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**From the Soviet Union to Russia:
Contradictions and Implications
Lewis S. Wallace, Jr.**

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From the Soviet Union to Russia: Contradictions and Implications

Lewis S. Wallace, Jr.

Oettinger: This is one of those good news/bad news/good news, the king is dead/ long live the king, kinds of stories. The weather in Washington and Boston kept our regularly scheduled speaker, Art Grant, grounded in Washington. We are, however, very fortunate in having with us a visitor who was on our roster and had been on alert for a while that maybe one of these days we would call on him under such circumstances. Nonetheless, when Will Jenkins called him this morning, and found him in front of his fireplace ready to spend a pleasant day at home, this gentleman went way above and beyond the call of duty, gave up that cozy spot and put himself into a taxicab, and came over here. For that, I am personally and enormously grateful to him. I owe you, so please feel free some day to collect; it's greatly appreciated.

He is a colonel in the U.S. Air Force with considerable background in intelligence. We've asked him to share with us his views that he has gleaned from a wide variety of experiences. Unlike other speakers, for whom you have had a biography beforehand, the circumstances are such that this is not the case. I've asked him to say a little bit about himself. You'll see that there's a wide range of experience and therefore a wide range of questions that he can answer. I should add that he is speaking in his personal capacity, and that nothing he says is meant to enunciate official views of either the United States Air Force or the Department of Defense. He's been generous enough to indicate that he'd be willing to be interrupted at any point with questions. So, with all that, I'll turn it over to him and ask him just to recap his own bio and then launch into whatever you'd like to share with us.

Wallace: Thank you. I'm Colonel Lewis Wallace, U.S. Air Force. I'm a career intelligence officer with 28 years of experience in the intelligence career field. I've had almost every type of intelligence assignment an officer could have. I started out in

what we call signals intelligence, airborne reconnaissance. From there I moved to targets intelligence, and also weaponeering, both conventional and nuclear. From there I went to the Strategic Air Command looking at Soviet capabilities, primarily aircraft, bombers, and also intercontinental ballistic missiles. I was fortunate to work on what we call the Single Integrated Operations Plan, which really was the mainstay for a long time of our nuclear deterrent against the Soviet Union. From there I moved outside the intelligence career field for a tour. I was an assistant professor of Russian at the U.S. Air Force Academy, and spent four enjoyable years there.

After that duty, I was assigned to the Defense Intelligence Agency in Washington, D.C., as an air forces estimator. The job of an estimator is primarily that of a forecaster. I was supposed to look in my crystal ball and determine the future force structure of the Soviet/Warsaw Pact armed forces. This was a very important job. We did 20-year projections of weapon systems and force structure. Of course, the Department of Defense needed this type of analysis to aid in developing our own future weapons systems.

After that, I became more involved in operational intelligence. I went to the Tactical Air Command (TAC), where I was chief of the Warsaw Pact Branch in Headquarters Tactical Air Command. I also served a tour as chief of the intelligence branch for the TAC Inspector General's office. At this time in my career, I was fortunate to be nominated for a job in Moscow as an assistant air attaché. I entered training in 1987 for this position, and I had an opportunity to kind of hone my language skills by spending a "hardship" year at Garmisch, Germany, at the U.S. Army Russian Institute. I was the only Air Force officer at the Institute, but it was an enjoyable year. To pay back for that "vacation," I was posted to Moscow in 1988 at the embassy in the office of the defense attaché, and I spent two years there. As you

know, *perestroika* began in early 1987. Gorbachev came into power in 1985. So I witnessed the last two years of *perestroika*. I saw a lot of things change, but I also saw a lot of things stay the same. By the way, this was my fourth trip to Moscow: I was an exchange student at the Pushkin Russian Language Institute; I was a tour guide with the U.S. Air Force Academy; and I had been there on various other short trips with the Department of Defense. So I spent a lot of time in the Soviet Union, and I had a chance to visit all the republics of the Soviet Union during my two-year stint there.

After returning to the United States in 1990, I was selected to work in a place called the Department of Defense Joint Intelligence Center. The Joint Intelligence Center was set up initially in September 1990 because of the conflict in the Persian Gulf. We were the intelligence arm for the Secretary of Defense and for the Chairman of the Joint Chiefs of Staff. We provided a lot of analysis of the military situation in the Gulf. My job was to analyze the enemy air position. I became an instant Iraqi air analyst because I had just come back from Moscow and knew about Russian aircraft.

Oettinger: Excuse me, just to put that in context with the presentation that Mike McConnell made here,* what relationship did that have to the role that he played?

Wallace: Admiral McConnell was our boss. I worked for him and our job was to provide the preliminary analysis and prepare a briefing for Admiral McConnell, which in turn he gave to the Chairman of the Joint Chiefs and the President. We also did special studies for the Admiral, especially on the air situation in Iraq.

I also had a chance to brief General Powell after the flight of most of the Iraqi aircraft from Iraq to Iran. I prepared a se-

ries of charts for General Powell and briefed him, one-on-one, before he went on television for a press conference with the Secretary of Defense. I guess I did such a "sterling" job that General Powell said, "Colonel, come on, let's go!" He took me to the press conference with him, and I was available to answer any backup questions for the media after the press conference was over. We worked very closely with the Joint Staff, although I was not assigned to the Joint Staff directly. We were basically an autonomous Air Force element within the Joint Intelligence Center, which supported Admiral McConnell, the Director of DIA, and also our own service chain of command up through the Air Force Chief of Staff.

After the war was over, I got back into the Russian—or the Soviet—business. I was appointed chief of the Soviet/Warsaw Pact in the HQ Air Force Intelligence Division. Then, after the dissolution of the Soviet Union, my title changed to chief of the Eurasia Division. The year before I left Washington, we started looking at regional conflicts in hot spots all over the world, and I became chief of the Air Force Intelligence Support Agency's Global Analysis Division. Instead of looking at the Warsaw Pact, Eastern Europe and the former Soviet Union, now I had responsibility for the entire world—Latin America, China, North Korea, Somalia, the Middle East, plus all of the turmoil that was going on in the former Soviet Union.

So now I'm here at Boston University as a National Defense Fellow. I'm working with Professor Uri Ra'anani in the Institute for the Study of Conflict, Ideology and Policy. My major research topic is Russian military doctrine, and we're doing a lot of research into what's going on, from a political and military aspect, within Russia and the former republics of the Soviet Union.

I had some other interesting assignments. I was mission commander for Operation Provide Hope, which was a humanitarian relief effort to the republics of the former Soviet Union. I spent a month in Yerevan, Armenia, directing American relief flights into Armenia. I was also mission commander for at least 20 other missions to the republics of the former Soviet Union.

* Rear Admiral John M. McConnell, USN, "The Role of the Current Intelligence Officer for the Chairman of the Joint Chiefs of Staff," in *Seminar on Command, Control, Communications and Intelligence, Guest Presentations, Spring 1992*. Program on Information Resources Policy, Harvard University, Cambridge, MA, August 1994.

Initially we delivered food products. Lately, however, we've been sending in medical supplies. My last mission was into Tbilisi, Georgia, in October 1993, when we took in a cargo aircraft full of vaccines, insulin, and other medical supplies.

I did also have one mission into former Yugoslavia. I went into Split, Croatia, with medical supplies and also clothing for the refugees. So basically, that's my background: again, a wide variety of different jobs in the intelligence career field.

Student: Could you reflect on the changes from the time that you first went to the Soviet Union, you said it was about two years into *perestroika*, and compare and contrast the Soviet Union that you saw then with the republics as you guys saw them now when you went into Georgia?

Wallace: That's a good question. When I initially arrived in Moscow in August of 1988 it was basically the Moscow that I knew and loved from my days as a student and the days that I was there on official duty.

Oettinger: Which was when?

Wallace: My first trip to the Soviet Union was in April of 1977, during the end of what I guess we could call "the age of *détente*." Brezhnev was in power. We were trying to lessen tensions, but Moscow at that time was a very hostile place, very oppressive. In 1988, initially, it wasn't that different. I still felt it was very oppressive. The standard of living had increased somewhat by that time, but it was like a big Third World country, very undeveloped. The Soviet Union had showcase cities—Moscow, Leningrad, et cetera—and everything that was good, everything that was modern, was in these few places, but if you left the main cities, and traveled into the countryside, you saw the real Russia, the real Soviet Union. Even in Moscow, guides show tourists every church, every monument, and all of the nice parks, and took them to the ballet, the opera, et cetera. But if you could speak Russian and get out and talk to the people, then you saw what the country was really like. You could see

the hardships, the deprivation. You could see that for the average Russian survival is really the name of the game.

Oettinger: Let me take that 20 years further back to when I first went to the Soviet Union. I had a cab driver who said to me something that still sticks in my mind and I want to try your impression 20 years later, in 1977, and then much later. He said to me, "Sovietskii Soyuz strana neogranichnoj nevozmozhnosti." For those of you who do not speak "po Russkii," he said, "The Soviet Union is the land of unlimited impossibility." At that time it cheered me up from a purely American chauvinistic point of view. Do you have any sense if that remains sort of an almost true comment? How come? What is it that keeps that country hobbling itself in quite the way that it does?

Wallace: I think it has a lot to do with the Russian mentality. A lot of scholars try to compare Russia and the Soviet Union with the West and say, "We are all Western. We think alike." The Russians do not think like Westerners; that's the first thing. Even though part of Russia is in the European area, they take a more Asiatic, long-term view on things. Another thing, even before 1917, before the Revolution, there always has been an authoritarian type of government or figure. From the czars through Stalin, et cetera, there has been an authoritarian leader and a strong central government. The people were kept at a more or less subsistence level. During the days of the Soviet Union, you saw a lot of contradictions. They could send satellites to the moon, or men into space. The first Sputnik was developed by the Soviets—but they couldn't make a toilet that would flush. The Soviet leaders' priorities were not on consumerism, or on social welfare. Their priorities were on another level, on maintaining their military might.

You said that the Soviet Union is the land of "unlimited impossibility." When I was in Moscow, the Russians used to carry around a little knitted fishnet bag in their back pockets when they went shopping. They would call it a "wish bag." Just in case they found something that they could

buy—and they wished they could find something to buy—they would put it in this bag. But if you keep a country at a subsistence level, and then slowly, slowly, slowly give glimmers of hope, the people are going to be fairly appreciative of any change for the good in their lives. So I think that's what this cab driver was trying to say about "unlimited impossibility."

Student: Colonel Wallace, can I ask you to give us your perspective? You've had a broad and varied career. You've had humanitarian, you've had intelligence, you've had academic experience, in terms of your management responsibilities plus your personal experience, and you've been all over the world. We're looking at the broad discussion of intelligence, command, and control issues in this seminar, and I'm wondering if you could tell us, from your point of view, the differences between an academic mission, a humanitarian mission, and the rest. I mean, you're a military person first and foremost, but you have to go through the variety of missions and we're looking at command and control. We're looking at various theories and discussions. We've read the *Marine Warfighting Manual*, and we've read von Clausewitz, and we're hearing different stories, a lot of them with a military model. But you're the first person we've had an opportunity to meet with who's had different experiences across the military spectrum as opposed to warfighting, and I'd like to hear how you see command and control in the broad sense varying across the multiple missions that you've had to deal with.

Student: If I could just add a supplementary issue to her question, could you perhaps draw out for us what you think the differences are between military command and control and civilian command and control in the sense of other aspects of government policy making?

Wallace: To address first the question about the various missions and how they relate to overall command and control, they have an acronym in the military, as I'm sure you know, C³I, the "I" being intelligence. There is a very strong linkage be-

tween command, control, communications, and intelligence. No matter which discipline of intelligence I'm working in, I have a specific chain of command to follow. I use various types of communications to convey information to my superiors. There is a very strong integration or linkage.

To talk specifically about some of the disciplines, let's look at scientific and technical intelligence. In the space and missile area we are looking at enemy capabilities. On the other end, we also are looking at enemy command and control and weapons systems to defeat or counter those capabilities.

One of my favorite types of intelligence is human intelligence, because in human intelligence you're not just looking at capabilities, but you're also looking at intentions. This information on what the intentions of the enemy are has to come through a communication channel. It has to be conveyed to superiors and policy makers. You cannot get that from an overhead reconnaissance. You need face-to-face human contact to determine intentions.

I hope I'm not getting off the track, but we're finding that now, when we're talking about future warfare, there is going to be even greater linkage between command, control, communications, and intelligence. At a recent conference, an Air Force general related a story about something that may be on the drawing board, at least in the Air Force: to have a heads-up display or an actual satellite photograph of the target area in the cockpit of an F-15 or F-16. The pilot will have a real-time picture or photograph of the target as he flies into the target area. Now that is, I guess, one of the ultimate challenges of command, control, communications, and intelligence: how you put all that together. During Desert Storm we put a lot of these pieces together. That's a very good example of how we used intelligence, command, control, and communications to defeat an enemy in the Persian Gulf. Smart weapons, stand-off weapons, drones, various sensors, ground-based systems, space-based systems, all these things were interrelated.

Student: One of the things that I'm looking at, or concerned about, or fasci-

nated by, is: how much does your particular mission drive the type of command and control that you would have to participate in? For instance, how much—I don't want to say direct supervision, but does your mission determine the structure, or does the structure determine the mission and how do they affect each other? Particularly, there are quite a few of us who are civilians, and the military model is very hierarchical and we've been presented steps A, B, C, D, and that's the way it goes. You've got a lot of experience in the softer end of intelligence, not hard warfighting, but intelligence where you have to take the initiative to inform the higher-ups that "you didn't tell me you were interested in this, but I think you might be," or you have to presuppose things. Or if you're on a humanitarian mission, where you're involved in a coalition effort perhaps, does the mission drive the structure or does the structure drive the mission in terms of your hierarchy and what you'd be subjected to in command and control?

Wallace: It's kind of hard to say. But being a military person, I would say that it is hierarchical and we in the military follow certain channels and certain steps no matter what our mission is. I would tend to go in that direction and say that the structure is kind of imposed on us in the military, although we may be answering to different masters, but there is still that overlying structure that is imposed upon us.

Oettinger: Before you go on to his question, let me just interject a comment on her question that I think is very important. I would urge you in this context to read Graham Allison's *The Essence of Decision*, and anybody going through the Kennedy School should anyway because it addresses the question you just put to Colonel Wallace in somewhat broader terms. The answer is that it both drives and is driven by. You start with a mission, and you're stuck with the elements you have. You cannot reframe the Air Force or the Army or the State Department or, for that matter, AID or anybody else. You have to take them as they are. Now, how you get them to work together in that particular mission is, in

fact, something up to the initiative of the commander, just as, in a corporate entity, putting together a particular task force to study a response to this, that, and the other thing, may draw people out of the constituted elements, which are as immutable as military units, and put them in a flexible structure that may last for that particular task and then disappear again.

Student: A lot of times that structure is specifically designed to accomplish a particular mission.

Oettinger: My point is that, in that particular structure, it's both. But within it are elements that are predetermined and that in the lifetime of the particular problem cannot be altered. So to ask in raw terms, "Does one drive the other?," I think is missing the reality of the normal situation where some you're stuck with, some you can invent, and part of the art of management and leadership then is to figure out—again, tension, balances—what proportion of which you do.

A lot of the record that we have both last year and the preceding year ties into some of the things that Colonel Wallace has experienced. In Desert Storm, for example, because we have a good record of that, a lot of things had to be taken for granted because you don't remake them. But you also find a record of how different folks invented the JIC that he was mentioning, the Joint Intelligence Center, which was an ad hoc innovation for that situation. You'll find General Schwartz's account of the Joint Command Center in Riyadh*—an innovation, tailor-made—but among the tailor making a recognition that "I've got to tailor make with building blocks that I'm stuck with and cannot alter in that timeframe." The theoretical background, some of the analysis, shows how perennial these considerations are. In Allison's *Essence of*

* Paul R. Schwartz, "Coalition Command and Control in Desert Shield/Desert Storm," in *Seminar on Command, Control, Communications and Intelligence, Guest Presentations, Spring 1991*. Program on Information Resources Policy, Harvard University, Cambridge, MA, February 1993.

Decision, he looks at the Cuban Missile Crisis, 30 years before, in somewhat similar terms: what did Kennedy—Bobby and JFK—have to work with, and in what ways did they deploy this and mess around with it in novel ways? So it's an important question. I just didn't want to leave you with a piece that's quite so one-dimensional. It needs a lot more looking at.

Student: Could I just add something supplementary to that, because I think it's a very interesting train of discussion? I just wanted to ask, have you noticed in your experience if new information systems have affected organizational structures within the military? Just leaving aside the kind of wider context, have you found that things like e-mail, to take one out of a hat, have altered the way in which particular structures operate?

Wallace: Yes, the automated systems, especially in intelligence, have revolutionized the way we do business. I know 20 years ago, if I were a Russian air analyst, I would have a file cabinet full of files or several shoe boxes full of information. Now everything is on the computer. The computer has revolutionized the way that we do business in intelligence, and it's also given us a plethora of information. We have more information now than we can actually process, analyze and disseminate. So in a way it's making our job a lot easier because we have in some cases near real-time access to a lot of things, but in another sense it's making our job more difficult because of the amount of information that we have to look at, especially in this era of manpower reductions. So yes, it's been a curse in one way, and it's been very beneficial in another way.

But to get back to your first question, let me just add to what Professor Oettinger was saying about the one-dimensional nature of structures. When I said hierarchical, I was looking at command, control, communications, and intelligence in the overall context. But at a lower level, he's right. As a mission commander on a humanitarian mission I had to deal with State Department personnel. I had to deal with USAID personnel. I had to deal with our allies. I had

to deal with the Russians or the host country. At that level, to get all of these diverse groups operating for common goals, to accomplish a certain mission, took a lot of management, and also, the command and control had to evolve out of the leader or whoever is in charge of that operation. So you have evolving command and control at that lower level.

Oettinger: You see, that's fascinating. I would add to what he just said. It's true at every level. In the example that popped into my mind of General Schwartz, he did what he did with the Saudis because he happened to have been a good buddy of the chief of the internal Saudi forces, who was one of King Fahd's brothers. He was an intimate of the royal family and was able, on a buddy-buddy basis, to get things fixed up at that level. So Colonel Wallace's testimony says that at any level you have to deal with both some rigidity and the ad hoc invention of relationships with whatever it is that you stumble into when you are in the field.

Student: I think that's interesting when you say that it's almost personality driven when you have that latitude. On the other hand, I look at the military and it seems there's a lot of similar training, to a certain extent. If you were dealing in a strictly military coordination situation, is that different than when you had to go across boundaries into civilian and multicultural areas? You know, in the military, everybody's got a common understanding of rank and command and order, and perhaps similar backgrounds.

Wallace: Well, that's changing, even in the military. The military has kind of bought into various new management concepts. One of the latest buzzwords was "total quality management." There is still the fact that "rank has its privileges" and the hierarchical order of rank, but we are finding that we are doing more of this collegial committee-type decision making in trying to work out various problems. The big buzzwords are "quality improvement," "customer satisfaction," and so on. How can we, as an intelligence agency, satisfy our

customer best? So some of that is again a contradiction at the top, and now the senior Air Force leaders are buying into this whole thing about total quality management, and we have seen some successes.

Student: I'd like to go back to her original question just for a second, because I find what you're talking about really interesting. If you read General Schwartz's narrative in the 1991 *Proceedings*, when he went into Riyadh and set up the command and control relationship with the Saudis, part of that was divided between West and the Arabs, and he had that vision almost from the get-go. He set up an organizational structure and he diagrammed it, and it was a dotted line. Much of what I think the question is that he was sort of pointing to, and what I hear you say, is that when you went into the Republic of Georgia, you let things evolve in and of themselves, as opposed to recognizing the interdepartmental responsibilities, cultural responsibilities, and all those kinds of things. So instead of going in there as a mission commander and establishing yourself some sort of an organizational arrangement, you allowed it just to evolve ad hoc.

Wallace: That's true, but you cannot let it evolve totally ad hoc. Someone has to take control of the situation. Somebody has to stand up and say (and it will come to this in some circumstances), "I am in charge and we will do thus and so."

Student: How did you keep it from just evolving ad nauseam? How much structure did you put in so that you got a workable format?

Oettinger: What sticks and carrots, as well as what ideas did you use?

Wallace: It's just a lot of human nature. You have to assess various personalities, and when you're working in a multinational or multicultural environment, you have to be sensitive to the needs and requirements of the various groups or organizations involved in the operation. For example, when I was in Armenia, USAID had a very large shipment of food coming in from Turkey.

That was their primary emphasis—to get this butter and all of this other food in from Turkey and ...

Oettinger: Turkish supplies for Armenians ...

Wallace: Yes! So, in order to get the USAID representative to assist me in my mission to get the relief aircraft in, I had to do all I could to assist the USAID representative in getting his food and butter delivered. It went so far as even obtaining permission from EUCOM to allow him to fly to Turkey on a U.S. Air Force aircraft so he could survey the port facilities and the rail facilities at the border and report back to Washington. So it's a tit-for-tat type of thing depending on the people with whom you're working.

Student: My question is on this ad hoc evolution. The military is very structured, and we do not do multicultural training, and we do not even do much interagency training, I mean, we don't leave DOD very much and work with other people. Taking that for a given, do you think the current system is flexible enough so that you or most people could walk into these types of current situations we see now, or do you think we need to evolve into some type of training program, or incorporate that into the exercise planning?

Wallace: I agree that there should be some kind of training, but I guess experience probably is the best trainer. If you have a varied background and have done a lot of different types of jobs and had been exposed to these things, you're going to get that training. Maybe it will be inherent. You may not even know you're getting that training.

For example, I had an experience when I was at DIA. I used to go to Brussels every year to sit on the military committee for NATO for a conference called MC161. That was a very frustrating two weeks because all of the NATO nations sat around a conference table trying to write a threat estimation on which they all could agree. The Turkish representative would have maybe one or two sentences that he had to get into

the document. If he didn't get that in, he couldn't go home. The Greek representative had the same problem. Everyone had their own "national interests" to protect or their own directions from their governments. We had to come up with a joint document that satisfied everyone. It was a very challenging task.

Oettinger: Let me comment on that. If you'll recall, the words that Colonel Wallace used are almost identical to the words that Dr. Quinn used last week with respect to his experience at NATO. So here we have a military guy and a civilian guy essentially reporting the same impression. These things cross cultural lines, if you will, or professional lines. Also, I would point out that Colonel Wallace is an intelligence guy and the military hierarchical thing that you caricature is a little bit different in the intel world than it is, let's say, in the world of fighter pilots or submarine commanders, who are more operationally oriented. Your assumption a little bit earlier that the culture is homogeneous across the military would strike you as almost as absurd as if I'd said that the culture across all of the civilian sector is homogeneous.

Student: I can't help but think, though, that what you're talking about here (and to carry your question even further), is that the situation wouldn't be that much different with the Bureau of Alcohol, Tobacco, and Firearms folks and the seizure at Waco, Texas, that got so much publicity. It wasn't the cross-cultural situation, but there was certainly the interdepartmental issue and there were the publicity and the media, and all those intervening factors. I'm not totally familiar with their experience, but I'm not certain that the on-scene commander had major command and control.

Oettinger: We have evidence on the record, if you will, and you're right to that point, that the military are so much more homogeneous across services within the United States, or even across countries, that when they found themselves faced with drug interdiction problems, and working with police people and the like, they found that almost hopeless because the divergence

in *modus operandi*, outlook, and so on, is much greater. So it's to that extent that I think you're correct. They're more birds of a feather, let's say, between different military services within one country or across countries, than between the military of any country and police forces or drug agents and so on.

I'd just like to make one more comment on the question about how you acquire the cross-cultural expertise, again by pointing back to the 1991 *Proceedings*, to General Schwartz's experience. This was a guy who was pure Army all his life, except that he had one assignment where he was detailed to Saudi Arabia to be the military advisor to the chief of the national guard, which is not some home-grown militia, but the head-knockers and security keepers and so on, and after three years of that, he'd gotten a pretty good idea of who was who and what the culture was and so forth and so on. So when he was sitting out in Fort Lewis, Washington, and things started up in Iraq, he picked up the phone and called the Army Chief of Staff and said, "If you need me, I'm willing to go back. Here's my experience." That happened within an hour of another guy calling him, and they got together, and he was on the plane to Saudi Arabia. So you have this marvelous blend of the hierarchy and, once again, a fortuitous experience, initiative in inventing and taking advantage of a situation, all happening in rather a short timeframe. Some of it was indoctrinated, in the best sense of the word, and some of it was ad hoc invention. So both training and doctrine, indoctrination, and ad hoc inventiveness, which one hopes is not destroyed by indoctrination, again played an important role.

Student: I've got a question about a totally different area now. I want to call on your skills of estimation in a very broad, general question. Obviously everything changed a few years ago. The estimates of what was happening affected a lot of the military here, typical post-war efforts to draw down, et cetera. The new world order did not materialize, as a lot of people anticipated, and right now there's a lot of speculation or at least writing in the press, et cetera, that maybe Russia is not the benign

entity that we thought it was turning into. Do you foresee, looking at the military and the politics of Russia, an indication of any broad changes that will have to be compensated on the part of the United States as far as a re-look at the direction our military is heading now?

Wallace: There have been a lot of signals that the honeymoon, so to speak, is over with Russia. There was a honeymoon period, a lot of euphoria, after the fall of the Soviet Union, and this lasted from 1991 to the fall of 1992. But then we saw a kind of fundamental shift in the way that some of the policy makers in Russia were thinking, and the way they were looking at the future. Number one, in 1992 we saw a foreign policy doctrine that was expounded by Foreign Minister Kozyrev, which stated in no uncertain terms that Russia was going to remain a great power. It was basically going to attempt to reintegrate part of the former Soviet Union. Kozyrev is tough. He recently spoke about NATO and the Partnership for Peace program and how he is not going to let NATO or the West fill the security vacuum in Eastern Europe and the former Soviet republics that was created by the fall of the Warsaw Pact and the dissolution of the Soviet Union.

Various drafts of the Russian military doctrine have been seen. The draft in May of 1992 that appeared in *Military Thought* and the subsequent debate on the military doctrine showed that the conservatives in the military had not changed their stripes. They had not changed their way of thinking about the nature of the threat, their military technical policy in weapons development, et cetera. We've seen indications now of a new Russian imperialism, say, in the "near abroad"—in the Caucasus, in the Baltics, in Tajikistan and in other parts of Central Asia. Russia's military, political, and economic actions validate both the foreign policy doctrine and the military doctrine that the Russian leadership has been espousing.

In terms of what the Russians are doing in weapons development, there's a big contradiction. While they are getting billions of dollars in aid from the West, a lot from the United States, they're still developing new weapons, based on what they

call new physical principles. There's talk in Russian military publications about developing third-generation nuclear weapons, mini-nukes, space-based nuclear weapons, space-based nuclear systems like directed shock weapons, which can focus nuclear energy from space to destroy sensitive targets on Earth, et cetera.

The Russians are doing a lot of basic research and in their military-technical policy they are talking extensively about information warfare, reconnaissance strike systems, electromagnetic combat, laser weapons, et cetera. I have here, and I would like to read it, about ten areas where the Russians list their military technical priorities. According to Russian Deputy and Defense Minister Andrei Kokoshin, these are the things the Russians are looking at for the 21st century: equipment for highly mobile forces; strategic weapon systems; air defense systems; military space systems (and space systems are going to become more important in the future, especially in terms of an integrated fire control complex); long-range accuracy systems; army aviation systems; reconnaissance assets; electronic warfare; and, last but not least, command and control systems. These are all the things that the Russians are looking at and these areas are where the research and development dollars are going.

Student: How does that list differ from the United States?

Oettinger: Yes, to put it slightly another way, if I were a hungry military guy and I wanted to defend my budget in a period of chaos, that's the list I would write. On a scale from benign to sinister, what leads you to put your bet on which end of the scale?

Wallace: I read this list just to make a point that, although the nuclear weapons do still present a major threat to the West, based on what's going to happen on the military aspect, there is a resurgence in the Russian military. Be that good or bad, there is a resurgence.

Oettinger: I think we still have to put it in terms of something you said earlier about

the nationalities problem. You know, that goes way back to Kievan Rus as an issue. Stalin, in his day, spent a great deal of his time worrying about the nationalities problems. He even turned himself into a prophet on linguistics and wrote articles that were aimed at suppressing the minorities' languages, which even he, with the great genocide, didn't manage to master fully. So, what's your judgment on how much of the military concern is addressed at the traditional concern that the Uzbeks and Tajiks and so on might go out of control and they might need to nuke them, as opposed to a concern about Yugoslavia or Germany or France or the United States? Do you have any sense of what they are really scared of? Do they fear we would repeat 1919 and come into Siberia?

Wallace: No, I don't think it's that. For one thing, while the internal ethnic problem is important, I think securing their borders constitutes the number one priority.

Oettinger: The borders being where?

Wallace: That's a matter for interpretation. For example, let's take Georgia. After the breakup of the Soviet Union, Georgia became an independent country. Correct? An independent country with boundaries that were defined internationally by international law. Now, since Georgia is one of the strategic locations in the Trans-Caucasus, we saw the Russians interfere in the internal affairs of this sovereign country by first supporting the Abkhaz rebels. The Abkhaz rebels, who are a very small percentage of the population (about 90,000 out of a total population in the area of 524,000), obtained an air force, a navy, and a lot of modern equipment, including jet fighters and tanks, and they actually, with Russian assistance, defeated the Georgian army. So, this is clearly, in my eyes, interference by the Russians in a foreign country that they recognize.

Then I believe, after the Abkhazi incident, the Russians supported the former president, Zviad Gamsakhurdia, in his offensive against the Georgian government headed by Eduard Shevardnadze. Then, when the situation was getting hopeless,

the Russians switched sides and supported the regime of Shevardnadze. Why did the Russians do that? Because they wanted Shevardnadze, in a sense, to cry "Uncle," and make concessions to them. Now there's an agreement that has just been signed between Yeltsin and Shevardnadze to garrison Russian troops in major Georgian cities permanently. Georgia also has joined this quasi-organization called the Commonwealth of Independent States (CIS). And this is all, more or less, based on Russian connivance, first on a foreign policy level and second on a military level, to influence the outcome of what's happening in a so-called democratic or independent state.

I was in Armenia during the conflict between Armenia and Azerbaijan. Initially the Russians were supporting the Azerbaijanis. Then they switched to the Armenians. Now they're switching back to the Azerbaijanis. Azerbaijan has also "volunteered" to join the CIS. Asia is probably a little bit different. The Russians were called in by the Tajik government to help defend against the hordes coming out of Afghanistan. Russia is worried about a resurgence of Islamic fundamentalism in that area. But there is also a common border. The Russians want to secure their borders. So the Russians' hands are not clean, even in Central Asia.

The next trouble spot, I believe, will be the Baltics. The Baltics are fairly progressive, but they're very vulnerable to Russian military might—and also to Russian economic and political pressures.

Student: Some of these states have more Russian people living there than Lithuanians or whatever.

Wallace: Yes. But the situation is worse in Estonia and Latvia. All Russian troops have been withdrawn from Lithuania.

Student: But, in your opinion, what are the implications of these changes for the U.S. military force structure?

Wallace: On the U.S. military force structure, I don't see much change. As you know, our force structure is going down

and is going to continue to decrease. That's just a fact of life.

Student: There's a lot of interest in Congress and in the administration at this point that says we've probably reached the trough, and that we're going to level out based on what we're seeing in developments certainly in the Balkans and Eastern Europe.

Wallace: Probably so. I don't see us building up against one threat. I think everyone agrees, and even the Russians have written this in their doctrine, that they see future wars as being regional conflicts. So we're going to have to rely on mobile forces. The Russian military is going the same way, trying to have mobile forces that can respond quickly to cool these hot spots.

Student: I'd really like to pursue this resurgence in the Russian military because you're giving us some information that falls contrary to some of the things that trouble me. The Air Force Chief of Staff and General Denikin, who's the chief of staff of the Russian air force, got to be somewhat ... I won't say comrades, but they've liaised. You hear these stories that the Russian officer corps can't have housing, they have major pay problems, major problems with morale, with finding food; they're turning into bands of black market opportunists. When you look at an average fighter pilot in the U.S. Air Force flying an F-15E, he may be getting five or six training sorties a week, and you're hearing that the Russian pilots don't have spare parts and are flying maybe 10 training sorties a year. Then I hear you say that there's this credible threat, and I'm bothered by that.

I'm also interested in the prognosis that there's this scientific development for future weapons systems and how that's impacted by the disintegration of the intellectual community within the former Soviet Union and the exodus of a lot of talent.

Wallace: Again, let's go back to dialectics—Marxism-Leninism. It seems like there are a lot of contradictions here, but there really are not. A lot of the things that you have seen openly have been just for

what the Russians call *pokazukha*, "window dressing." In the military context, General Denikin, Marshal Akhromayev, Defense Minister Grachev, whoever, can come over here, we can go over there, and we can be very cordial and we can sit around and drink vodka and talk about how we're all going to be buddies, but underneath that façade a lot of things have not really changed. Don't get me wrong, the Russian military is not made up entirely of these hard-liners, but it's my thesis—and I think I can support it by what we're seeing in the press and in the statements that other people over there have made—that the conservatives in the military-industrial complex, although they lost some control under *perestroika*, remain in power now and are regaining control.

Oettinger: Let me try to put some of that into a historical context and see if you would agree. One of the reasons why, over the last umpteen years, the Soviet Union has been such a threat, in spite of the land of unlimited impossibility, is this dual structure, which is almost inconceivable in the United States. There's a hidden military industry—a military culture and an industry culture that is capable of putting missiles in space, making excellent aircraft of one sort or another scientifically, while the total incompetence on the civilian side makes it quite plausible that living, if not high on the hog, still on a good part of the hog, is a core of that. Meanwhile, the periphery is permitted to disintegrate and good riddance, by the way, because they're probably free riders and mavericks of one sort or another. So, what he says doesn't strike me as *prima facie* implausible in that there has long been this kind of dual structure. The military had their own telecommunication system. Zhukov going with Khrushchev way back is what turned the tide, so Khrushchev stayed in power when the others wanted to gun him down, and so it's just plausible.

Student: As someone who is not a military man, I was a little bit puzzled when, toward the end of last year, I saw Ed Bradley (well, it was not Ed Bradley himself) talking to a four-star Russian general,

someone on a team of top Russian generals who were escorted to, I think, South Dakota to see the top secret underground U.S. installations. They actually took a guided tour of the whole thing. This man appeared to be very conservative; he wasn't saying much, but he was taking a lot in. Against the background of what has happened after that, with the Ames spy scandal and all that, I don't know whether it was a hasty decision to open up your secrets to the Russians when they appear to be so much on their high horse in terms of not having actually abandoned this destiny thing at all. I mean, it's really puzzling.

Wallace: Let me just comment that again we get back to "window dressing." What did this general see? In my opinion, he saw what we wanted him to see, and on an exchange visit, because most of these visits are tit for tat. We saw what the Russians wanted us to see. You show me your missile silo, and then I'll show you my missile silo, but we will sanitize, we will take off all of the sensitive information we don't want you to see. That's a fact of life. General Sergeev, whom you referred to, yes, he's a hard-liner. He's the chief of their strategic rocket forces, and the strategic rocket forces are the number-one service in the Russian military, and also were, in the Soviet military, the "first among equals." Now, you look at their new military doctrine, where they say the threat of future war is primarily low-intensity and mid-level conflicts. They also are saying that they have given up their former stance on no first use of nuclear weapons. But nuclear weapons and the strategic rocket forces are the backbone of Russia's new doctrine of deterrence. They also say that an attack on a Russian facility, say a nuclear power plant or something like that, not by the United States but by some Western coalition with non-nuclear or conventional weapons, will be treated as an attack by a nuclear weapon, and they will retaliate with nuclear weapons.

Student: Have we reserved the right to do the same thing?

Wallace: Oh, sure we have.

Oettinger: They might be imitating us on the issue of first strike.

Wallace: Yes, they're imitating us. But the point I'm making is that the Russians have quite a few nuclear weapons, especially mobile missiles like the SS-25. In the past, I worked on the mobile ICBM and the Midgetman and now all these things have gone by the wayside. They have an operational mobile ICBM, the SS-25, and there is talk in the Russian press of upgrading this missile.

Student: I wanted to assess your opinion about the threat from Russia and even those fighter pilots who have less than 10 sorties per year, because Russian society is not only based on corruption for over 400 years, since before Peter the Great, but it's also based on tradition. They are very proud that they fought the Germans, proud of the losses in their families, and the military was the cream. To become an officer was an honor for the whole family. Now those guys are coming back from Germany, living with four or five families in one apartment, and they are starving, and they are angry. That's also the main threat, because if a conflict arises, they can raise their hand, "Okay, I volunteer." Then they can train every day on real targets, and they can go to Africa or wherever if there is no control in Moscow, and I can't see that there is real control in Moscow. The military is still a major power there.

Wallace: That's why, too, you see a lot of former military people in positions of power, especially something in Russia now called the Afghan Mafia. Grachev and a lot of the other generals who are running the military now fought in Afghanistan. You're right, conditions are poor. A lot of these soldiers are going to places like Azerbaijan, Armenia, Tajikistan, and hiring out as soldiers of fortune.

Student: I think the straightforward attack on America is not the major threat today, but attacks on American interests in the Gulf, or in Africa, or Asia could be dangerous.

Oettinger: Let me push this, because another hypothesis, and I'd like your view on that, is that the traditional long-standing threat from nationalities and neighbors is what is motivating this, more than anything having to do with the United States. It would seem to me that on a gut level some people in Moscow have got to be having pangs in their stomachs about Azerbaijan or Afghanistan or damn near anybody other than the United States. Now that might escalate into some mess somewhere else, but does that make sense?

Wallace: That makes a lot of sense. That's our first priority, I think.

Student: Or, for example, if Yeltsin wants to give Sakhalin back to Japan, and the Japanese move in, there might be conflict arising...

Oettinger: Yes, but the odds of something dumb like that being done are small. My guess is that neither the Japanese nor Yeltsin have any appetite right now for rocking that boat. My guess is that if the Japanese got so moved, the U.S. would make any little bit of trade argument look like child's play. To my mind, that's the most stupid thing imaginable that anybody on either the Russian or the Japanese side could do at the moment, because it would give excuses for all sorts of nightmares of the Armenian, Azerbaijani, Georgian, et cetera, type to go on.

Student: I keep getting disturbed by this one thing because I almost sense this Western paranoia. The most senior people in the American defense establishment have consistently briefed Congress, both in open and closed session, about this diminished threat that I am talking about and this lack of capability within the Russian military establishment. The question that I'm asking is, are you saying that people who are gathering this data from intelligence estimates are telling the Congress, which is driving the U.S. defense budget, and the American people through the press one thing as disinformation and feeding something else to the Executive Branch?

Student: I take offense at that!

Wallace: No, that's not what I'm trying to say.

Student: Or that they tell them what they want to hear.

Student: Because you're saying that there is this threat...

Wallace: Let me say this. I'm not saying that Russia is going to attack the United States or Western Europe tomorrow. What I'm saying is that if you look at the signals, there is a change or a shift in the whole psychology of what's happening over there. It's not getting more liberal. It's getting more conservative. You have this madman called Zhirinovskiy, who got quite a few votes with his Liberal Democratic Party in the parliamentary elections last December. Yeltsin is a very "weak sister" in the whole realm of politics in Russia now. Prime Minister Chernomyrdin is basically running the country, and if you look at his background, he was a minister of industry with very strong ties to the military-industrial complex. The reforms are going by the wayside. The military is getting their dividend for supporting Yeltsin in the October 1993 coup attempt.

Student: And you're saying that that means that resources are being diverted back into the military establishment?

Wallace: Resources were always being pumped into this area, but now more resources are going to be put into the defense industry. Marshal Shaposhnikov, the former head of the Commonwealth of Independent States armed forces, who also was chief of the air force, has just been given a new job. He's the chief arms salesman for Russia. The Russians are getting into this arms market more vigorously. And the profits are being partially invested in weapons research and development.

Student: Isn't this out of desperation, though? Isn't that economically driven?

Wallace: It's a source of hard currency. What will they do with that hard currency? They can fall back into research and development of these new technologies. It all ties in with the Ames case, the GRU, the foreign intelligence service, et cetera. What are the Russians stealing? Technology!

Oettinger: It's time they caught up with the French.

Wallace: You're right. Technology is the big thing, technology that they can fold back into their weapons programs.

Oettinger: There's no discontinuity; they've been stealing technology all along.

Wallace: Of course, but now the Russians may be getting better at it. I don't think there is a contradiction in what the policy makers are getting, but a lot of these policy makers are not paying attention to these signals. They're coming around a little bit more now. I talked to a gentleman at the NSC about Russian activities in the near abroad a few months ago, and I was told, "Well, basically that's the Russian sphere of influence and they can do what they want." The President now has come out publicly against what the Russians are doing in the so-called near abroad. You're seeing a lot more in the press from Senators and other U.S. officials about what the Russians are doing. The Ames case just gave it a lot more publicity. We probably knew more information about Russia's espionage activities in the U.S. for some time.

Oettinger: They admit to two years. What's strange about that, if you'd care to comment, is the reports in yesterday's or today's press suggesting a degree of amateurism on both sides that is absolutely mind-boggling.

Student: How about arrogance on both sides? Instead of amateurism?

Oettinger: Just the surface is what's mind-boggling.

Wallace: It's too mind-boggling.

Student: I wonder if I could just try to bring us back to methodology and systems? Would you care to draw any conclusions from what you've just been saying as to what the U.S., and indeed the allies, should do, first in terms of "I" and then in terms of C³, to respond to this? Looked at from the outside, this seems to be a recipe for intensifying an effort on political intelligence collection, maintaining vigilance on the military side, exploiting the opportunities that exist for overt and diplomatic reporting and collection, and, in general, intensifying the classic political work in relation to both the new and emerging republics of the CIS and those around it, and then taking a long, hard look at the counterintelligence and security implications of these developments for our own posture. In the last couple of years there has been quite an interesting series of debates going on in security establishments around various different Western capitals, the net effect being, I think, toward a slightly more relaxed approach and rather greater emphasis on risk assessment rather than vulnerability in absolute terms. I wonder what your prescription would be.

Wallace: My first prescription—and I've talked to people in Washington about this, I've heard this in Russia and in Eastern Europe, and I've heard it on my last trip to the former Yugoslavia—is that what we are lacking is human intelligence. We need more people on the ground to observe and report what's happening. That's critical. The whole psychology of spying has changed. I can say openly that as an Air Attaché when I was in Moscow, my job was to observe and report on developments in the Soviet Union.

Student: Do you feel like giving your Social Security number on the record?

Wallace: I was an observer and reporter of events in the Soviet Union.

Student: You just said that the last time you were there.

Wallace: There are still a lot of restrictions put on diplomats serving in Russia. In my

day, I think, 95 percent of the Soviet Union was closed to foreigners. Now I think maybe about 94 percent is closed to foreigners after all of this democracy and openness and everything. Recently Yeltsin said that any city that is involved in military production, nuclear weapons production, or any of these sensitive types of systems, is closed, period. There is a strict regime where only the people who work in these defense plants can live in these cities.

Oettinger: Again, I'm more prone to underscore the things you said about continuity and relate those to the internal situation, for instance, movement control in the Soviet Union. In this country we tended to focus on movement control in South Africa and so on, but South Africa, again, looks like an amateur compared to the Soviet Union. Their survival as a society depends on strict movement control because if there were none, then any semblance of order that they now have would disappear. So it would seem there is a certain naiveté in assuming on this side that anything fundamental was going to change. They simply have to maintain total population control or they disintegrate overnight into anarchy. Is that unreasonable?

Wallace: Well, but what? For a democratic country ...

Oettinger: But "democratic" is an American conception that Ivan the Terrible wouldn't recognize ...

Wallace: You're right, but there seems to be a real contradiction there. If this is a democratic country, why can't I get a passport and travel freely abroad? They're not even there yet.

Oettinger: But what you're saying is that there has been a lot of illusion in the West, and the Russians are behaving as they have under the czars, et cetera, et cetera.

Wallace: We had an incident a few years ago that Colonel Jenkins may recall. We had a Russian exchange officer at the Air War College who, after his course of study ended, decided he did not want to go back

home. So he "defected," or so-called defected. But how can you defect from a democratic country?

Student: We turned it over to the State Department and I didn't follow it from that point. He was allowed to remain in the United States.

Wallace: I heard, and I don't know if it's true, that the way he stayed in the United States was that he said he converted to Judaism and he couldn't go back because he would be subject to religious persecution. So on those grounds he was allowed to stay. Now we have a Russian navy captain at the Naval War College, and I went down to talk to him. At first he thought I was probably CIA and he didn't want to talk to me. I spoke Russian to him. Here was this black guy speaking Russian to a Russian naval officer in Newport. This made the Russian very standoffish. He was sent over without his family. Later I found out his wife was coming over to join him, but his son was being held "hostage" back in St. Petersburg. The Russian authorities were not going to let his son out of Russia until he got safely back home.

Oettinger: Your story brings back to mind my 1958 Moscow Gorky Park of Rest and Culture, when I was taking a walk with an old friend of mine who is a black man. He is now a professor at City University of New York. We were wandering around there, and they kept coming up to him and asking him whether I was the CIA guy assigned to follow him.

Student: Moving to the theoretical for a minute, you said, earlier on, that the system was becoming much more market driven, much more customer oriented ...

Wallace: Did I say that?

Student: Well, that's what I understood you to say.

Wallace: Our command and control system?

Student: No, the American intelligence network system infrastructure. Normally, organizations that are market driven tend to be flat organizations. Coming back to the point made some time ago about the effect of new information technology on organizations, normally that effect also is to flatten the pyramid, or that is my understanding. The military structure is very peaked, a pyramid, and I wonder when we come to command and control of intelligence, those two trends being market driven and electronically driven, if you like, whether they're compatible with the structures that exist now?

Wallace: It's very difficult to say. For some reason, throughout this entire presentation I've been talking about contradictions, and this is really a contradiction. In my case, they would send the mid-level managers, basically, for market training. I went to George Washington University to attend a two-week total quality management course. But unless the top military leadership really accepts this concept, it's really just a buzzword. Nothing is really going to change. You can't have a market-oriented system where you're having the hierarchical leadership at the top dictating the policy and not listening to the people at lower levels.

Student: That's not market driven, that's product driven.

Wallace: Whatever. You can't have the leader at the top not listening to or implementing the recommendations of the different groups that are brainstorming and coming up with ways to improve customer satisfaction and quality.

Student: I guess the reason I said that an organization that was market driven tends to be flatter is that it tends to bring the people who are doing the work in closer contact with the customer.

Oettinger: But you're making a really fundamental error, because you are assuming that the flow of information from customer to producer is necessarily and directly related (a) to the flow of command,

which it may or may not be, and (b) that either of those is necessarily related to the technology.

Student: Those are two separate things.

Oettinger: Not only that, but they're critically separate things, and the current received wisdom about information technology and flattening is just a fad among devotees of the Harvard Business School and a whole bunch of other folks who have developed management theories. It has nothing to do with what I perceive as the reality of information technology.

How do you demonstrate this? Have I introduced either of you to Vinny Mosco? If not, make it a point to come by and let me introduce you to Mosco. He is one of my collaborators, a fellow who is professor of sociology at Carleton University in Ottawa and who is looking at that kind of question in some depth. The evidence is mounting sort of beyond reasonable doubt that what in fact is happening is that the information technology is loosening up the constraints, so that on this question of flat versus peaked hierarchical, centralization versus decentralization, or any number of other dimensions, you now have total choice where before you might not have had any choice. One of the reasons for the agonies and the faddism in the management circles is that these poor buggers aren't used to having the kind of freedom they have. They used to be forced into the inevitable, and now all of a sudden they have got to make decisions about stuff that used to be inexorable, and it no longer is.

Student: I guess the question, Tony, pursuing that theory, is that if you maintain a structure that is a fairly steep pyramid, can you take advantage of the information revolution?

Oettinger: Yes. I will give you a 20-year old article of mine* in which I got into an

* Anthony G. Oettinger, "Communications in the National Decision-Making Process," in *Computers, Communications and the Public Interest*, M. Greenberger, Ed., Baltimore, MD: Johns

argument with then Deputy Secretary [David] Packard and Ithiel Pool and a bunch of other guys on the matter of this hierarchical stuff, and that, in fact, most organizations today work (and that goes back to this matter of who talks to whom and across what cultures) by virtue of the fact that people at mid levels and lower levels talk to one another, independent of what the organization chart does. This has always been true, and bureaucracies and hierarchies really work because the flow of information is sort of independent of that. I mean, people subvert all of the structure, thank God, because otherwise everything would come to a grinding halt. But they take orders down the pyramid. So there's living proof in all of human experience that the flow of information and the flow of orders, the flow of hierarchy and the flow of command, are in fact uncorrelated most of the time. So there is nothing new about this.

The fact that information technology enables everybody to be better informed, at least in theory (and this goes back to your question right at the very beginning), means that the structured stuff can work fairly well because the orders come down to people who are better informed. And, by the way, when everything breaks down, all hell breaks loose, and you can't communicate or you get on the ground in the middle of Split or Zagreb or someplace and you've got to make do with a bunch of locals, et cetera, you are better informed than you otherwise would have been and can exercise initiative and shift from essentially "controlled fly by wire from the hierarchy" to "fly by your own wits locally."

So I think that all the evidence points to the fact that historically, as well as contemporaneously, the flow of information, of knowledge, or whatever, is uncorrelated with the flow of authority. Modern information technology simply gives you many more choices, especially on the nature of the flow of authority—flat, hierarchical, what have you—and by and large the flow of information takes place by whatever channels it can find, which nowadays, in

most places, including the Soviet Union, are less controlled. That's part of one of their monumental contradictions: that the information flow has gotten a hell of a lot freer, even though the institutions haven't, and they're faced with this problem of what the hell to do, for example, with this rigid population control, when they can no longer control the flow of information. The population control and the information control coexisted in the "good old days" for the Soviets. Today, the folks who are in some enclave know they are in an enclave and they're raising hell. So I think this stuff about flattening being compulsory is business school claptrap. Not to show my bias.

Student: Someone else told me to ask that question.

Student: Just in case I might have been misunderstood, I've always seen information technology as opening up the potential for change, but not necessarily spurring that change itself. It seems to me that one of the lessons that one has to learn, more or less, is that information technology is not simply technology, and that if you are going to implement information technology you must implement it in the wider organizational context and think about all sorts of non-information technology related things, for instance about what sort of organization do you want to have built around it.

Oettinger: Precisely because you have the liberty of choosing that. That's the point. Absolutely! I couldn't agree more. Bravo!

Student: Which goes back to what was said earlier, in that you can now have the flexibility in command and control depending on whatever kind of coalition or ad hoc structure you have. You've got the flexibility to put together whatever kind of organization structure you need to accomplish the mission.

Oettinger: Yes, except let me demur on that because you have that in principle, but the fact remains that you cannot do that overnight. This goes back to Graham Allison and the notion that a leader has to play

Hopkins University Press, 1971 (with discussion by Ithiel Pool, Alain Enthoven, David Packard).

with the tools he has. While you have the option over the long term, in the short term, whether you are a platoon leader or the President of the United States or the President of Russia, you play with what you've got because you can't change it overnight. That remains inexorable. That has nothing to do with information technology. That has to do with the salient fact of human affairs and bureaucratic or any other structure: that you can't commit instant genocide and therefore you're stuck with whatever your current institutions are for a while.

Anyway, we have about ten minutes left. I'd like to get back to you, sir, and I saw you making notes there over lunch. We've been going at you and I've been a culprit on that. What thoughts would you want to leave us with that we have not elicited from you in our impertinent questioning?

Wallace: I think we've covered most of the points that I had wanted to address: basically Russia, which is the place that I know and love, and what's happening there. On a more theoretical level, I want all of you to know and realize the importance of the "I" in C³I.

Intelligence officers, military or civilian, get a lot of bad raps. When things go wrong, the first group that gets blamed is the intelligence community. We didn't foresee the future. We didn't do this. We didn't do that. I guess that goes with the territory, but there are a lot of professionals doing a very good job. We have a lot of smart people in the intelligence career field. With this new "peace dividend," where we have to do a lot more with a lot less, the challenges that are confronting people in intelligence will grow and grow over the next couple of decades and more. Proliferation of weapons of mass destruction, arms control, military capabilities, scientific and technical intelligence, information warfare—all of these things are going to be extremely important to our country and to the whole process of C³I.

One thing that we try to do now (and this goes a lot with our Chief of Staff and his emphasis), especially in military intelligence, Air Force intelligence, is to shift emphasis in our estimates. Our primary job

is not to make estimates that the President or some policy maker is going to read. Our primary mission is to support the warfighter: to support that pilot or that person who is going to go into harm's way to attack an enemy. I'm sure the Army or any of the other military intelligence branches have the same view, but our view, specifically in Air Force intelligence, is to support the warfighter, to support that weapons system, to support that person who is going to put the bombs on the target. I've seen a shift away from a lot of the longer-term analytical studies and the 20-year projections toward more of the current intelligence looking at the hot spots, trying to come up to what's happening and why and what does this mean to the Air Force; what does this mean to U.S. national security? I think that's going to be one of the real challenges in the future for the "I" part of the C³I equation.

Oettinger: Could I get you to go into a little more detail on one of those points, because it ties back to something you said earlier. You just said again, "the 20-year estimate" on the weapons. Last week we had Tom Quinn here, the ASDC³I, talking essentially about procurement, and one of the points he was making was essentially what a disaster, in certain instances, 11-year procurement cycles were for U.S. weapons systems and so on. He mentioned 20-year Soviet force structure estimates. What I'd like you to do is comment a little bit on what you regard as natural, inevitable, controllable product life cycles. Based on what you know, both about us and about them, what's the normal life cycle for a weapon? Is it 20 years? Could it be a five-year cycle? Are there inexorable things that make it long because you've got to do R&D and 16 other things and that takes time? Tell us a little bit about how you see those time constants in weapon development and what is sort of essential versus what happens to be sloppiness by us or someone or whatever.

Wallace: I can't really go into a lot of detail on this, but I'll try to put it in the Russian context. Initially, when I was creating projections or estimates, we focused on 10-

year projections, basically because if we were going to counter a Russian weapon system, we had to assume the 11-year cycle you mentioned for the weapons development. We wanted to look at technology that's on the drawing boards today, and we would assume it will come to what we call "initial operational capability" within about 10 years. So, it will be a 10-year cycle from blueprint to actually filling the first weapon system into the inventory, and our cycle basically paralleled the Russian or Soviet cycle.

Things have changed quite a bit now, especially on the Russian side. Because of necessity, the Russians are becoming more selective in the types of weapons systems that they're going to develop. Before, in the era where money was no problem, you saw a lot of duplication from the different design bureaus. Now you even see flyoffs. You see more competition between design bureaus. You are going to see what Deputy Defense Minister Kokoshin calls a "technology leap." What the Russians are trying to do is to concentrate on the basic scientific research now for a weapon system based on laser technology or on some new physical principles, but not build a prototype. Keep that technology on the shelf. Keep the scientists and the engineers more or less working in that area without going to the

trouble of building a lot of expensive prototypes, some of which will or will not work. Then, in theory, if they have to, they would bring this technology or this research that they have already completed from the drawing board into some type of quick prototyping and into production, and in doing so, create some type of technological leap. They can leap over a generation of weapon systems in that fashion.

I don't know if this is plausible. They are talking about this as a way of keeping the defense expertise current and working.

Oettinger: But so are U.S defense contractors for much the same reason.

Wallace: Yes. They are talking about that. So I think we are going to see a shorter span from basic research to the initial operational capability of some of these new systems. The focus will be away from completely indigenous technology and toward a hodgepodge of the best of all different technologies, Western or whatever, in some of these new weapon systems.

Student: Borrowed from the CIA.

Oettinger: *Polkovnik* [Colonel] Wallace, *spasibo bol'shoe* [thank you very much].

Wallace: *Spasibo*.



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