploy medium-range missiles in Cuba, the so-called R-12 [SS-4]. These were 60 missiles which allowed us to increase the results of a strike. In effect this move targeted practically all U.S. cities with a population of 300,000 - 400,000. As for the military targets, they would be attacked incidentally [*poputno*] because many

<sup>15</sup> MIRV — Multiple Independently Targetable Reentry Vehicle — Each warhead on a MIRV is guided independently to a specific target once released by its missile "bus."

<sup>16</sup> Possibly Korolev's R-16 (NATO description SS-8) of which 23 were deployed.

communications nodes, airfields, control centers are close to cities. Centers of military industry are also in cities. This problem was solved *poputno*. Although in the main, the attack was aimed at population centers, large administrative centers, and it was considered that such a strike would have lethal consequences for the United States. Also it must be mentioned that the majority of the strikes were planned to be ground bursts, not air bursts. This means that the whole territory of the U.S. would be subject to contamination through radioactive fallout, and in the end this would lead to the death of the entire population, or the greater part of the population because ground bursts of such power would produce tremendous levels of radiation. We did not think at the time that this fallout would eventually reach the Soviet Union, and eventually would have dreadful consequences for our own country. There was no research done on this subject at the time. So this was the basis for our nuclear strategy.

What kinds of missiles were there? They were liquid-fueled. It was impossible to keep them fueled continuously. So they were stored empty. Next to them were the fuel stores—the oxidizer and the fuel itself. They were fueled at the very last moment before launch. All of this took 5 - 6 hours. Furthermore, in the 1950s and 1960s most of the missiles were land-based. A part was based in silos with limited protection, but the warheads were stored separately. In order to make the missiles combat-ready the warheads had to be coupled to them. This took another 2 - 3 hours. So the ready times were quite long and it was difficult to talk of a retaliatory strike. The calculus was such that your missiles also had limited destructive characteristics, and therefore a considerable part of the missiles would be left unused [sic]. But the most important thing was to be able to strike. The goal was this: not to be late—to be the first to deliver a strike. To stall as long as possible, but not to be late. The strike must be first because if it is a second, retaliatory strike, then it will be practically ineffective because of the long ready-times. And not just against missiles, because we would not be able to retaliate at all, since our missiles or our control systems would be damaged to some degree.

But in time our missiles were improved. For example there was the mass-produced U-100 missile.<sup>17</sup> This was a missile based in a silo, which had protection against several kilograms per square centimeter overpressure; it was pre-fueled [*ampulizirovanaia*], i.e., all of the fuel components were contained inside tanks within the missile; and it was stored with the warhead on board. Therefore the ready-times were reduced to minutes. This led to other paradigms. As a result, we now had two strike possibilities: a preemptive strike [*uprezhdaiushchii udar*], and a retaliatory strike. There was also an improvement of the tactical-technical characteristics, because not only were the ready-times reduced, but the silo protection was also improved. Whereas before we had protection of 2 kg/cm<sup>2</sup> [28 psi], for incidental nuclear explosions at a range of, say 5 km, now we had to deal with close hits. So there were now two options: retaliatory and preemptive strikes.

The majority of our strikes were directed against administrative-political centers. Later there appeared various large targets, large nodes, large naval bases, but mainly large area targets [*ploshchadnye tseli*], control centers, etc.

Q: Were they targeted in a first strike, or retaliatory strike?

A: Both first and retaliatory. It did not make any difference, because we did not know which would survive, which would not . . . There remained a reserve of forces so that if

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<sup>17</sup> Probably manufacturer's model number for the missile given the NATO designation SS-11. Also identified as the RS-10 by the Soviet Strategic Rocket Forces. The missile was deployed in the early 1970s.



the most important targets were not destroyed in a preemptive strike, we meant to destroy them in a second strike.

Now, how did this situation change with the appearance of MIRVs? First of all, the number of warheads increased 8 - 10 times. So now cities with populations in the 10,000s, rather than 100,000s were targeted. A town of 50,000 or even less was now a target, because there were 12,000 warheads or some such number. In other words, it was now possible to deliver massive destruction of targets on the territory of the United States, although not all of the targets were in the United States. They were planned all across the world—China, England, Europe, other continents, i.e., on a global system of targets.

But most important, the control systems were advancing, and the possibility emerged of a multi-variant use of forces: preemptive, retaliatory, retaliatory-meeting strike [*otvetno-vstrechnyi udar*]. First, there were different variants against specific regions: only Europe, or, say, only America, or both Europe and America, or only China. There was now also the possibility of choosing the category of targets: only military, or only cities, or both. But fundamentally, the planning was to hit both military targets and cities at the same time, although the proportion of military sites to cities was subject to change, depending on the kind of strike. For example, in the case of a preemptive strike, it was important to reduce the effectiveness of the U.S. retaliatory measures against targets on our side. In that case, the majority of targets was to be military. All missiles, airfields, control centers, naval bases were targeted. But a portion was aimed at cities, and, in fact, there was more than enough for every city, and not just one warhead.

Q: What time frame are we talking about here?

A: The turning point came in the period between 1973 and 1975. In the case of a retaliatory strike, or a retaliatory-meeting strike, when there has already been a launch of your missiles, it was senseless to strike at missiles, and those forces that were aimed at your missiles were automatically, from a distance, switched to a different program and were aimed at cities. So the effectiveness of destruction of those cities already targeted was increased, and in addition, less important cities were also targeted. So this was the policy. Thus the changes in technological possibilities were tied to the changes in the nuclear strategy itself. There was a shift from the strategy of massive retaliation [*strategiia massirovanogo vozdeistviia*] which you and we had, to a strategy of a flexible use of nuclear weapons. This involved not only these various variants for strikes, but we also came to accept the possibility of a lengthy conventional war, and did not begin and end the war with the use of nuclear weapons. We wanted to distance ourselves from the nuclear threshold, just as you did. And in this connection there arose the possibility of "dosage" [limited] use of, at first tactical, but later on strategic nuclear weapons, and still later there appeared the possibility of such multi-scenario use. Up until 1975 or 1976 Grechko unequivocally maintained the following position: he rejected all variants for the limited use of nuclear weapons, and asserted that we would respond to any use, in any geographic region, of even tactical nuclear weapons, with a full-scale use of our nuclear potential, both strategic and operational-tactical. We did not hide this. Members of our military leadership considered it essential that the opponent should know this, and that this should act as a means of deterrence. Moreover, we thought that a limited nuclear war is totally unacceptable to us, as it puts us in an extremely difficult position, because the theater of its use would be limited to Europe and the European territory of the Soviet Union, while the U.S. would remain outside of the range of tactical nuclear weapons. So the asymmetrical consequences of such a war forced us to be critical of such concepts. We rejected them and both Schlesinger's and Brown's statements were considered to be provocations and we did not yield to them.



So at first the possibility of a second strike was considered highly dubious. Later on, when the possibility of a second strike was guaranteed, and it was clear that regardless of whether or not there were a preemptive strike by the U.S. we would have enough forces left to deliver unacceptable damage, this, together with the realization of the catastrophic consequences of the use of nuclear weapons on this scale, eventually, with some time lag, forced us to tend toward your concept of "flexible response," although we did not use that term. We introduced the term "new periodization of war." At first there was a two-stage periodization: initial period and subsequent period. The initial period was the massive nuclear exchange, and the subsequent period was the concluding period which was the deployment of operations—land operations and sea operations which would use the results of these nuclear strikes. Now we arrived at a new strategic periodization based on other principles: a period of non-nuclear actions, then a period of limited nuclear actions, then a period of unlimited nuclear actions and lastly the concluding period. So these were four periods designated based not on the character of the use of armed forces, but on the character of the use of weapons [sic].

Q: Approximately when did this periodization change?

A: It was approximately 1976-77. It was arrived at gradually. It did not change overnight. But it was finally, officially documented in approximately 1974-76 [sic]. And we remained at this position up until recent times. Although after 1978, or even 1979 and the beginning of the 1980s, we renounced the use of a preemptive strike. This variant was removed from consideration.

Q: This happened during Ustinov's tenure in June of 1982?

A: Perhaps it did happen during Ustinov's tenure. We rejected the preemptive strike and moved to a two-option use of nuclear weapons, i.e., only in a retaliatory-meeting strike, when systems are launched based on data from SPRN systems,<sup>18</sup> when launches have already been detected, and in a retaliatory strike, when the launches have not only already been detected, but we have already suffered hits and we use our remaining forces to retaliate. These were the two options. As for the preemptive strike, it was completely removed from all theoretical studies and all exercises.

Q: Was the retaliatory-meeting strike conceived of only in the 1980s, or prior to that time?

A: It was created approximately at the boundary between the late 1970s and early 1980s. But it did not depend only on the size of the forces and these other considerations that I have already talked about, but also on the creation of warning systems. At first there were no such systems. Then there were only above-the-horizon systems [*nadgorizontnye sistemy*]; there were no over-the-horizon systems [*zagorizontnye sistemy*]. [Unclear . . .] These systems were not sufficiently reliable. They did not allow the reliable detection of launches. The only way to reliably determine the beginning of an attack is through human intelligence, but it is dubious that such data could be obtained. And, of course after the fact [after nuclear hits the attack can be detected]. But after the fact you can no longer have a retaliatory-meeting strike, but only a retaliatory strike. But when the network of over-the-horizon systems was developed and deployed, and after that space-based warning systems, artificial satellites, then it was possible to move to the concept of the retaliatory-meeting strike. But, still in the technological sphere, not only this technology played a part, but you also needed an

<sup>18</sup> Early warning systems (probable expansion — *sistemy preduprezhdeniia raketnogo napadeniia* — missile attack warning systems).

automated control system which could provide instantaneous . . . [data on the strike] in seconds. With manual control this is completely impossible. In other words, a whole range of factors: technological, strategic, and political conditioned the whole development of this idea and the rejection of one variant and the adoption of a second and then a third. I think that the same factors played to some degree the same roles in the U.S., although your scientists were in a rush and even though the necessary conditions did not yet exist you would adopt the corresponding concepts or postures. This baffled us, we could not see why you took such steps. We denounced them, then we would begin ourselves to look for solutions, and thus you would push us to further improvements and developments.

Q: But even when, in the mid-1970s, you took the official stand of "all against any," in other words that you use all your potential in response to any use of nuclear weapons, there was already some understanding in the GS or in the Politburo that in case of a real war, you should have the technical ability to react somehow using less than total force?

A: Well, first of all, the "all against any" concept was the simplest policy; second, we counted on the fact that it would be a deterrent, i.e., we would not let you play around, as you intended, for example, by using battlefield nuclear weapons in Europe, and other scenarios which were very dangerous for us. We did not want you to play out any of these scenarios, and so we wanted to deter you [*sderzhat'*] by frightening [*ispugat'*] you into the realization that you would not be left on the sidelines, that we would strike massively against your territory. But how we actually would have acted, I would not venture to say. I suspect that if events would have forced an actual decision, they would have paused to think: do we need to do it? Are we able to do it? Although officially, both theory and practical planning were based on this variant. But theory and practice do not always coincide with real decisions. So these decisions, even at that time might have been different. And later on, as I say, after the mid-1970s, we fully gave up that concept of all against any. We decided that it was not necessary to use nuclear weapons right away, that our answer could be a limited "dosage" or could be proportional. For instance, you deliver 200 hits, and we deliver 200 hits. Or we respond with 250 hits. You deliver 200 battlefield strikes directed at our order of battle, and we strike at your order of battle, plus an additional number of strikes. In other words, it is a kind of escalation. There could also be an inverse proportion: you deliver, say, 20 hits, and we respond with 10 hits. Meanwhile there is an exchange of statements, a diplomatic war is being waged with the aim of stopping this escalation. So in exercises we played out many different scenarios based on different guesses of how you would respond. But they were just guesses. I remember that you had one wargame where different former presidents and former Secretaries of Defense got together, and they played out a scenario of a war based on a confrontation around Iran. There were two teams: one side played the Soviets, and on the other side there was a former president, I don't remember now which one—maybe it was Nixon—and actual former Secretaries of Defense. They made the decisions on the U.S. side. So they played out this scenario and it was very interesting. But if you could have taken those Soviet leaders and forced them to play on one side of this game, it would probably have been a big step forward, in the sense that we would have approached the situation that we are close to now.

I am thinking that, in reality, we have no adversaries now: you do not consider us an adversary, and we do not consider you an adversary. But in a situation such as we had in the 1970s and 1980s when we were afraid . . . Although I must say that even despite all of the propaganda, we inside the GS did not really believe that you would attack, although there were some frightening situations. I don't know about your military, but your politicians also probably said one thing, but their thoughts were somewhat more

restrained relative to the possibility of a real attack. But the fact that there was no war was due to many factors: technological and political. Both played an important role.

Q: So these plans to retaliate only against Europe, or only against the U.S., existed until the mid-1970s?

A: They existed up until very recently. I told you before that in 1972 there was one exercise with the participation of the political leadership. After that, the political leadership did not participate in any of these events even once. And the military leadership scrupulously developed all of these scenarios of action in exercises, etc., but the political leadership did not participate. I don't know about your side, but by the data that I received, the President would very actively participate in such exercises and in the development of different options for decisions. But our political leadership just did not get around to it. Khrushchev took these questions very seriously. In missile technology, for example, he had a lot of input, including some revolutionary approaches. He destroyed our whole artillery and began deploying the rocket forces instead at a time when there were virtually no missiles. But he ordered a drastic reduction in artillery. He destroyed our whole air force. We had huge fighter aviation and bomber aviation groups. But he was able in a very short period of time to create a new branch of forces—the strategic missile forces, which were created in 1960. All of this was done by Khrushchev.

Brezhnev also was involved in these matters, but in a different way—through the Politburo. He understood and was involved in military and space and missile technologies. Andropov did not have time to get involved. Although at every session of the Politburo military decisions were made, but not in concrete terms. Chernenko did not touch these matters at all. As for Gorbachev, he was involved, but in an incompetent and perfunctory manner. We had one exercise in Minsk in which he arrived, gave a prepared speech, without seeing the exercise itself and left. The military doctrine changed at this time. We were up against a united front when Shevardnadze and Gorbachev criticized us: that we are preparing to fight against the whole world, that we have an offensive doctrine, that it has to be changed to a defensive doctrine, and we did change it in the end, but in a political way. Then the "New Political Thinking" was born, that security was guaranteed not through military means, but through political means, that war was not the continuation of politics, although we disagree with that even now. It is the continuation of politics and what we saw in the Persian Gulf confirms it. But all of these established canons were rejected, but on political grounds. As for the strategic and military-technological aspects, here Gorbachev was not sufficiently competent to make any decisions, although he thought that he knew and understood everything.

Q: In Minsk did he speak against the solution of problems through military means?

A: No, in Minsk he gave a different sort of speech. He was attempting to find a basis for the theory of *Perestroika*: the condition of the country, why *Perestroika* is necessary, the essence of *Perestroika*, etc. As regards the military and defense, he did not advance beyond the standard, well-known positions: the strengthening of defenses, the technological improvement of the Armed Forces, the strengthening of discipline, and others. He did not advance any new strategic concepts. Just generalities: that there is a threat, etc.; the idea that there can be no winner in a war came later; that the United States is not an enemy, but a partner in international relations came considerably later, around 1989; that the priorities should be on human values also came later. But back then in 1985 or 1986 he was still swimming with the stream. Although even then he was proposing a more restrained military policy than in the past.



Q: You said earlier that the GS never came to the conclusion that nuclear weapons have no military utility. Instead, you said that it would be senseless to use them only on a very large scale. You also said that, especially after 1980 you had come to a full understanding of the ecological consequences of nuclear use. You then began to think about a way to create realistic and rational options. In developing these options, what did the GS assume regarding the reaction from the opponent? For example, if one side struck in a very limited way, against either the territory or the forces of the other side, how could one control the reaction of the other side?

A: Of course, it is unpredictable. As Clausewitz said, "War is a sea full of underwater rocks which ambush the commander at every step." It is very difficult to guess. There are very many objective factors, but there are also very many subjective factors and random occurrences as well, which can turn the course of events in any direction. And in military industry, military theory and practice, one usually relies on the most adverse, the most difficult scenarios. And this forces one sometimes to keep to the most extreme positions. So, for instance, why did we create such an enormous nuclear arsenal? Or such a large number of tanks? It is because we expected the worst—that we would lose them, they would be destroyed, etc. If we had counted on reasonable or on the most likely outcomes, then maybe such decisions would not have been taken. Our starting point was, "What if?" If we are ready for the worst, then we are also ready for a normal course of events. The events of 1941 showed us what can happen to the country. Because of that the worst was expected. Because of that marginal decisions were made. Because of that we produced more than was necessary.

McNamara conducted a very reasonable calculation of the limits of a strategic nuclear arsenal, but you exceeded it by a large amount, and so did we, notwithstanding the fact that the limit planned by McNamara was quite sufficient to attain the entire complex of strategic objectives that realistically stood before your armed forces. You exceeded this limit, and meant to go on further, and if events had not interfered we both would have gone on building. And now there are new possibilities to build a whole complex of even more destructive weapons, based on new physical principles: laser weapons, low-altitude weapons, [unclear] weapons, hell knows what kinds of weapons, and they might have appeared. And SDI, with all of its pluses and minuses, and space-based weapons systems, and super-EMP,<sup>19</sup> and God-knows what else. All of these would have been superfluous, because what we have now is enough to destroy humanity 10 times over. Lenin taught that we must have all of the weapons that our opponents have. So we strove to produce everything that you had. And the same principle operated for you. I have already said that we designed SSBNs before you did. But Khrushchev rejected them. We began to build submarine-based cruise missiles. Then you developed the Pioneers [sic Polaris],<sup>20</sup> I think. But yours had medium ranges. Your range was at first 2,000 km, then 4,000 km, 8,000 km . . . . But we immediately began to build similar systems with ranges of 8,000 - 10,000 km, i.e., intercontinental sub-based missiles. Then there were the Tridents. So there was a competition. We saw what you were building, and repeated it, but on a higher level. The U.S. first developed MIRVs,<sup>21</sup> but we later not only caught up, but passed you in MIRVed systems, both in quality standards and in control and in accuracy. We strove to avoid an imbalance. We were not always

<sup>19</sup> EMP — Electro-Magnetic Pulse. [*elektronomagnitnii impul's* (EMI)] An effect of a nuclear explosion that tends to disable electronic and electrical devices and systems—normally beyond the range of the heat and blast effects of a given weapon. Solid state electronics are more susceptible to neutralization than are older, tube-type technologies.

<sup>20</sup> Probably referring to the Polaris SSBN.

<sup>21</sup> MIRV — Multiple Independently Targetable Reentry Vehicle — Each warhead on a MIRV is guided independently to a specific target once released by its missile "bus."

successful: in intelligence systems, in RN<sup>22</sup> systems, in command and control systems, we were consistently behind you. So this process of competition in military technology was very complex and contradictory, not like a straight line. It was rather a pair of ascending, intertwining curves.

Q: You said yesterday that in the technological competition in the means of command and control and in silo protection the U.S. was consistently ahead of the Soviet Union. With regard to silo protection, we thought that the opposite was true.

A: Well, that is not right because, as I say, at the time when our silos had protection of 2 kg/cm<sup>2</sup> [28 psi], you were already building silos protected against 21 kg/cm<sup>2</sup> [299 psi] overpressure. So we thought that we were behind in protection, but we caught up. Later on we had information that you were building silos able to withstand 300 kg/cm<sup>2</sup> [4,266 psi], and later 1,000 kg/cm<sup>2</sup> [14,225 psi] and we started to think about that and decided that this process could be reduced to absurdity. We began to look for other basing options and to create a guaranteed-survivability reserve on submarines and on mobile platforms. So at first we followed your lead, but we saw that it would lead to stupidity, because the cost of such [protection] measures was enormous, and it was still useless, because we could eventually create silo protection of 1 million kg/cm<sup>2</sup> [14,225,000 psi], but if the accuracy and the guidance are good, you could hit the silo, jam the doors or disrupt the control systems, and all of these millions [of rubles] would go to the wind. So we began to look for other means of defense. Also, we were receiving a lot of information, not just from classified sources, but from open sources, newspapers, regarding the basing of a hundred MX missiles in within a limited space, etc. We thought this was stupid, but we tried to look for the advantages of this kind of scheme, although there may not have been any sense to this to begin with.

(b)(1),(b)(2)



A: Generally speaking, to disable a silo it is not necessary to achieve a direct hit. Even if the explosion is nearby, the silo itself is deformed and the missile cannot be launched. So that now there are all sorts of complex systems built into the silo to absorb the shock, because it is like an earthquake. Now, we do not reject fixed launch sites even now because of certain advantages. Take radioactive fallout. Mobile platforms are vulnerable to it. Servicing them is very labor-intensive. Fixed sites are unmanned, except for the guards. Everything else is done by remote control. Next, mobile platforms move around, so the whole process of preparing a strike is complicated, while with fixed sites everything is in one place. But both the positive and negative factors must be considered, and in the end both kinds of launch platforms must be developed in parallel. Now a

<sup>22</sup> Possibly abbreviation of *razvedivatel'no-nabludatel'nye* (reconnaissance-observation) systems.

wholesale rejection of stationary platforms is untenable. I don't know how it will be in the future, with all of the deep cuts. But the proportion of mobile platforms was always increasing.

Q: In the middle of the 1980s there were big changes which made it possible to target silos.

A: There were two theories which were considered: the theory of the counterforce strike, and the theory of the decapitation strike. The theory of the decapitation strike aimed at disabling the control systems. This is what you were saying, the super-EMI,<sup>23</sup> that is the air bursts, were aimed at disabling semiconductor-based control systems and on-board and external control systems. And the counterforce strike was aimed at the silos. But here it was assumed at first that in order to disable a silo you needed three times the number of hits. But this was not efficient, because it turns out that with an equal number of warheads, you would use more in the counterforce strike than you would keep. But when we got into the very large numbers of warhead stocks—10,000 to 12,000—you could afford it because even with a 3:1 ratio you still had enough warheads left to target all other categories of targets. So if at first this presented a problem, in time it solved itself. Secondly, 60% of your nuclear potential is on submarines. So we began to develop SSBNs, and eventually the number of our nuclear submarines surpassed yours. But we also had problems related to basing these subs. The problem was that our missile-carrying subs had to get close to the shores of the U.S. But you had an advanced system of passive detection and antisubmarine warfare, CAESAR,<sup>24</sup> etc., and this made our subs very vulnerable, not to mention the fact that it took a lot of time to send them out and bring them back. Plus, we were blocked in by your anti-sub barriers, both in the east and in the west, which made our access to open seas very difficult. So we developed intercontinental ballistic missile submarines. But here we also had problems: how to defend them? Then there was the idea of launching directly from the bases. But if we do that, we lose the mobility. So there are many difficult problems. One more thing is significant: you had better hydro-acoustics. So when there is anti-submarine surveillance you can hear us, but we cannot hear you. This worried and continues to worry us.

I just wanted to say one more thing. Now we have declared officially that we have no adversary. But any politician can declare that. These declarations must be based on realistic, material decisions. And in the material sphere, movement is still dubious. Take the missile forces of the U.S. and Russia. Where are they aimed at, the moon? At Africa? At Antarctica? No! They are aimed at each other, just like they were before. What kind of standoff is this, a "friendly" one? So this element is preserved. Or take the armed forces of NATO and Russia. Those whole systems of supply, of technical specifications, etc. Are they designed to wage war against African states, or Saddam Hussein or the Chinese? No! They are objectively, technically adapted for war with one another, between NATO and the former Soviet Union. We prepared them for 70 years for such a war, and they have remained that way. Or take the PVO [Air Defense] system. Your theater-level PVO system is pointed where? It is pointed to defend against an attack from the East. It is politics that has the decisive significance because politics deters the use of these systems. But what if the politics change? What if some new forces come to power here or in the U.S., anything can happen. So in that sense there is a potential danger that cannot be ignored. So I have advanced the idea of a deep *Perestroika*, an extensive integration of our military forces that would alleviate this

<sup>23</sup> EMI — *Elektronomagnitnii impul's* — Electro-Magnetic Pulse (EMP).

<sup>24</sup> CAESAR — Part of the Navy's overall Sound Surveillance Systems, which provides passive underwater sonar arrays which detect the sound of a submarine and transmit the information to shore installations where data is correlated.



danger. The question of absorbing Russia into NATO, for example. But what does this mean: you will not agree to that because it means giving us access to your strategic planning, etc. There are elements of mistrust which will condition your decision. But if such a decision were made, it would remove the danger because the whole system of planning would change. I don't know about how your planning process has been changed, but right now we have no plans at all, because we do not know against whom and with what to fight. All of our planning and all of our groups of forces, etc. have gone down the tubes. NATO remains and it says that its strategy has changed, but as for the concrete plans for nuclear strikes, I suspect that they remain and are maintained at the ready to this day. As for the whole system of other operations, I cannot envision it. But if NATO were a unified military alliance which would guard against threats to European and global security, on the basis of a partnership and of unified planning, this would be a tremendous step forward. But I guess the time is not ripe for this.

Now a second thing. Cooperation in the area of early warning systems. El'tsin moved on this, but he received no response. Cooperation in the development of unified intelligence systems. Cooperation in the development of, if not unified, then perhaps jointly-vetted air defense systems. Cooperation in the area of joint use of naval forces. Cooperation in other military areas. These are all areas which could remove the lingering elements of distrust.

Kirshin and I have proposed a plan detailing these and other suggestions, entitled, "Military Aspects of the New Complex of Security in Europe." We wanted to propose it through the Germans, but they do not want to move on it without U.S. support.

List of Possible Areas of Cooperation:

- 1) Joint assessments of strategic situation, planning, decision making
- 2) Joint intelligence, reconnaissance
- 3) Joint warning systems
- 4) Joint air-defense systems
- 5) Joint work on anti-missile and space systems
- 6) Joint mobile task forces
- 7) Integrated combat structures
- 8) Integrated systems of preventing accidental launch
- 9) Joint efforts on non-proliferation
- 10) Joint military-historical research
- 11) Integrated control links over strategic forces

Q. You said that if the U.S. or NATO had used tactical nuclear weapons against Soviet forces or against members of the Warsaw Pact, then you had possible responses which had been worked out, including limited nuclear strikes against the U.S. In what specific time period were such limited options developed?

A: It was approximately 1978, 1979, 1980. And if you were to connect it with specific personalities, it was associated with the exit of Grechko, and the entry into the Ministry of Defense of Ustinov and the rise of Ogarkov as chief of the GS. But it was connected not only with personalities, and not only with the political situation, but also with military-technical changes which also occurred in the Armed Forces, in the condition of the strategic nuclear arms.

Q: You also said that tank production in the USSR, as I understood it, was influenced by the fact that the production capacity in the U.S. was so high that in case of a prolonged long war, there would not be enough time to produce the necessary amount.

A: Well, during WWII we produced up to 26,000 tanks per year, while our losses were approximately 18,000 - 20,000. So we could not only replenish our losses, but we could actually increase the size of our Armed Forces and raise the level of our technology. This played a decisive role in our victory because the Germans could also produce enough to cover their losses, but not enough to increase their tank force, so the correlation of forces was constantly changing in our favor.

How did we assess the economic situation in analyzing a prolonged conventional war? Take the rates of attrition. Today, with the highly accurate weapons and specific anti-tank weapons, the rate of attrition would be five to six times higher than in the last war. In other words, the rate of attrition per operation was estimated at 120%. This means that if we had 1,000 tanks at the beginning of an operation, we would lose 1,200. This seems absurd. But the fact is that in the course of an operation there is 25% rate of attrition due to repairable mechanical failure. In the course of an operation these tanks would be repaired and put back into action. They would fail a second time, and again be repaired, and the total would be 120%. But now this rate would rise to 200 - 300%. So you needed a tremendous repair capacity within the formations themselves. But even a tremendous repair capacity could not replenish these losses, so you need a huge industrial capacity. But the tanks are much more complex now. To produce a T-34 you needed four plants: one for engines, one for the main body, one for the control systems . . . . Now you need 340 plants to build a medium tank, say a T-64A. You need all of the above, plus night vision systems, laser sights, stabilization systems for fire-on-the-run, fire control systems, anti-radiation systems, various kinds of armor, etc. 340 plants! Try doing all of this during a war. And you cannot use low tech. Well, you can, but if the other side has high-tech, it will be a rout. So you need high-tech tanks. Our tank production was roughly 10,000 - 12,000 per year. But the losses were expected to be 20,000 tanks per year, roughly. So every year of the war our tank force would decline. According to mobilization schedules, the overall size of our forces was supposed to increase four-fold, new formations were supposed to appear. It is because of this capacity that we won the last war. All of this was now out of the question—there was no such possibility. We could not even maintain our forces at the same level, let alone increase them. If we began with 40,000 tanks, by the end of the war we would have 5,000. This, given the fact that our industry and all of our territory would be under constant conventional attack, whereas the U.S. industry would not be subject to any such attack. The mobilization capacity of the U.S. far outstripped ours. So the Americans could not only make good their rate of attrition, but could increase their forces manifold. If our tank production curve was this steep, then yours was much steeper, and the difference was tremendous. So we began to look for a way out. We decided to produce a much larger number than what was immediately necessary and to use the surplus as a mobilization reserve. If one generation of tanks becomes obsolete, we will not remove them from active duty. There was the suggestion to remove them from active units and to concentrate them somewhere in Central Asia. But this required additional servicing and additional personnel. So it was decided to keep them integrated within the units so that



the units would have an increased number of tanks, and have the same personnel master the new generation of tanks. A second point was that we considered our tanks to be our main trump card in a conventional war which would give our side a considerable advantage. Many other factors were negative. We strove to make tanks which were at a higher level than the American tanks. But for this it was necessary to quickly adopt innovations and rearm using new systems. One tank is developed and 5 years later it is replaced by a new one. But by that point we had not yet had enough time to equip such a large army with the old type of tank. We would rearm 10 - 20% of our force, and a new model would come out. So the old type would be mastered and integrated and would already be in mass-production, while the new one was still being produced in single digits. So you had to make a decision: to stop the production of the old type or not. We would decide to produce both types. So it happened that we were producing six different types of tanks. This also added to the total tank force. Now we are scrapping the tank force, and this takes money and resources. A portion of our tanks have been moved to the East and there the sand is ruining them and turning them into scrap metal. It is a scary situation. As for waging war, we are not even thinking about that anymore.

The mobilization capacity of the U.S. military industries was estimated to be very high, according to our intelligence sources. Of course you have a very different structure: you have private firms and government firms that produce military technology. Furthermore you have tested mobilization and shifting to war production many times. Because we have always had economic difficulties, we could never conduct a test of the mobilization readiness of our whole industry. There was one such attempt in which four small plants were tested, and even that experiment was stopped quickly because it hurt production. Therefore the real mobilization readiness of military industry, not to mention the civilian industry, was never tested. We could only estimate this capacity on paper. You, on the other hand, had exercises, and detailed tests, so there were some big differences in this respect.

Q: Regarding the combat-readiness of NATO, what were your estimates of the length of time necessary for NATO to prepare for defense or offense?

A: You would know this better than I, but all of the exercises we conducted were based on the assumption that NATO would attack first. Grechko would always ridicule the West by saying, "The West? Defending? Defending against whom?" So the assumption was always that today you attack, and tomorrow we go on the offensive. Later we began to approach it more soberly, as NATO's capabilities changed, and the period of defending against the attack kept getting pushed back to 6 days, 8 days, then almost a month and only after that we would start the counteroffensive. At some point in the 1970s there were offensive, as well as defensive plans, i.e., a preemptive strike. Later these offensive plans were rejected, forgotten, it was ordered to destroy them, and the only option left was this one of retaliatory actions.

Q: Was it assumed that you could rely on your allies in Eastern Europe?

A: Well, I assume that with the reunification of Germany all of our plans have been revealed, although they tried to destroy them before unification. But all of the internal plans remained. All of the armies of the allies were included in the overall system of operations, although the majority were involved in operations on the flanks. The Hungarians, for example, were included in the order of the corresponding Soviet Fronts as army formations. There was a Czech Front, Polish Fronts, formations, which were used in the second echelon, and so forth. They were all included in the general system of our operations. The planning was centralized within the GS: it refined the plans, controlled their fulfillment, ensured combat-readiness, etc.

Q: Was it assumed that they would take part both actively and responsibly?

A: Yes, I think that they were fairly well-prepared armies. They were supplied with Soviet arms, they conformed to Soviet operational views and doctrine—they did not have a doctrine of their own to speak of—a single system of control, a single system of training, since the bulk, even the whole of the corps of generals were graduates of our military academies. Therefore, neither in operations nor in the technical sphere did we have any problems. There were some language problems, but they were practically non-existent, except at the lower levels. Otherwise, the political leadership was united in its approach. Despite some of the criticisms coming out now, I never saw any contradictions within the military leadership. There was some criticism, but we had full confidence in the military leadership of these countries, and likewise, they had full confidence in the Soviet leadership. Of course, we sometimes went a little too far, pressed them too much, and this sometimes raised national feelings and resentments, that we did not consult them, but these were trivialities which did not play a decisive role in the unified military policy.

Q: You said before that at one point the Soviet Union equaled the U.S. in naval systems, perhaps in submarines. But it is unclear when this point was reached. Perhaps the Typhoon was similar to our Trident. However, you also said that the U.S. was ahead in acoustic detection systems. Do you think that there was a point when the Soviet Union was at the same level as the U.S. in naval systems?

A: In naval nuclear strategy, there were several stages. We had different approaches to naval forces in general. Before and during WWII, our main adversary was on the Continent—Germany. Our naval forces were secondary, and anyway, they were held in check by the naval forces of Great Britain and Germany, and were used in a limited way in our northern communications. But these naval forces did not present any threat for us. Therefore our whole thinking was aimed at the creation of powerful land forces. The naval forces played an important, but ancillary role, although we did create a powerful Northern Fleet, and a Pacific Fleet, and a Black Sea Fleet. But their primary role was to support the land forces.

After the war there was a reassessment. We considered our primary opponents to be the U.S. and Britain, strong naval powers, possessing huge fleets. There was a need to reassess the role of our own fleet. So we began to create not a coastal defense fleet, but an oceangoing fleet, a missile-carrying fleet, an atomic fleet. A totally different strategy: instead of supporting land forces, our navy acquired the ability to achieve its own autonomous strategic objectives, to conduct strategic operations in ocean theaters. This had not existed previously. Before, the fleet was intended largely for combat with the enemy's fleet. Now the fleet took on all of the elements of the military-industrial structure of the enemy. The main objective became the destruction of the military-industrial potential of the enemy. The fleet's primary efforts now extended not to actions against the oceans, but to the whole globe, to all the continents. Therefore the question of the creation of a missile fleet arose. At the first stage, we were the first to create missile submarines—submarines carrying cruise missiles. These cruise missiles were not intended for use against land targets, but against sea targets at long distances, on the order of 100 km. Later these missiles were adapted for the destruction of coastal targets. Later a ballistic missile for submarines was created. When Khrushchev saw a mockup of this submarine, with these rockets inside it standing vertically, as opposed to the cruise missiles which lay horizontally behind a lid, he called it the "Dragon's Teeth" and criticized the system so that it was terminated. At the same time you acquired the Pioneers [sic-Polaris] with a range of 2,000 km. We also scrambled to create subs with ballistic missiles, but ones with intermediate range—1,200 km. One of these subs sank off Hawaii, and there was some question of whether or not the Americans raised it or not.

Anyway, it was difficult to get close enough to the U.S. with these subs. Later, gradually we raised the range to 2,000 km and increased the number of missiles. But you jumped to 4,000 km with the Pioneer II [sic]. We decided that if we would race after you like that, we would never catch up. So we decided to immediately create an intercontinental underwater system. So we created a 20-silo sub, a 12-silo sub, project 607, different projects that you know about. Our thinking outpaced our industry's ability to put it into reality. Therefore there were many different designs. When you had a new design, you would put the new missiles on an old platform. We, on the other hand, did it differently. When a new missile was designed, a new submarine was designed to carry it. This was not economically sustainable, but we did it in order to create a powerful missile fleet. So, as I said, we were the first to create intercontinental ballistic missile submarines. We also were ahead in control systems at a certain stage. Later you began to overtake us and created a more effective system, say, in accuracy. The accuracy of our missiles is lower than yours. Then also in control and in noise. Our greatest vulnerability is high noise related to engines, ball-bearings, etc. We cannot reduce noise to the same levels as you. So the competition also existed in this field. Now 60% of your nuclear potential, as opposed to our 30%, is on submarines. Our main efforts were directed at ground-launched missiles. We created the R-36<sup>25</sup> missile that scared you to death. They carried almost 18 megatons in their warheads. Most important, they could be launched in either global direction, and thereby all of your warning systems could be rendered useless, because it was not easy to create a warning system which looked in the other direction.

The latest doctrine stated that the missile submarines constituted our strategic nuclear reserve. In other words, after the ideology of a retaliatory strike was adopted, the question arose of how to guarantee an unacceptable level of damage after the first nuclear strike had already occurred. To do this you must have a group of forces with guaranteed survivability, which would launch missiles at the most important targets under any scenario of hits. They did not carry flight programs [*poletnye zadaniia*], but they could be programmed remotely to attack the most important targets still remaining—cities and military targets, taking into consideration the real situation. The basis of our strategic nuclear reserve was this volley from nuclear submarines.

Q: Revisiting the question of whether the GS had more influence over the structure of the Armed Forces than the Military Department of the Central Committee [CC].

A: Well, you see, you do not know what the Military Department of the CC was. There was a Department of the Administrative Organs of the CC. It was headed by [Nikolai I.] Savinkin.<sup>26</sup> This department guided [*kuriroval*], the Armed Forces, civil defense, the KGB, MGB,<sup>27</sup> the Prosecutor's office, DOSAAF,<sup>28</sup> things like that. But it

<sup>25</sup> Identified in one source as the "Tsiklon" space launch vehicle, a space-launch variant of a previously developed ICBM. General Danilevich is almost certainly referring to the SS-18 (the official Soviet designation for the military missile was "RS020"). See Lieutenant Colonel I. Safronov, "19, November is Missile Troops and Artillery Day: Both Shield and Sword," *Voennye znaniia*, No. 11, 1993, reprinted in translation in JPRS, JPRS-UMA-94-013, 13 April 1994, p. 11. This conclusion is supported by comments made by General Danilevich in a subsequent interview (see Danilevich, December 13, 1992). He commented that "by the end of the 1970s the development of the R-18 [sic—full Soviet designation RS-18, NATO designation SS-19] and R-36 gave the Soviets a throw weight of over 20 tons, surpassing U.S. capability." Both the SS-19 and the SS-18 came on line at the end of the 1970s. The throw weight of the SS-18 was 8.8 tons, the SS-19 was 3.35 tons, exceeding the lift of any Soviet ICBM deployed before or since 1979. See Safronov, "19, November is Missile Troops and Artillery Day," p. 10.

<sup>26</sup> Authors were not able to identify this person in the military-industrial sector.

<sup>27</sup> MGB — *Ministerstvo Gosudarstvennogo Bezopasnosti* — Ministry of State Security.

<sup>28</sup> DOSAAF — *Dobrovol'noe obshchestvo sodeistviia armii, aviatsii i flotu SSSR* — The Voluntary Society for Cooperation with the Army, Aviation, and Navy of the USSR. DOSAAF was a quasi-military organization embedded



mainly prepared the cadres. Then there was also a Military-Industrial Department of the CC which was headed by Sablin<sup>29</sup> and someone else was the last one, I forget his name. Its main concern was the military-industrial complex, the military industry.

Q: Was [Leonid Vasil'evich] Smirnov the head?

A: No, Smirnov was the head of the VPK<sup>30</sup> and the Deputy Chairman of the Council of Ministers. But they [in the CC] were mainly concerned with the selection and placement of cadres. They had no influence on the development of strategy or policy. And therefore the Military Department of the CC . . . . The GS did all of that, and the military structures of the Central Committee had no influence on it. But, who did it report to? To the Defense Council. The Defense Council consisted of 8 - 10 people: the General Secretary, the Chairman of the Council of Ministers, the Foreign Minister, the Defense Minister, the Head of the General Staff, the Head of the VPK, Smirnov was included—a small group of individuals which decided on defense issues. Here the decisions were taken. But this was a government, not a party, structure.

Q: And the Military-Industrial Department was not influential?

A: No, it worked on questions related to the selection of cadres [sic]. They discussed, rejected, awarded ranks, they decided a lot of questions of discipline, sometimes they corrected the political aspects of documents, orders regarding the training of forces. But regarding military strategy, they did not know anything about it. They were mostly political workers who did not understand military matters.

Q: What about the VPK?

A: The VPK, Smirnov, they did work on questions relating to the development of technical policy—the development of concrete systems, OKBs,<sup>31</sup> their management—all of this did take place. But this was a State structure under the Presidium of the Council of Ministers of the USSR.

Q: And the VPK had more influence on the selection of strategic and conventional defense systems than, perhaps, the GS?

A: Well, there was competition here because we argued from operational-strategic grounds, they argued based on military-technical grounds, they argued based on the possibilities, and we were forced to agree with them sometimes. But the decisive voice in the development of military-technical policy belonged to the GS.

Q: What about the relative influence of the various armed services?

A: This had great significance because they served as the customers for their own kinds of armed forces, as their ideologues. They reported to the GS . . . . On most issues, the GS had its own opinion. Of course they [the services] tried to get the most for themselves, just like the case was with you, to get the biggest budget possible. We [in the

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in the Soviet educational system for the purpose of preparing Soviet youth for military service or for support of those who did serve in the military. It was not generally regarded as voluntary by Soviet youth.

<sup>29</sup> Authors were not able to identify this person in the military-industrial sector.

<sup>30</sup> VPK — *Voennaia Promyshlennaiia Kommissiia* — (Military Industrial Commission).

<sup>31</sup> OKB — *Opytno-konstruktorskoe buru* — [Experimental] Design Bureaus. These were R&D facilities in the military-industrial sector that originated major weapons designs (aircraft, missiles, etc.) and followed their development through to mass production and deployment.



GS] always approached it in a balanced way, so we rejected some items. We approached it from general, global positions, from the general, overall plans for the conduct of war, while they approached it from the point of view of the interests of their own branch of the Armed Forces. So perhaps they understood more about the technical details, but, again, the GS played a decisive role because, in the end, our positions . . . . Well, of course, the position of the Minister of Defense was of great significance and it was very important whether or not he would support a particular program or project.

Q: So the branches of the armed services played an important role in the choice of weapons systems?

A: Well, yes, in the formulation of the problems, they had very close interactions with the VPK. So did we, but at the level of the OKB the various branches of the armed services were interacting more closely and concretely. They had their own institutes which conducted the research and development for all of these systems. Industry had its own institutes which conducted concrete technical development of systems. But they worked in very close contact with each other. These industrialists showed up at the GS maybe once a month, while these others [the services] worked practically every day, they would show up, the one, the other, going back and forth, resolving problems, etc. That was the system.

## SUMMARY OF INTERVIEW

**Subject:** Gen.-Col. (Ret.) Andrian A. Danilevich

**Position:** A General Staff Officer from 1964 to 1990. Senior Special Assistant [*Pomoshchnik*] to the Chief of the Main Operations Directorate (GOU) in the 1970s. Assistant for Doctrine and Strategy to Chiefs of the General Staff Marshal Akhromeev and General Moiseev from 1984 and 1990. Director of the General Staff authors collective that composed and refined, between 1977 and 1986, the top-secret, three-volume *Strategy of Deep Operations* (Global and Theater), that was the basic reference document for Soviet strategic and operational nuclear and conventional planning for at least the last decade of the Soviet state.

**Interviewer:** John G. Hines

**Date/Time:** December 13, 1992

**Duration:** Approx. 1.5 hrs. total

**Language:** Russian

**Prepared:** Paraphrased summary

Gen. Danilevich painted a broad picture of the evolution of Soviet military doctrine from World War II to the collapse of the Soviet Union. This history falls roughly into five stages, which are outlined below.

### I. Full Mechanization: 1945 - 1950

The immediate post-WWII period was devoted to completing the mechanization and modernization of all branches of the Armed Forces, absorbing the lessons of the war, and consolidating them into a doctrine. Soviet strategy emphasized the use of massive conventional armored land forces to gain a threefold to sixfold advantage over the opposing forces, and to defeat them with fast, decisive offensive ground actions. Air and naval forces were modernized and strengthened through the introduction of jet aviation and modern air defenses, but continued to play a supporting role.

### II. Acquisition of Nuclear Weapons: 1950 - 1960

By 1950 the Soviet Union had acquired the atomic bomb. At first, nuclear weapons were seen primarily as anti-city weapons, but their strategic and tactical importance was quickly recognized. By 1955, nuclear weapons had supplanted the tank as the central strategic weapon.

Despite the central role of nuclear weapons, their acquisition did not immediately lead to a revolution in military thought. Rather, at first nuclear weapons were absorbed into the existing structure of WWII strategic and operational thinking. Like the tank

before it, nuclear weapons would be used to achieve a strategic breakthrough on the battlefield, which would be exploited by a massive conventional steamroller advancing at 20 - 30 km per day. The new doctrine was even more clearly offensive in nature. Strategic defensive plans were nonexistent.

### III. "Nuclear Euphoria": 1960 - 1965

The revolution promised by nuclear weapons arrives with Khrushchev. A strategy emerges based on global and theater preemptive nuclear use. Nuclear weapons gain in importance almost to the point that all other weapons are seen as superfluous. Strategic Rocket Forces are created as a separate military branch. Aviation, especially the massive fighter force, is sacrificed, as is artillery, which is replaced by tactical nuclear forces. Khrushchev even considers reducing the armored forces because they are deemed unnecessary. Defensive actions, including Front- and army-level defense, are now totally and explicitly rejected. Defense is seen as possible only on the level of tactical maneuvers.

The new thinking found its most vocal advocate in Marshal V. D. Sokolovskii, who lectured on the new strategy at the General Staff Academy in 1962 and edited the influential book, *Modern War*. These ideas were embraced as doctrine at a Ministry of Defense conference in the same year and were put into practice during exercises in 1962 and 1963. The core of the strategy was an attack in two phases:

- 1) An intercontinental preemptive strike against the U.S. The plan to use Cuba as a base for intermediate-range missile attacks on the U.S. had backfired during the "Caribbean Crisis". However, the new R-16<sup>32</sup> missiles gave the USSR a limited ability to strike U.S. territory.

- 2) A single, strategic offensive along the entire Front, with the use of preemptive nuclear strikes, followed by a decisive, uninterrupted land advance. R-12<sup>33</sup> and R-14<sup>34</sup> medium-range stationary missiles would be used to attack strongpoints in Europe. Although their numbers were relatively small, these missiles carried powerful 1.8 and 2.4 megaton warheads. Following the nuclear strikes, land armies would sweep west, using envelopment, cleanup, and other offensive operations. The rate of advance was now planned to be 40 - 100 km/day and the entire strategic operation was expected to take no more than 10 days.

Such optimistic forecasts were made based on the assumption that the opponent would be preempted in his use of nuclear weapons. Missile technology of that era put a heavy premium on preemption because the long time required to fuel the missiles and attach their warheads made a "retaliatory-meeting strike" impossible and a purely retaliatory strike highly unlikely.

### IV. "Descent to Earth" and ICBMs: 1965 - 1975

With the ouster of Khrushchev, conservatism and realism returned to military thought. Their return was marked by the realization that the usefulness of nuclear

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<sup>32</sup> Possibly SS-8.

<sup>33</sup> SS-4.

<sup>34</sup> SS-5.

weapons had been overestimated, and by the acknowledgment that the enemy has a large number of nuclear weapons which could cause "unrecoverable losses." The new thinking proclaimed that a single type of weapon cannot be relied upon to achieve victory and that each type of weapon, including conventional weapons, has an appropriate role in war. Conventional forces, decimated during the Khrushchev period, began to be restored. Greater attention began to be paid to strategic theater operations, which were broken down among several Fronts and included expanded naval and air operations, as well as strategic anti-air operations. It was no longer thought possible to conduct a one-stage strategic operation. The strategic advance was divided into two operations—the advance to Germany's western border, and the advance to La Manche. The rate of advance was scaled back, with the projected time for the conquest of Europe pushed back to one month. Defense was gradually revived, first on the level of army, then Front, and finally, around 1972-75, on the strategic level.

Despite the changes, war was still seen to be ultimately nuclear. A purely conventional war was not seen as a realistic possibility. However, technology and experience bred a greater sophistication of thought regarding the use of nuclear weapons. The growth in the strategic arsenal and the beginnings of a secure second-strike capability on SLBMs,<sup>35</sup> made possible options for Strategic Forces operations. Instead of a single massive salvo, multiple nuclear strikes were now planned.

Also during this period a clearer appreciation of the devastating consequences of a full-scale nuclear exchange began to emerge. At a nuclear exercise in 1972, Brezhnev, Podgorny, and other high-ranking Politburo members were presented with the results of a simulated U.S. first strike using ground bursts against the Soviet Union. The simulated damage shocked the leadership: 100% of non-strategic aviation wiped out; 100% of ground forces wiped out; 80% of strategic aviation destroyed; 100% of naval forces destroyed; the European part of Russia suffers radiation contamination from fallout with levels of 400 - 3,000 roentgens.

Meanwhile, ferment in strategic thought in the U.S. yielded new theories of escalation, flexible response, limited use, etc. At first the Soviets considered these theories to be unrealistic and strongly rejected any notion of a limited nuclear war. Officially, Soviet policy was to respond with a full nuclear attack to even a single hit. However, from 1970 to 1975 the position shifted away from rejection toward the necessity of a "controllable conduct of nuclear war." In concrete terms, this shift manifested itself in three doctrinal changes:

- 1) Preemptive strike is not the only option. Retaliatory-meeting and retaliatory strikes become valid options.
- 2) Multiple-scenario strikes: either global, or regional, depending on the military situation.
- 3) "New Periodization of War." The course of the war was expanded to four stages: a non-nuclear phase, a nuclear phase, follow-up actions, and concluding actions. Of these, the most important addition was the non-nuclear phase, which gradually grew in length from several hours to 7 - 8 days. Still later, it was planned that the first frontal operations would remain non-nuclear up through the advance to the Rhine. Strategic operations, however, remained nuclear.

<sup>35</sup> SLBM — Submarine-Launched Ballistic Missile.



## V. Strategic Balance: 1975 - 1991

This long period was characterized by rough parity in strategic systems between the two superpowers, rapid growth in both sides' nuclear arsenals and bitter technological competition. Although the Soviets still lagged behind in C<sup>3</sup> and silo protection, a series of technological advances greatly expanded Soviet strategic capabilities. A new, more efficient method of "direct drilling" was developed, which allowed 200 silos to be built every year. Missiles with self-contained fuel tanks [*ampulizirovannye rakety*] and, later on, solid fuel missiles reduced ready times to 1 - 2 minutes. Strategic bomber aviation was advanced with the deployment of the Tu-16 and Tu-22 bombers. The Soviets very quickly matched and surpassed U.S. MIRV technology. By the end of the 1970s the development of the R-18 and R-36 gave the Soviets a throw-weight of over 20 tons, surpassing the U.S. capability.<sup>36</sup>

The period can be broken down further into three parts, each of which saw profound changes in the Soviet military doctrine as a result of technological and political developments:

1975 - 80 Limited nuclear war was still officially rejected, but it was now considered possible to conduct the war at the conventional level from beginning to end.

1980 - 85 Limited nuclear war now accepted in documents and planning for options presented to the political leadership. Different options became available for use of nuclear weapons during the new limited phase: only on the battlefield; only against military targets; limited strategic strikes; proportional retaliation for enemy limited strikes (either with escalation or de-escalation). Gradually, the projected length of the limited phase was expanded from hours to several days.

1985 - 91 Adoption of a defensive doctrine. Realization that a nuclear war cannot be won. Preemptive strike ruled out—only retaliatory strike. The new foundations of doctrine becomes: deterrence, war prevention, and limited war, if war must be fought.

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<sup>36</sup> The R-18 was the RS-18, NATO designation SS-19. The R-36 almost certainly refers to the SS-18 (see Danilevich interview, September 24, 1994). Danilevich comments in the earlier interview that the R-36 could carry 18 megatons in its warhead. The "20 tons," asserted here may also refer to the potential megatonnage of the warhead. The *throw weight* of the SS-18 is listed elsewhere as 8.8 tons. See Safronov, "19, November is Missile Troops and Artillery Day," p. 10.

## RECORD OF INTERVIEW

**Subject:** Gen.-Col. (Ret.) Andrian A. Danilevich

**Position:** A General Staff Officer from 1964 to 1990. Senior Special Assistant [*Pomoshchnik*] to the Chief of the Main Operations Directorate (GOU) in the 1970s. Assistant for Doctrine and Strategy to Chiefs of the General Staff Marshal Akhromeev and General Moiseev from 1984 and 1990. Director of the General Staff authors collective that composed and refined, between 1977 and 1986, the top-secret, three-volume *Strategy of Deep Operations* (Global and Theater), that was the basic reference document for Soviet strategic and operational nuclear and conventional planning for at least the last decade of the Soviet state.

**Location:** Institute of Military History, Moscow

**Interviewer:** John G. Hines

**Date/Time:** December 14, 1992

**Duration:** Approx. 1.5 hrs. total

**Language:** Russian

**Prepared:** Based on audio cassette tape

**Q:** Based on what you said earlier, there was no acceptance of the notion of selective strikes prior to the 1980s. But after 1980 the notion that it was possible to respond with less than full nuclear force, or even with selective strikes, gained currency. Is this accurate?

**A:** Yes.

**Q:** And when we met in October [sic] you said that if NATO forces had struck Soviet territory with 3, 4, or 10 warheads, the leadership would have at least considered responding with selective strikes on the territory of the U.S.

**A:** There was a time when our thinking was: retaliate with full force to even one hit. Later we adopted the concept of a dosage nuclear response—a limited use of nuclear weapons. But this was only after we rejected the policy of preemptive strikes and replaced it with the policy of meeting strikes and retaliatory strikes.

Now, we never discussed or developed at any of the exercises the option of using selective strikes first, in a premeditated way. The exercises always developed scenarios of retaliatory actions. It was never planned for or envisioned. The plans involved only massive use of nuclear weapons on a regional or global scale. There were no plans for selective strikes. It was assumed that decisions would be based on the particular situation at hand. So all exercises involving strategic weapons were conducted based on particular scenarios and decisions. We had concrete scenarios. For example, the enemy attacks with, say, five strikes against our troops, three against German cities, one strike against

Brest, etc. The leadership would meet to decide what to do. First there would be a warning to the American president and a strike would be delivered. There were various options. For example a strike using tactical forces. If the U.S. delivered 20 hits, we might have responded with 15. There were other times when you struck with 15 and we retaliated with 30. Mainly the targets would be military. I don't remember an exercise where we developed the option of targeting U.S. territory, although in principle this was considered possible. But because your limited strikes were always limited to the Theater of Operations (TVD)<sup>37</sup> and we did likewise in our wargames. But there were no general plans. The principle was that we must have adequate actions at our disposal, as well as preemptive and deterring actions, which included a larger number of strikes than the opponent. But this was considered less desirable because if we used less, then the Americans also may use less. Otherwise there would be escalation. The best option was considered to be an equal number of strikes against analogous targets.

Q: Even on U.S. territory?

A: We never considered a scenario where you hit the Soviet Union immediately. [In our scenarios] you hit the army formations, the nuclear forces, control centers, etc. But I don't remember any scenarios where you hit Soviet territory. So the question of hitting the U.S. never came up. But as to further, massive strikes, this was considered. In that case we would strike indiscriminately.

Q: Based on some interviews here in Moscow, I know that in one exercise, the U.S., in order to demonstrate resolve, launched three or four warheads at targets on the territory of the Soviet Union.

A: Yes, in theory such a possibility was considered possible. But in practice, in the conduct of exercises, of which there were not many during those years, and I was present at all of them, I do not remember any where this possibility was played out. It all depended on the people who designed the scenarios. They could do it one way or another. The Chief of the General Staff could make certain adjustments. Akhromeev did that a lot. Ogarkov did too. But Akhromeev especially got down to the details of the launches, the work at the command centers, the process of decision making, the development of preliminary orders, final orders, the playing out of the scenarios, like in a movie.

Q: In our exercises, only the highest level staff officers participated. When we developed options and strategies, it was done at the highest levels. Was it the same with you?

A: The thing is that we did not conduct this kind of wargame using maps during that period. All of the strategic training exercises were conducted at the command centers. There were four people at the controls: the Minister of Defense, the Chief of the General Staff, the Chief of the Main Operations Directorate, and I was present also because I wrote all of the analysis. The group commander was not always present—sometimes he would participate by telephone. It was a very narrow circle. There would be a colonel with a telephone link to the President or the Chairman of the Supreme Soviet who would be presented with various options for action.

Q: Was the dosage strategy applicable only to the Theater of Operations, or did it also apply, at least nominally, to intercontinental exchanges?

<sup>37</sup> TVD — *Teatr voennykh deistvii* — Theater of (Strategic) Military Action, for example, Central Europe from Ukraine to the western shore of Ireland.

A: After 1980 this strategy became dominant. On the tactical level the process of decision making was not thoroughly worked through, but the background for army exercises was not to go to nuclear war immediately, but to start with a conventional phase, then limited nuclear use, which would range from 3 or 5 to 100 warheads. The exercises were conducted against this background. The process of decision making itself did not concern the theater-level forces. The methodology of decision making was worked out here, at the top: what are the targets, when to react, in what form, how to give warning, and so on. Usually, at the last stages before retaliation, there would be political statements and warnings, both from your side and from ours. It was a game, a theater. But as for the actual war plans, none of this was precisely envisioned. It was impossible to develop plans for every situation. You may develop 1,000 scenarios, but the reality may turn out to be the 1,001st. You must have principles, but the actions have to be based on the situation at hand. The main targets for selective strikes were: troop formations, airfields, control centers, and missile fields. As for cities, as a rule they were not targeted. Sometimes, in the course of more massive exchanges, up to 100 warheads, some cities were also hit. And as a rule, all strikes were delivered by means of air bursts. When we were developing earlier options, almost 80% of the hits were ground bursts, both against military and non-military targets—it did not make any difference. The important thing was the contamination that followed.

Q: This is an important source of misunderstanding. In general, the Soviet Union employed ground bursts until the end of the 1970s?

A: Yes, approximately. We used a combination of both, but the proportion of ground bursts gradually decreased because as the strike grew more and more massive, and the number of bursts grew, the consequences grew more unpredictable. Also, we tested our predictions of the spread of contamination during several exercises. We had maps and slide rules, and we made computer calculations of fallout zones to forecast the radiation spread. But when we actually exploded the weapons,<sup>38</sup> the shock wave and everything else would often not go where it was forecast. So there are many dangerous and unpredictable factors.

Q: So during the 1960s and 1970s the rocket forces planned to use mainly ground bursts, especially, or exclusively against military targets?

A: Yes, against hardened military targets. But we planned air bursts against unprotected targets.

Q: Even during the 1960s?

A: No, then 80% were ground bursts. But in the 1970s we had a more reasonable approach.

Q: And your approach changed because of your assessments of the fallout and contamination caused by ground bursts?

A: Well, at first our understanding of the contamination was very simplistic. We thought that it would drift somewhat, but that would be all. Later we came to the conclusion that it travels much farther than we had thought earlier. It was like that with Chernobyl. There are even some areas near Moscow which are contaminated from it, while regions closer in have no contamination. This unpredictability gradually began to

<sup>38</sup> The Soviets apparently did not violate the Treaty Banning Weapon Tests in the Atmosphere, in Outer Space and Under Water. Tests were conducted with underground detonation, high explosive simulation, and computer simulation.



be taken into consideration. Also, before we did not have enough warheads—only 200, 250, which could reach the U.S. This was not thought to be enough to destroy the country. Later when it became possible to target cities with populations of 50,000, then 10,000, then this was no longer an issue.

Q: Before 1972, while most of the missiles in your silos had liquid fuel, the leadership had a very narrow window of decision in case of a crisis. It took hours to get a missile ready. In a crisis, it would not be possible to plan for multiple options.

A: That's right. To fuel the missiles and attach the warheads it took 5 - 6 hours. At this time—the 1960s—the strategy was different: the earlier and the more you launch, the better. Therefore the strategy was to preempt. You cannot have a retaliatory strike if you have to ready your missiles for 6 hours after the strike. But when we acquired missiles with internal fuel tanks, which had ready times of 1 - 2 hours, now there was also the possibility of a retaliatory strike. So both the political-military, and the military-technical aspects of the strategy changed.

Q: When did you acquire your first missile that was completely ready to fly?

A: The R-100.<sup>39</sup> This was one of our primary missiles. It had internal liquid fuel tanks and had a ready time of 1 - 2 minutes. This was in 1970. In the 1960s our main ICBM was Korolev's R-16.<sup>40</sup> The main intermediate-range missiles then were the stationary R-12<sup>41</sup> and R-14,<sup>42</sup> half of which were in silos, and half on open ground launch platforms. For this second half, the missiles were stored in hangars and had to be taken out, installed on the launch pads and fueled before being fired. This was the missile we brought to Cuba. They were detected when we placed them on the launch pads and the fueling equipment was brought in, etc. It was a complex system which encouraged one to strike first.

However, we in the GS never for a minute thought seriously about it. Recently there have been rumors and questions floating about: is it true that you had certain plans? What were these plans? Was there a plan in 1957 deliver a first strike against the U.S.? We never had a single thought of a first strike against the U.S. I mean in a practical, not theoretical sense. Theoretically there were mountains of plans and writing, and exercises. But in practice, to hold discussions at the political level to decide such questions, this was absolutely out of the question. The ministers of defense and the GS were very careful with respect to these issues because they understood the consequences. There was one officer, Tolubko, a commander of the rocket forces, who made extremist speeches in favor of such an attack. But he was not taken seriously by anybody. Khrushchev also made threatening noises. But the question of a first strike was never considered at the political level. Even during the Caribbean Crisis, when nuclear war was a real possibility, the question of a preemptive strike was not considered. Then the issue was that if the U.S. made a strike against Cuba, then we would respond. So we understood what it all meant and what the danger was to us. Then there were also the calculations of damage I told you about.

Q: What is the difference between your concepts of first use and of the preemptive strike?

<sup>39</sup> Probably the SS-11, called the U-100 elsewhere in the interview record.

<sup>40</sup> Possibly Korolev's SS-8 (NATO designation) of which twenty-three were deployed.

<sup>41</sup> SS-4.

<sup>42</sup> SS-5.

A: There is no difference—first use is a preemptive strike. The meaningful difference is between first use and simultaneous use, as soon as your remote early warning (EW) sensors detect an attack within the first 5 or 10 minutes, and the command is immediately given, in order not to be too late. But this approach was considered to be problematic because of false warnings caused by flocks of geese, etc. So a new decision-making procedure was created, involving several individuals. Later on we created a nuclear briefcase, the same as you, with codes that the president had to dial in. So the procedure became better developed and standardized. Before there was no special procedure to speak of. Looking back, there was a certain unseriousness on this subject. The thinking was, "we've got nuclear weapons and we will use them if we need to." Khrushchev took the most hard-line position, because of his personal character. Brezhnev was quite different. After Brezhnev there was a power vacuum. As for Gorbachev, he did not even take part in any of the exercises at the command center, like Khrushchev and Brezhnev.

Q: So until the mid-1970s it was not practically and technologically possible to make a retaliatory-meeting strike?

A: Before we had satellite EW systems we had land-based above-the-horizon radar systems, like your BMEWS<sup>43</sup> system. There was the Riga array, which looked out 5,000 km and provided 5 or 10 minutes warning, which was very little time. Later there were over-the-horizon radars, but these did not work very well. The most important advance was when we began building systems of EW satellites. Then the automation of the [unclear], control displays, launches, controls, etc.

Q: Other people who took part in this process, described an automated system of last resort called the "Dead Hand," that would automatically launch missiles which were to give commands to ICBMs and which was triggered by overpressure or radiation.

A: Well, you had such a system. At first we were working on a system to prevent unauthorized launches of nuclear weapons. This was a whole complex of organizational and technical means to ensure that no one could launch a weapon. This was considered important and it was done. Then the next question was how to guarantee that they would be launched—the opposite question. We developed a system of automated transmission of commands which was made redundant across several means of communication and on many channels—by telephone, by radio. Then they built [sic] this system with missiles. In the event of a hit, a missile was launched which gave a signal for the automatic use of the remaining nuclear weapons. But only after the hit had already taken place and the seismic activity indicated that a massive hit had taken place. The same as you had. But you had it earlier and we built the same type of system.

Q: As I understand it, our system was called ERCS.<sup>44</sup>

A: Yes, I remember the name . . . we called our system something different.

Q: . . . But in our system, someone had to push a button to launch the rocket which would then give launch signals to the automatic equipment.

A: Yes, that's right. The missile was launched and the signal was transmitted automatically. Now we are facing a different threat—super-EMP weapons—very high-altitude nuclear bursts which can knock out control equipment. This is what we are afraid

<sup>43</sup> BMEWS — Ballistic Missile Early Warning System.

<sup>44</sup> ERCS — Emergency Rocket Communications System — The Air Force system providing a UHF communications package launched by Minuteman to provide Strategic Air Command communications in the event of nuclear attack.

of and we are developing systems to protect control centers from this kind of weaponry. But whereas before our two sides were developing parallel weapons systems, and each side gauged its progress by the other side's successes and failures, now all of these advanced technology programs have been put on hold. There is no money, we are not allocating anything for research and development, the research institutes are barely surviving, only the most urgent, tactical problems have priority: to guard the new borders, to deploy border guards, to build air bases for long-range aviation, since we have lost all of our airfields, to build testing grounds, to build living quarters for all the officers—there are 200,000 or 300,000 of them—and the leadership is afraid of rebellions and mutinies, if not by the officers themselves, then by their wives. Like in the Baltics, where we were forced to halt the pullout because the children were living in tents. All of our expenditures now go for this. And the high-tech development projects have been abandoned. They may recover some time, but maybe they won't—I do not know what their fate will be.

Q: It would be interesting historically to explore the difference between the Soviet and American approaches to automatic systems like Dead Hand, which would have guaranteed a retaliatory strike even if the leadership and the command centers have been destroyed.

A: I know that you had such ideas, and so did we. But this is a dangerous business because automation is automation . . . . Anyway, today such systems don't make any difference because with modern early warning systems and missile readiness measured not in minutes but in seconds, a whole quorum of decision makers can be gathered together, rather than having only one or two minutes to make a decision. But be that as it may. But, if one were to create such a system, and, as I say, there was such an idea—and it is [unclear—not being realized?] by the way—but it is very dangerous because it can cause accidental nuclear war with unpredictable consequences. So this idea was rejected and it was not developed in practice.

Q: But if it were possible to turn such a system on or off, it would at least be possible to defend the Soviet Union . . . .

A: Well, now there is a different approach. You create a reserve of absolutely protected weapons, like mobile missiles and SLBMs, which practically cannot be destroyed, with a corresponding system of automated signal transmission, as well as with autonomous capabilities. We had a redundant system of command centers: you could send the command from the GS, from the central command center of the Rocket Forces, from the central command center of Strategic Aviation, from the central command center of the Navy, from the central command center of the Army, and finally from the system of automatic missiles. And the command and control system continued and continues to be refined and its readiness is not a cause for concern. Also, it was thought that a reserve of just 1/10 of the original nuclear potential would be sufficient to cause unacceptable damage.

Q: One of the most difficult questions to analyze is the differences in the understanding of "deterrence" on the part of the Soviet Union and the U.S. Under Gorbachev the Soviet Union first accepted the principle of deterrence. Before Gorbachev the official position rejected deterrence. But your force development, the development of certain systems, including Dead Hand, had an effect on American decision makers which depended on their understanding of the fact that these systems already existed and that it would be useless and dangerous to start a nuclear war. This is the essence of deterrence. We are trying to understand to what extent there existed in the minds of political and military leaders the expectation that their American counterparts knew that, in case of a first



strike, a retaliatory strike was inevitable. To what extent did Soviet leaders understand that this was a very important component of Soviet security?

A: You are right. We tried to convey this [message]. For example, the threat that we would respond with full nuclear force to the use of a single nuclear weapon on the part of the U.S. This message was repeated at all levels, from the Minister of Defense on down. But these statements had purely propagandistic and political targets. If it ever became reality, we would not have acted like that. If the U.S. did make such a strike, we would have gathered together to discuss what to do, even though we officially and loudly proclaimed the opposite, and it was written up in documents, etc. So by doing this we wanted to convey the message that retaliation was inevitable. Also, we had the capability because of various systems. For example, our systems of early detection, although less reliable than yours, still provided this capability. This included all three kinds: over-the-horizon radar, above the horizon, and the third one. Then, there were the protected hardened silos. We thought that it was impossible to destroy all of them. Then the mobile missiles: as their number grew we gradually phased out the "Pioneer"<sup>45</sup> missile. That was a powerful missile and we were sorry to see it go. The railroad arsenal and the SS-25 mobile arsenal had some drawbacks: they were complicated to control because they were so unwieldy, required special roads, and maneuvering was very complex. Finally, they carried single warheads, and had many shortcomings. So right now there are many in military circles, and in military publications, who oppose this latest [START] agreement because it puts us in a difficult position. They feel that the elimination of silo-based MIRVed ICBMs would give the U.S. a big advantage. It would also leave untouched the sea-based missiles and takes a convoluted approach to counting bomber-based warheads. Some think that our concessions are unfounded. But our politicians were firmly convinced that the agreement is sufficiently justified. And our military leaders are such that if they are ordered to do something, they will. The main point is that, although the concessions were unequal, we would still have enough in our arsenal to deliver an unacceptable level of damage.

Q: Several times during the interviews you have said that one can plan for 1,000 scenarios, but the reality will be scenario number 1,001. Nevertheless, much energy and resources were spent on finding the best strategy for fighting a nuclear war, even though by 1970 everybody understood that it would be very difficult to reasonably . . . .

A: You see, before the 1960s we had a different point of view. We thought that if there were ever a nuclear exchange, we would have an advantage: more territory, less concentration of industry, of population, certain spiritual arguments—we thought that in the event of an equal exchange the U.S. would be destroyed but we would survive. But by the 1970s we had concluded that there was no chance in hell that we would survive. By the 1980s we concluded further that we would be destroyed by our own strike, so that we could not strike at all. As our nuclear arsenal grew, the political environment changed and our views changed. The scientists also gave us a scare with their Nuclear Winter and Nuclear Night forecasts. I don't know about your military circles, but most of ours do not trust these sorts of calculations. But a large number do believe it.

Q: The last question. In the U.S. Army, artillery is a very important branch and even in the 1950s we were building nuclear artillery. Why did the Soviet Union not develop similar weapons until as late as the 1980s? Was this a political decision, or a technological decision?

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<sup>45</sup> The Pioneer was the Soviet name for the SS-20 Medium Range Ballistic Missile (MRBM), Soviet military industrial designation, "RSD-10."



A: We had a 17-fold advantage in tactical [nuclear] means in Europe. So Bush's proposal to destroy tactical nuclear weapons was correct, but it affected us very disproportionately. Regarding nuclear artillery, we did have it—203mm as well as special weapons. We did not consider it essential to build it. But when you began building it, we thought, "Why don't we also build some?" So we did. We built nuclear shells for ordinary artillery—152mm guns. We don't have a special nuclear artillery, but we do have nuclear shells which can be fired from dual-use guns. So the atomic guns and 160mm atomic mortars appeared. Although their missions could easily have been carried out by means of tactical missiles.

There was also another factor—our acceptance of limited strikes. We needed weapons we could use mainly on the battlefield, and mainly against front-line troops. Tactical missiles were not sufficiently accurate and in this situation we needed precise hits. Because of this we decided to create nuclear shells. Consequently a great number were built and right now we surpass you by two or three times. And now they are being destroyed, along with nuclear land mines. You developed nuclear land mines faster than we did, and we fell behind. They were created as a means of defense, to create a nuclear belt along the borders. So at first we aimed at overcoming this obstacle, and afterwards, when we accepted strategic defense ourselves, we began to build our own nuclear land mines.

## SUMMARY OF INTERVIEW

**Subject:** Gen.-Col. (Ret.) Andrian A. Danilevich

**Position:** A General Staff Officer from 1964 to 1990. Senior Special Assistant [*Pomoshchnik*] to the Chief of the Main Operations Directorate (GOU) in the 1970s. Assistant for Doctrine and Strategy to Chiefs of the General Staff Marshal Akhromeev and General Moiseev from 1984 and 1990. Director of the General Staff authors collective that composed and refined, between 1977 and 1986, the top-secret, three-volume *Strategy of Deep Operations* (Global and Theater), that was the basic reference document for Soviet strategic and operational nuclear and conventional planning for at least the last decade of the Soviet state.

**Location:** General Danilevich's home in Moscow

**Interviewer:** John G. Hines

**Date/Time:** December 9, 1994, 2:00 p.m.

**Language:** Russian

**Prepared:** Paraphrased summary

For the first time in the almost 5 years I had known him, General Danilevich invited me into his home for an interview. Because his wife had for many years suffered from a fairly serious, lingering illness, we normally met in the Institute for Military History located next to his apartment building in the center of a special apartment complex for senior general officers. (General Gareev's apartment was located in a similar building on the other side of the Institute.) His wife seemed to be in better health and the Military History Institute seemed to be less and less willing to tolerate meetings between retired generals and foreigners who provided no (financial) assistance to the Institute itself. His apartment was located on the tenth floor of his building. It was better maintained and more cheerfully decorated than the apartment of Gareev, although in size and basic layout, the apartments were identical. General Danilevich was proud of his home and pointed out that many of the buildings visible from his windows were foreign embassies or residences.

He explained that he and his fellow retired general officers had formed a Russian Academy of Military Science of which General Gareev was president. He explained that he was involved in a number of projects through the Academy, some of which were resulting in published works. He gave me a copy of one such book, *Mezhdunarodnaia i natsional'naia bezopasnost'* (International and National Security), written under his

direction in 1994. He was more animated and in better health than during many previous interviews. He clearly thrives on work and his memory and interest in the subjects discussed was very keen.

In our conversation over lunch he asked me again when I had left the military and what I had done in the U.S. Army. He knew that I had been trained as a Soviet specialist so I mentioned that I had spent the late 1960s and much of the 1970s in the Signal Corps in Germany and Vietnam. He smiled broadly and explained that he had been commissioned as a signal officer before the Great Patriotic War and had actually commanded a Soviet signal battalion during the war until mid-1942 when he went on to other operational and command assignments. This led him to repeat that he had joined the General Staff in 1964 and became a special Assistant to the Chief of the Main Operations Directorate in 1974, and special Assistant to the Chief of the General Staff in 1984.

The primary purpose of the interview was to review some issues on which there were differences in views among various general officers and party officials, especially on topics such as deterrence and selected use of nuclear weapons.

Q: Early in the discussion, the interviewer raised the general question of personal relationships and the effect on decisions of key leaders in the MoD and General Staff.

A: General Danilevich responded that personalities and relationships mattered a great deal, especially in the areas of force structure development [*voennoe stroitel'stvo*] and organization of the Armed Forces. He cited, as an example, the well-known support of Khrushchev for the chief designer, Chelomei (favoritism that continued even under Brezhnev) and Ustinov's long-standing alliance with chief designer Iangel'. Such conflicting sponsorship led to decision stalemates typically resolved by producing everything.

General Danilevich was close to Ogarkov for much of both of their careers in the General Staff. Danilevich indicated that Minister of Defense Malinovskii launched Ogarkov's General Staff career when he appointed him a Deputy Chief of the General Staff in the 1960s. Minister of Defense Grechko greatly favored Kulikov and appointed him Chief of the General Staff as soon as possible after he had replaced Malinovskii as minister (Malinovskii died in 1967). Ustinov held Kulikov in very low regard and fired him immediately when he became MoD and appointed Ogarkov whom he found more capable and intelligent. Over time Ogarkov and Ustinov developed very deep disagreements not, as the interviewer suggested, because Ogarkov wanted to put in place a professional contract system to replace conscription for part or all of the Armed Forces, but rather over technical questions of procurement and organization of the Armed Forces. Ogarkov wanted to eliminate or radically alter the Strategic Air Defense Forces, for example, and to rationalize the procurement process and practices. Danilevich said that both were very assertive leaders. If Ustinov did not like what he heard in a discussion, he would cut off the speaker or briefer and throw him out of his office. Ogarkov, in contrast, would hear out the entire argument, ask questions, and then do what he wanted to do anyway. In many instances, the results were the same.

General Danilevich cited a more recent example from the Gorbachev period (Danilevich left the General Staff at the end of 1989). He said that, regardless of who was Minister of Defense—Sokolov or Iazov—Gorbachev talked to and worked with Marshal Akhromeev (Chief of the General Staff) on military and strategic questions. They could communicate and they developed a level of trust. Even when the Defense

Minister accompanied the Chief of the General Staff Marshal Akhromeev to meetings with Gorbachev, the President would address his comments and questions to Akhromeev. Danilevich was present for a number of such exchanges.

Q: The interviewer raised again the question of deterrence and preparation for war. Did key General Staff planners think about what they were doing primarily in terms of fighting a war with minimum damage to the Soviet Union, punishing the U.S. and NATO for initiating war and striking first, or of preventing war by so intimidating the U.S. that American leaders would not initiate a war nor try to strike first?

A: The Soviet military leadership evolved through a number of phases in its understanding of the nature and role of nuclear weapons and senior military leaders often were not in agreement. The general did not repeat his previous comments on this question but rather summarized them. He said that "we in the General Staff came to describe our approach thus: we have a policy of deterrence [*politika sderzhivaniia*] but a strategy of overwhelming destruction [*strategiia sokrusheniia*—which denotes "smashing" or "shattering"]. If we could no longer hold off [*sderzhat'*] an attack we wanted to be able to destroy decisively the U.S. We had a small joke in the General Staff under Gorbachev that our posture had changed. We now had a policy of deterrence, but a strategy of capitulation [*strategiia kapitulatsii*]. It was a bitter joke."

Q: The interviewer raised with General Danilevich that the General's earlier descriptions of General Staff interest in, and planning for, selected and limited nuclear strikes were contradicted by very senior General Officers from the Strategic Rocket Forces (SRF), the analytical institute of the Strategic Rocket Forces (TsNII-4), and by senior staffers in the Defense-Industrial Department of the Central Committee of the Communist Party of the Soviet Union. A senior SRF general had indicated that, to his knowledge, the SRF had never exercised selected strategic nuclear strikes either in theater or intercontinentally. A senior NII-4 analyst declared that the institute, in his 20 years of experience, had not examined the question of limited use of strategic missiles. The senior staff from the Military-Industry Department of the Central Committee claimed that limited use had been raised as an issue affecting support of various missile weapons programs and that, at such meetings, designing weapons to support selective strikes was explicitly rejected as was, they believed, the concept of selective use.

A: General Danilevich waited and listened patiently (which he often does not do) and he began to smile with an expression of slightly exasperated forbearance at the question. First, he stated that the General Staff, and specifically the Main Operations Directorate, not only considered selected strikes but also designed various strike options for various scenarios. For example, they had designed one option for eight missiles against the U.S. and NATO in which six missiles were targeted on Europe and two missiles were targeted simultaneously on the continental United States. The purpose of such an option was to assure U.S. leaders that even a limited nuclear war would include the U.S. He said that most General Staff officers most closely associated with such planning had no idea whether "we really could do it," whether any of it would work or how it would turn out.

He said that senior General Staff planners were "forced into looking at many variants" as we came to understand better the real operational and other consequences of nuclear use. We first had to get over our "naive" expectations of facile use of nuclear weapons on the battlefield and rates of advance of 100 kilometers per day. Some never did. Tolubko (Commander in Chief of the Strategic Rocket Forces), for example, was still dying "to push the button" until the very end (Tolubko retired in 1985).



He indicated that such planning was not widely discussed, even within the General Staff. Major commands such as the Strategic Rocket Forces were not normally involved in this level of planning, and the various institutes outside direct General Staff oversight definitely were not included in such discussions and analysis. As for the Politburo and Central Committee, "they had no real idea of what they were doing," in the area of strategic nuclear planning. He repeated what he had said in earlier interviews, that after the 1972 high-level exercise in which Brezhnev and the Politburo participated, the political leadership, including even Minister of Defense Ustinov, ignored strategy. "They never really asked what we were doing," after that experience. This did not change under Andropov, Chernenko, or Gorbachev. He supposed that, had there been a real crisis or emergency, they would have become concerned and would have turned to people who, they would have hoped, had been thinking about what to do if some real strategic emergency had come up.