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Intelligence: The Science and Technology Connection
Michelle K. Van Cleave

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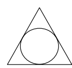

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Intelligence: The Science and Technology Connection

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For a cumulative five-year period spanning August 1987 to February 1993, Michelle Van Cleave served as the Assistant Director for National Security Affairs and General Counsel, White House Office of Science and Technology Policy (OSTP). In 1989, she served as Republican Counsel to the Committee on Science, Space, and Technology, U.S. House of Representatives. Her previous positions included: Assistant for Defense and Foreign Policy to Congressman Jack Kemp (R-NY); National Security Assistant to the House Republican Conference; Associate Staff Member, House Appropriations Subcommittee on Foreign Operations, U.S. Congress; Associate specializing in appellate advocacy at the Los Angeles law firm of Horvitz and Greines; Coordinator and Staff Attorney in the Office of the General Counsel; 1981 Presidential Inaugural Committee; Platform Committee staff, 1984 Republican Convention. Ms. Van Cleave holds MA and BA degrees in International Relations from the University of Southern California, and a JD from the USC School of Law. She is a member of the State Bar of California.

Oettinger: It is an especially great pleasure to welcome our speaker today, because she made it under extraordinarily difficult circumstances, including change of administration and stormy weather. I won't go into detail about her career since you have all had a chance to look at her biography. She has agreed to be interruptible with questions from the start, and so it is with great pleasure that I turn it over to Michelle Van Cleave. Thank you.

Van Cleave: Thank you, Tony. It's a pleasure to be here with you and your class and I have to say the weather was a lot milder than advertised. So, it wasn't exactly a terrible trip getting up here. It's nice being up in Boston — in fact, to get a little distance from Washington — and healthy.

What I would like to do today, is to follow the interest that you might have in defining topics that we might discuss. In order to get that going, let me just tell you a little bit about the Office of Science and Technology Policy, which is where I worked within the Reagan and Bush White Houses, and one month into the Clinton Administration. Most Americans, I think, are not familiar with the fact that the President has a Science and Technology advisor on his staff, and that that Science and Technology advisor has a staff supporting him or her within the President's office in the White House.

The charter of the Office of Science and Technology Policy is very broad, as you might imagine. There are, these days, roughly 50 people on the staff, counting all the clerical and administrative support. It's not a really big office, but it has a very broad responsibility. All science and technology policy issues that might be of interest to the United States of America and the President are within the purview of that office. So, as you can imagine, they have a division for life sciences, and physical sciences, and international science, and one for industrial technology, and the division that I headed up, which was the division on national security. All science and technology policies supporting national security were nominally within my portfolio. Again, as you can imagine, the problem was to prioritize issues that are going to be of importance to the President, to the President's assistant for science and technology, to the country. One of the things

that you are going to concentrate on, and it's really the question with which I was faced and which my predecessors and successors certainly faced, is how to best utilize the resource represented by that office.

I believe that from the vantage point of working in the White House, one of the most important things that you can do is to seek out those offices and individuals within the various departments and agencies of the executive branch who are struggling to do important work and may not be receiving the kind of resources and support that they need, and to see that they get that support. Another goal is to identify those issues and problems facing the nation that are not being adequately addressed in the normal course of business within the different departments and agencies, and to try to shine a light on those issues, to provide some kind of leadership for the executive branch at large where the President's priorities might be in national security S&T matters. It's a matter of judgment for each science and technology office, and different administrations have had different priorities.

We were talking a little bit at lunch about what the new priorities might be under the Clinton Administration. It seems to me, just a month and a half into it, that we're likely to see less of an emphasis on national security issues in the traditional sense, and more of an emphasis on the so-called competitiveness issues, technology policy as it affects the commercial world, in contrast with the more traditional undertakings of the office, which were, for example, in the Reagan Administration, a major emphasis on the Strategic Defense Initiative (SDI) and on arms control verification matters. There were changes within the Bush Administration, where this emphasis on the technology and competitiveness questions first arose, and I found our work then focusing more on export control, technology transfer, nonproliferation concerns, in part because of personal interest, but also in part because I think it was an effective use of our office's resources. We did a lot of work on intelligence policy, intelligence support for economic policy and technology policymakers within the government, and the question of whether or not to use intelligence to support the private sector and to support competitiveness concerns, which I think may have been the subject of Randy Fort's discussion with you last week.

With your sufferance, I think it might be worthwhile discussing some of those issues some more today. I have some thoughts to offer on that, but let me just say that any of the things that I've thrown out on the table are up for discussion — strategic command and control issues, for example; policy on national security telecommunications issues is one of the major undertakings of my office. I'm mentioning a number of subjects in case they strike a responsive chord with any of you or with the work that you're doing, or the things that you might be interested in. But with that broad invitation, which I hope some of you will take up as this couple of hours goes along, let me just say as I was looking at your syllabus for this course, I saw that your focus here is on finding analogies between the way that government handles intelligence and command and control issues and the way that the business community manages information and decision making. Is that about right?

Oettinger: Yes, it is.

Van Cleave: It occurred to me that the hot topics today are not really the analogies but, in fact, the ways in which those two communities can be pulled together. What are the appropriate ways in which there should be linkages between the government sphere and the private sector in making decisions about allocation of resources, about the protection of resources, and how to exploit information to support national goals? This is largely the area of industrial policy, which has been the topic of some philosophical and practical debate within the body politic for some years now. I think we now see reflected in these documents, which have been photocopied for your reference, an administration under President Clinton that is much more interested in being proactive in things called "industrial policy," even though they don't use that term so much.

There have been precedents throughout the course of history of the United States, so this is an important area, and you see several examples of this. For instance, there is the emphasis stemming from now-Vice President Gore's activism in the Senate to try to establish an information highway for the United States: to have government investment to exploit the fruits of the information age, to improve nationwide access to information and the systems that manage it. There is also the question of how much the government should be investing in or directing investments in leading technologies. How much should the government really be involved in directing resources in the commercial world?

Then there is also another area, which is sort of related to that: how should the intelligence resources of the United States be used to support things that

are broadly called "competitiveness concerns," or should they be used at all? On that latter point, my observation is that that is not an especially new question. It's something that the U.S. government has examined many times in the past. For all I know, Tony, you may have been working with the PFIAB (President's Foreign Intelligence Advisory Board) the last time the PFIAB went through that review in the Carter Administration. There's an old, still highly classified, document from that era where the Carter Administration was looking at this question of whether we should be using intelligence to support the private sector.

Oettinger: It's amazing how long the history is of that, because I had occasion to go through it late in the Ford Administration, and there are many, many years of it. It seems new, but you're right. Plenty of administrations have wrestled with it, inconclusively, I might add. It gets to be harder all the time.

Van Cleave: It is a very difficult issue, but certainly one that we find to be very compelling in the present political and economic climate, precisely because the United States is finding itself in less of a dominant position in the international marketplace than we have historically enjoyed. Certainly, coming out of World War II, this country was dominant economically.

Oettinger: You've given me an opening on the historical perspective. It was not only the actual relationships with others, but I think (correct me if I'm wrong from where you sit) an evolution over the years of the role of science and technology and the perception of it within the United States itself. At the conclusion of World War II, these doubts that are now prevalent about the wisdom of atomic, nuclear, et cetera, technology did not exist. The people, such as Einstein and others, who advocated the Manhattan Project came out of the war in 1945 as heroes. The science establishment could write its own ticket and, essentially, for a period of maybe a decade after the conclusion of World War II, the science advisors such as [James] Killian and [George] Kistiakowsky were, essentially, the President's nuke advisors. Incidentally, they then began a process of flowing government money into things like the National Science Foundation and other activities, for instance, the Office of Naval Research and others in the Pentagon, who essentially poured not much but some money into the scientific community. On the strength of this World War II heroism, there were essentially no questions asked.

What resulted was exactly what one would expect when one puts money into scientific research: 90 percent of the money got wasted, 10 percent was enormously fruitful, and that continues to this day. Nobody can tell in advance which will happen. But what has happened in between is that the dollars got larger and accountability became an issue and pork barrel became an issue, et cetera, et cetera. All of these increasingly have to be explained, and after the Mansfield amendments the Defense Department money, specifically, had to be mission-related. What this led to, in my reading, is a tissue of lies and fabrication where people have to justify activities on the basis of promised results that they couldn't predict, whereas to this day, as I say, if you put a dollar in, 90 cents go poof somewhere and 10 cents will pay off handsomely — more than enough to make up for the other 90. Over the years, the rationale has had to be invented to make the decreasing credibility of the pork barrel and the scientific communities supportable. That threat of increasing need for accountability after the World War II sort of no questions asked atmosphere is now coming together with that foreign trade, et cetera, kind of threat, which has replaced the nuclear monolithic Soviet threat. I think what you're describing is accurate, but I think the two threats seem to be sort of mixed together and I'd be interested whether you share that viewpoint or put greater emphasis on one or the other, or maybe neither.

Van Cleave: In my discussions with people from the scientific community, scientists who have had long experience with the benefits that they broadly derived from government investment certainly would not agree with the percentages that you assigned to the value derived from investment in science.

Oettinger: They've got an ax to grind.

Van Cleave: They have perhaps a different perspective on how resources are fruitfully used. I mean, for example, there are major divisions even among them. If you look at an undertaking like the superconducting supercollider (SSC) in Texas, which is an enormous investment in terms of money, what's the return? If this thing were up and built and it provided a great deal of insight into theoretical physics, what, from your taxpayer's point of view, would you describe as the benefit? Well, one person might say that it's a total waste of our money, we shouldn't be doing that, and somebody else might say that the understanding of the

part of physics that we can only, exclusively, derive because of the experiments we were able to conduct at the SSC is vital to humankind's knowledge and we simply don't know where this is going to lead us in the future, but without this capability, a whole world could potentially be foreclosed to us. Well, I don't know. And yet, you have to make judgments. Say, if you're a member of Congress and you're having to vote on whether you're going to appropriate money to support the SSC, you're going to have to get your judgments and advice from people whose opinions you trust and respect and you're going to have to sort of take a shot in the dark and say, "Okay, I think scientist X is right and this guy over here is wrong and we're going to go with it and spend all this money."

Oettinger: Well, my impression is that the deciding factor in this case is that the Texas delegation, along with the governor of Texas, made it very clear to the incoming president, of their party, that he could kiss Texas goodbye if he didn't go along with it.

Van Cleave: They at least have a clear standard on which to base it.

Oettinger: Yes.

Van Cleave: So government invested in this basic science. Now, there's a question about how much public resources do you want to devote to these kinds of basic research undertakings? This government, as you have said, Tony, has contributed some important fraction of our research and development money to basic research, with the Defense Department taking the lead, but not being exclusive in doing a lot of basic research.

It's also true in looking at the development of critical technology. The government has really been a big funder of all that. Certainly, universities have benefited tremendously from the fact that the Defense Department has hedged its bets, has diversified some of the investments that it has made, with the justification that there might be some national security payoff here being the reason for Defense putting its chips on a lot of different numbers for the money that it has invested. What is helpful about that is that I believe there is a consensus within the body politic that that is an appropriate use of government funds, that we need to be able to be in the forefront of developing science and technology in order to be able to anticipate technological breakthroughs and technological surprises that could have bearing on our nation's security. And because we have a defense mission, broadly, the American taxpayers are willing to see some of this money going into areas that may be a blind alley. You don't know until you follow that alley. I think there's been a broad public consensus that the government should be doing that. Where it becomes more controversial is where it's clear that these investments are being made with no national security per se objective at all, but rather, looking to potential commercial development down the road a piece.

Student: Do you see our organizational developers going off in the direction of creating a civilian science and technology research agency?

Van Cleave: The Clinton Administration has decided that they don't want to do that. They're taking the D off of DARPA (Defense Advanced Research Projects Agency) and they're making it into ARPA, which had been its name to start with. *Plus ça change, plus c'est la meme chose* and all that — back to calling it ARPA, but still with the defense mission. But they're emphasizing the dual-use side of the things that DARPA/ARPA does, which have applications to both defense and, potentially, to the commercial side.

I for one was glad to see that they rejected the notion of creating a civilian agency, and here is why. I think that DARPA, to the extent it's been successful (and it has been quite successful), has been so because it has a clear customer, and that customer is the Department of Defense with its needs and requirements for particular kinds of research. If you set up a civilian equivalent agency, the first question you have is, who is the customer? And then the second question is, what about the potential for abuse of the funding that goes to a civilian agency that could be exploited for pork-barrel purposes? Now, how do you decide which of the different competing kinds of commercial interests are going to be the ones that will initially be supported by this civilian agency? The third problem is that I'm not in favor of creating new bureaucracies if you've got an existing structure that you can use. In fact, that is the rationale that President Clinton gave in his statement about why he wasn't going to create a civilian agency but use the ones that exist now. But the question still remains, use them to do what? So there are major questions facing us about the extent to which the government should be getting involved in the business of business in this country.

Student: Do some of the same considerations apply to the notion of defense conversion of military technology into civilian technology in some unknown fashion that in fact the national labs are trying to play with and other things like that?

Van Cleave: Right. The problems of defense conversion basically address themselves to the defense contractors, really to the private sector, where there may be excess capacity chasing insufficient business these days, and they're asking how they are going to reorient themselves to be able to continue to be commercially viable. Are there new areas of endeavor that they might go into? It's not unlike the problem the national labs are facing, to be sure. I think that defense conversion in the private sector is really a private sector problem, but you will find that the leaders of the different defense corporations are saying the government needs to provide some assistance here in the area of defense conversion, otherwise it's going to mean an enormous economic dislocation.

Student: There are things like the Stevenson-Wydler Act where the government was given a mission to convert without much more direction than that, so the government does have a mission there, so it's not completely commercial.

Van Cleave: It's not completely clear, but I think that the major issue with respect to defense conversion is how the private sector is going to make the adjustment to a time of substantially lower defense spending. I believe that there is still a government component now, and that is: how are we going to ensure that we will have the industrial base that we need should there be future requirements to gear up again? We don't want to lose critical capabilities for the future.

Oettinger: Let me pursue that for a moment, because, in retrospect, we've been through an era of extraordinary stability and certainty. Several earlier speakers from both the military and civilian sides have stressed that. There is something about a sharp focus on "we've got to outsmart, out-everything the Soviet Union in order to survive" that provides a very, very intense kind of focus, which is now lacking. Okay, absent that, who knows what the needs will be 5 to 10 years down the road? In other areas, the degree of uncertainty is now so tremendous that one could argue and understate in the extreme form, perhaps provoke a sharp response to it, that the disintegration of the old order, the vanishing of capabilities that were geared to the Cold War, et cetera, et cetera, may, in fact, be the healthiest thing that can happen to us so as to avoid our being imprisoned by the tools of the last war and forced into fighting the last war, whatever may happen next. Now, even I, when I hear myself saying it that extremely, would want to back off from it, but still, there is merit in that. What is it that we want to preserve? And how would we know what to preserve?

Van Cleave: I think I would like to use your question to bring us back into the realm we were talking about: intelligence. Because certainly the intelligence community grew up around the Soviet threat and all of the resources and organization and assets and thinking were geared toward the challenge of piercing the Iron Curtain. The United States was incredibly successful at that, and there were some astounding technological breakthroughs and achievements for which those responsible can be inordinately proud, and we're all that much safer and more prosperous, and there is no more Soviet Union precisely because the West was so successful in maintaining its strength and challenging that regime. But, today, with the major changes that have happened, the real question is: what do you do with an intelligence establishment that has been built around that central threat? Does it have the right mix of capabilities and assets to be able to address the intelligence requirements of a new world if it's all had this central focus on the former Soviet Union? From a strategist's point of view I think that the right thing for the intelligence community and for the President's advisors to do is to take a fresh look, bottoms up, at what kind of intelligence community you would design if you were designing against present-day requirements of this world. The answers might be very different from what we have today.

Now, as far as the budget planning strategy is concerned, from the government's waste, fraud, and abuse point of view, you may not just want to get rid of everything and start building again. But certainly from the standpoint of clarifying or thinking and understanding intellectually, that is exactly the kind of fresh look that I think the intelligence community needs.

I would like to share with you the, in my mind, varied and disappointing Bush Administration efforts to try to change the intelligence community to meet these new requirements. When Bob Gates was first confirmed as the Director of Central Intelligence (DCI), it was shortly after the Soviet

Union had fallen apart and it was very clear that the United States was facing (and we are facing) a very different kind of world with very different intelligence needs. The President sent a directive, called a National Security Review, to all departments and agencies of the executive branch. The President directed that they respond at the very senior policy levels of each department and agency, not delegate this down in the bureaucracies. The President directed that they think about and develop what their mission and plans and objectives would be, as they saw them, based on the new world order, going out to the year 2005, and that, based on those policy plans and objectives, they derive therefrom their intelligence requirements out to the year 2005. This was supposed to be an intense exercise done over a period of about six weeks and handled at the subcabinet, deputy secretary level.

All the departments and agencies reported back in in the most disappointing fashion imaginable. Yes, they did iterate a series of intelligence requirements as they saw them, but they failed to do the thinking necessary to look at what they would need, what their department or agency would be doing, what the mission and plans and policies and objectives would be, so that they could derive requirements from them. Instead, they were extrapolating from present intelligence requirements into the future without doing their very fundamental rethinking of mission and policy and plans. And, as I'm certain you have discussed in class, you must first articulate what your policy will be in order to be able to derive the requirements from those policies. That has to fit together. Those things cannot be independent; otherwise, intelligence is no different from some kind of news-reporting function. It doesn't have any purpose really unless it's being derived from policies and the future needs of the country.

There was one exception: the Department of Treasury did do that careful thinking, and John Robson, who was the Deputy Secretary of the Treasury at the time, was very thoughtful in asking some of these very different kinds of questions about what this new world means to us. It was very disappointing, with the exception of Treasury, to see this sort of pro forma response to what I thought was an excellent opportunity presented by the President to think about what the nation's real intelligence requirements will be. And yet the DCI had to do something in terms of announcing the new organization overall.

I go into that lengthy explanation so that you may find some inspiration in the thought that there is still a lot of work here to be done. The answers are not in and unfortunately I would not look to those now sitting in government, who seem to be more driven by the immediacy of the in-box, so much as to the centers of learning and academic excellence to take the time and apply the thought and care necessary to create a vision of what the country will need for the future in its intelligence requirements.

Student: Were those organizations really equipped to do that? They tend to think, you know, in terms of crisis reaction, day-to-day management, those kinds of things. Wouldn't the directive have gotten a better result from the very beginning had we gone out and gotten an impartial player to do that? From my experience in the Department of Defense, they are so busy with reacting to the day-to-day things that it doesn't make much sense to go and ask the Air Force, for example, "I want you to project out to the year 2005 or 2025 and tell me what you think." They don't have a clue.

Van Cleave: To say that they don't have a clue is, I think, an unfortunate reflection of reality, but for me to assert that they should have a clue is still an appropriate response, because it is their job. It is the job of people who serve in government to be able to give guidance to the investment of resources.

Student: But was it realistic to do that in six weeks? Or should that be an ongoing, annual process?

Van Cleave: This was supposed to be a first look. It was a real opportunity to step back from the day-to-day business and to take a moment to think about, frankly, not only what the intelligence requirements were going to be, but how all the changes in the world really affect your vision of the future and how you are running your department or your agency. Come to the table with some thinking having been done. In fact it was done by Treasury.

Student: I seem to recall that the tasking came down shortly before the Gulf War. Did it not?

Van Cleave: No. It was after Gates was confirmed, which was post-Gulf War.

Student: Why did the Treasury do such a good job and the others were such dogs?

Van Cleave: I think it was because you had somebody at the subcabinet level who took a genuine

personal interest and applied a certain level of creativity and really tried to answer those questions. But this is unfortunately not typical of the way that the government works.

Oettinger: It's not just government. If you don't mind, I think this is worth staying on a bit, because I think it's an extraordinarily important topic, both on its own and in its wider implications. Certainly, personalities are an element, but if you are a line manager, you've got to get stuff done for tomorrow morning, and so the question of what you want to do in the year 2000 and beyond I think is not what anybody does. So, by and large, if you look at the experience of business or anybody else in dealing with this issue, it's done by creating a new organization. You look at General Motors and its problems: the Detroit end remains a disaster, the European end remains profitable in a sort of conditional way, but the nontraditional new thinking is done by abandoning your own entity and creating the Saturn plant. Essentially these were people who were not hostage to meeting tomorrow morning's payroll in the old place and in the old way. Now, in the military services there are the War Colleges, especially, I would say, in the Army, where there has been a tradition that when you've got nothing better to do, which is most of the time, thank God, between wars, you go to school.

Van Cleave: As some of your students did.

Oettinger: Yes.

Student: I wouldn't say when you have nothing better to do. That wouldn't be my choice of words.

Oettinger: No, I mean, you see, the beauty of "especially the Army" is that most of the time it's not out there fighting wars, whereas the Navy is driving ships out there and at least has to avoid collisions, although they say this gives them greater operational readiness, because they do it every day. The Air Force is somewhere in between. By and large, when you think about the Army leadership, the great World War II leaders were folks who spent a great deal of time at West Point and elsewhere thinking about what they might do next, instead of doing whatever the hell they were doing at the time, which was mostly riding horses, which was the wrong thing to do when tanks were coming in. So, I think that taking people off-line, whether it's in schools or in Saturn-like organizations, is the only recipe I know of where there is a good, consistent, historical track record that you breed the next generation of operational reality that way. It's an accident that there is a personality at Treasury who might be able to counter that. But most of them behave sort of predictably: "Hey, you know, boss, I'll salute and do something, but I've got to get tomorrow morning's work done."

Van Cleave: Maybe that is the answer, but I guess I have to say, as someone who has been in government now for 12 years, that I think we need more responsible government servants. In fact, we should take the time out to do that kind of thinking and incorporate it as part of their jobs. I always felt it was part of my job, and so that is why I was so disappointed to see the results, even though the outcome of the exercise was predictable, as you describe it. I guess I'm more of an idealist about the way policy should be made in government.

Student: Could you give an example of what Treasury put forward that you found impressive and particularly helpful and also since you said he turned to academics and others. I think they're trying to address it now . . .

Van Cleave: These are not easy questions.

Student: Right. But, as you also had an idea for and had been particularly impressed with somebody's work in academic circles along these same lines, but first the Treasury.

Van Cleave: Taking them in order, with respect to what they said specifically, you need to understand that the whole NSR process and all the contributions were at the Secret level. They were all classified.

Having said that, though, in general terms, the reason why Treasury's contribution was different from everybody else's was that they simply took time to ask the questions. They said, "These are the things that we need to be thinking about into the future." It wasn't so much that they were offering answers, but that they were saying, "This is what we need to address in a thoughtful way and I, as a spokesman for Treasury, want to hear what other departments and agencies think. Here is what we think about XYZ, but we don't know if we are right, what do you think?" Frankly, that is an unusual document to receive in the course of an interagency review on anything, and that's why it was so useful, but that's exactly the kind of thinking warranted given the major changes in the world.

It is not a small thing, I submit, that the Soviet Union has fallen apart. This is a huge difference in the world that we know, that our children will know. This is amazing. I think that the implications are just mind-boggling. We've barely begun to address that.

The other thing that we haven't addressed, if I can encourage you to think about it, is: why is it that this happened? What was the Cold War all about, and what explains its outcome? To the extent that we've had success in promoting democratic ideals, what were the sources of that success? What were the things that we did wrong? Where were the losses? What were the mistakes that we made? What were the vulnerabilities that the Soviets were able to exploit that may have accounted for their lasting as long as they did? All of these questions, retrospectives on the Cold War, I think, are something that as a people it's important for us to think about and talk about in order to understand where we go from here.

Oettinger: I have one quick reaction to what Michelle just said. You know, I've mentioned several times that your outlines for term papers do not necessarily lock you in. And if anybody wants to switch their term paper topic to take in some aspect of the kind of questions that she was asking, I think it's a damn good set of questions. And, I would say that if you are shy about the notion that, "Well, it's so obvious that somebody must be doing it somewhere," which would be a legitimate reaction if I had urged it on you, you've got pretty good testimony that it is not being done anywhere. Therefore, it's not a waste of your time if you were to change your term paper topic to some aspects of the issues that our guest has raised here.

Student: I was just wondering what the real value of all that sort of planning is and, in the past track record, how good it's been anyway? Is it anything more than just a mental exercise that has no basis in reality?

Van Cleave: For what it's worth, let me give you my thinking about that, and I think we can have different opinions on it. If I'm interested in deciding how U.S. resources are going to be used to invest in intelligence capabilities, the purpose of that is to be able to give understanding to the policymakers who need to make decisions about plans and programs and what we're going to do. I would say that it comes from two perspectives. First, I need intelligence to understand the threats that might exist to this country and to our citizenry and our welfare, and I need to be able to anticipate how those threats might change over time to be able to plan for them. Certainly, in the development of weapons systems, we have seen over the years how it's taking more and more time to procure major weapons systems. You have to plan now for something that will come on line 15 years down the road. So, like it or not, we have to make those kinds of decisions now, and we need intelligence to be able to make it in an informed way.*

But, second, in addition to the threats that might be facing us, I would argue that as a nation, we also need to be looking for opportunities to advance things in which we believe, that we find important, that are in our national interest, that we value as a people. And, on that point, I think there has been a lot of discussion and will be even more discussion in the future about how proactive the United States should be in promoting the values and institutions of democracy and freedom abroad. How should we be expending our resources in that area? Again, I think that is an area where intelligence must be the principal resource of the planner. What are the opportunities that are going to present themselves to us, not only in promoting democracy per se, but also in achieving other particular national objectives as they might be defined. The practical uses of intelligence for doing that, for identifying opportunities where they might exist, is a different function of intelligence than the threat-driven kind of intelligence, but they are related. I would argue that you have to be able to look down the road. You have to be able to have that kind of vision to make the investments that you need to make today in order to plan for a direction.

That, I believe, is what national leadership is all about, certainly speaking from the presidential perspective: it's something that the President needs to do on behalf of the nation. I think that's why we elect people to tell us what they envision for the nation's future, what their plans are, and if we agree with that, that's what we vote for. But the departments and agencies also each have their own heads and their own missions, and they may not be on the job more than, say, four years if it's a one-term presidency and they are presidential appointees. Then they're out the door, but if they are valuable public servants, they're going to care about the legacy that they leave and the direction in which they're taking the country well beyond their own tenure there. So, these are much more difficult kinds of questions for which to provide answers, but I would argue that we still need to grasp for those answers.

*For concrete illustrations of that point, see Admiral Scheafer's text in this volume.

Oettinger: Let me tell it slightly differently, because I think the student may have misinterpreted what I heard. He heard, I guess, "advocate a 15-year planning horizon" or something. I didn't hear that at all. I heard you say that the current way of doing things, which is geared to the Cold War and a particular kind of threat and so on, is almost certainly bound to be wrong. We don't quite know what to put in its place, and at the very least, one ought to begin to think about a broader range of alternatives so we don't just continue mindlessly on the same path that we followed under a very different set of circumstances.

Now, when Michelle shades over into vision and so on is perhaps where the question of interpretation gets a little bit hairy, because the question interpreted vision as maybe signifying that you lay it out and then we've got to plan out to 15 years according to that vision. You know, we all hear what we want to hear. I heard it in the spirit in which I urge you guys to read Alfred Gray's *Marine Corps Doctrine Manual (FMFM1)*. You know, the vision set out there is not a vision of "we know what the truth is and what we're going to be doing the following day exactly, moment by moment," like an airline schedule. The vision that is set out in that doctrine manual is, "Hey, Marines, we are in a war, and we won't know from one week to the next what the next mission is going to be," and oh how prescient that is, because here we are in Somalia and next week we may be in Yugoslavia, et cetera, et cetera. Not exactly the kind of thing that is traditional Marine Corps. In fact, according to that vision, certain inferences flow from that, including this matter of questioning and book-reading Marines, et cetera. So, I do not infer a 15-year traditional plan from what Michelle said at all.

Van Cleave: No, and I wouldn't be advocating it.

Student: I guess where I'm coming from is your analogy of research — throw some money out and 10 percent of government funding for science works and 90 percent is wasted. I know where I see this long-term planning going. Maybe out of all this, you know, thinking and theorizing . . . I agree that . . .

Oettinger: But do you realize what a radical thing it is that you have uttered? I don't even know whether that's right or wrong. It happens you're reflecting my prejudices, for which I thank you, but do you realize what a mind-boggling thing it is for you go to an agency head and say, "Now, instead of laying out your budget, yea, yea, or yea, you throw some darts in the air," and maybe you encourage that type of approach. It might be a disaster or it might be right, but it sure as hell would be different from what's going on now, which is looking backwards.

Van Cleave: Yes, I think they're all running through the dust.

Student: I guess the government has a lot of rules in that, because to get to the right plans you need a lot of variability and a lot of different things going on and who knows who's going to spring up with the right idea rather than having a centralized group of people kind of cooking something up.

Van Cleave: If I take your comments and I throw them all into the economic and commercial side, you will find that you are making the case for the government staying out of any of this industrial policy stuff we were talking about earlier. After all, who is the government to make these kinds of decisions, who knows which of these technology investments are going to pay off, so just stay away from it. That is why we believe in the free market, and the free market handles these things because it is able to adjust more quickly and more rapidly to these kinds of changes.

But if I'm looking in the national security sphere, where it is the responsibility of the government to be providing for the defense of the United States and the security of our allies, however we want to define those national interests requiring defense investment, we don't have a choice. There isn't anybody else out there who is looking after the security of the nation. We don't have the luxury of saying that we're only going to worry about today's problems today and when tomorrow's problems hit and blindside us, we'll worry about them then.

The biggest problem, I think, in today's world is the very fact that there is so much volatility. There is so much uncertainty about where different threats might come from. What will be the problems of the future? What will the Army find itself doing? What will be the roles and missions of the various services? All that depends so much on being able to figure out what the threats will be in the future. Yet how do we answer those questions? Maybe I am reading this reflection of a very serious problem into what you are saying. We just don't know what the threats in the future might be like, and it is very difficult to plan in the face of so much uncertainty.

One thing that we do know, though, which the 20th century has shown us so far, is that a great number of hostilities and threats have come about, and you can almost certainly bet that as a country

we are going to be facing not a period that is free of conflict, but different kinds of conflict and different kinds of threats. For people looking at intelligence policy, how do you employ intelligence resources to be able to identify these threats as they might arise? How do you make the investments? What plans and programs do you need? What kinds of people do you need? If you are talking about the human intelligence collection now, you are inserting people into areas of the world where there might be political instabilities that could pose a really serious problem. You are talking about starting today to develop the capability that will pay off maybe 10 years from now. So, you keep coming back to longer range planning even though it's really very difficult. You still have to make those judgments based on your best understanding and your hardest thinking about where we are going, and you have to do it. Even if you don't want to, you have to do it.

Oettinger: I don't see a contradiction in that for a moment, because, yes, the assertion that you are planning for uncertainty does say something about, for example, the kind of people you hire and the kinds of activities, which is quite different from when you are planning for certainty. One other thought: it seems to me that when we have run the course of these couple of questions on this point, there might be a good lead-in to another point you raised earlier, which is the business of nonproliferation, because of all of the threats or opportunities or whatever that are out there, it is one that seems more likely than many others, and that is also, perhaps, higher in its seriousness because of weapons of mass destruction of one sort or another. So, your thoughts on that topic, which you had thrown out on the side earlier, might be a very natural follow-on to where we are at at this point.

Student: One thing that came to mind as we were talking in terms of what appear to be some of the possible new threats coming down the road is that you would have to consider the World Trade Center bombing a couple of weeks ago. Having done a lot of analysis, it certainly seems that maybe going forward as a country we are going to be more and more susceptible to terrorist attacks. Is there anything being done along those lines? Or is there any thinking over the longer term about how you protect the country from terrorist attacks?

Van Cleave: I would hope so. It is not just how to protect ourselves, although that is obviously the point at which you want to enter, and you want to keep terrorist activities from occurring, but it is also on the side of how you manage the consequences of terrorism. For example, if instead of an explosive going off in the World Trade Center, there had been a biological agent inserted into the air filter system, what would we have done? This nation has really never faced that kind of horrible incident, and yet the ability to do that is certainly there. The threat is certainly real.

I don't want to underestimate or to denigrate the capabilities of the FBI and other parts of the intelligence and law enforcement community in defeating terrorist activities in the United States. I think there have been a number of successes and a lot of things that will go unspoken, particularly during Desert Storm recently. But our open society is a place where terrorism would potentially have a field day. There is just so much freedom here, and so little scrutiny of individual movement, that terrorists can certainly operate much more freely here than they can in a controlled society. So, I guess the issue is not that we're surprised that we had the World Trade Center incident, but that it hadn't happened before then. I know that everyone is very, very sensitive now in the wake of that potential for more, be it copycat, be it other kinds of terrorist activities within the United States.

So, yes, I think that there are more resources being devoted to that.

Student: For short- and long-term planning?

Van Cleave: I guess the long-term planning really speaks to international terrorism as opposed to domestically grown terrorism. On the international front, it comes back again to an intelligence problem of how you can penetrate those particular political entities that might be interested in sponsoring international terrorists. I would guess that there has been some investment in that that's hopefully beginning to pay off. But your question really is, what do we think for the long term? You need a futurist here. Do we think that there's going to be more of an incentive to engage in terrorism in the future, or is it a political tool of some kind, or less, or about the same, or what? Who knows? And where is it going to come from? That kind of question is incredibly difficult to answer, but the more we understand about other societies and other actors and other elements within countries, the better we're going to be able at least to conceptualize whether we should be looking at the potential for terrorism.

That brings up a related point. Again, going back to our question about intelligence having derived

from the Cold War and the Soviet Union and growing out of that being the principal focus, it seems to me that one of the lessons of the Soviet Union having come apart is what we missed, what we didn't see. The intelligence community did not anticipate that that would happen, that there would be the coup against Gorbachev and that after that, in fact, he would step down and the Soviet Union would dissolve. That is not something that was on anybody's expected list. Doubtless there were lots and lots of reasons for that, but I would argue that one of the reasons is because the intelligence community was looking far more to the traditional actors of statecraft — those serving government, who have certain government-related responsibilities or military responsibilities — and we had little insight into the cultural forces, the way the people really were thinking and how that thought and those kinds of nongovernmental actors could affect the future of a country. Certainly that was true in the Soviet Union and I think that developing that kind of insight elsewhere in the world is also a rather serious intelligence challenge. How do you go about developing that kind of understanding?

Student: I don't want to downplay the role of planning for 2005, but as far as 1993, I'm glad Professor Oettinger mentions the point, because I think that by far the biggest threat is not in Somalia, it's not in Bosnia, it's not even in Manhattan. Unfortunately in the post-Cold War environment, we say, as you said six or seven times, the Soviet Union has collapsed because of the West. I think you said not because of internal social forces. The point is that too often, we say, "Okay, the Soviet Union has collapsed, now where is our new threat?" Well, the Soviet Union has collapsed, and therefore our newest, and far bigger threat than the Soviet Union *before*, is the Soviet Union *after*, and it's inside the Soviet Union that there are 30,000 nuclear weapons. Obviously, I'm not going to lecture on that, but one of the things that I think is interesting, and I don't know if it deals with your office or the On-site Inspection Agency, is that we have the ability to monitor their dismantling of the nuclear weapons, if not to buy up their nuclear weapons (I don't know where we'd put them), but they won't allow us to inspect their dismantling and storage of nuclear materials without reciprocation on the American side. For some reason, I believe your office would have been behind this and said we didn't want Russian inspectors doing our dismantling and so on. I'm sure there is a good reason for that but it just seems that our focus should be controlling the Soviet nuclear arms and any related points. I'll say a couple of us in this room heard yesterday from a Russian army officer and he talked about 400,000 Russian officers who are without housing and could not come home. If you want a good way to use Western aid that will not be put down the drain, we should build housing for 400,000 Russian officers.

Van Cleave: You've said a lot, and let me leap in and say first of all that I agree with you 100 percent. The biggest threat facing the United States today is, in fact, not only the remaining military capability in the former Soviet Union, and particularly in Russia, but also the potential for political disintegration there and a reversion to an amended authoritarian, hostile state with 30,000 nuclear weapons. That, I believe, should be the single most important focus of U.S. policy and U.S. intelligence: to understand where developments are going, not only for the purpose of informing policymakers on what's happening, but also — again talking about my opportunities issue — to identify opportunities for the United States to influence things in Russia to go in the right direction.

So, that kind of intelligence capability is something that we need to have. We may have resources, but we have to be able to reorder those resources in an appropriate way that will give us the kind of intelligence that we require to achieve those things. Let me say, the previous problem with the Soviet Union was that it was such a closed society and so walled off against vision from outside that our biggest problem was just finding a way in there. So we've tried to collect as much of everything as we could — a vacuum cleaner approach — to try to understand as much as we can about the Soviet Union, and that's where there were a lot of technical solutions applied, including certainly an ability to monitor military developments, especially strategic ones.

But today we have a rather different kind of intelligence problem and that is that the place is much more open, there are lots of new sources of information, new sources of intelligence. How should we be focusing intelligence assets to be able to answer the real requirements that we have today, which are, I would argue, how to influence the domestic political situation within Russia into the right direction?

Now, the related concern, of course, would be command and control over the nuclear weapons that

remain within the former Soviet Union, and the actual political control over such weapons, and a very new kind of threat that exists to U.S. strategic planners derived from the unauthorized use of such weaponry. This is something that was always on the shelf, and was mentioned in passing in discussing our strategic defense requirements for the United States, but it never was as real a concern in the past as it is now that there has been this fragmentation over there. This is a new kind of threat as well: a country that is still in the midst of a revolution (frankly, it's broken up into bits and pieces) possessing 30,000 nuclear weapons is an unprecedented threat.

Now, having stated all the negatives, let me just say that I remain in a state of celebration over the fact that the Soviet Union broke up. I am in that state of celebration not only as an American, but also on behalf of all the people who lived under totalitarianism, who now may have an opportunity for a better way of life. They're going through tremendous struggles. They're entering into a period where they have absolutely no experience with what we in the West know as free enterprise. Many of them are not even sure what the basic concepts are of some things we take for granted: basic contracting, entering into contracts personal and private property, all the accoutrements that make up a culture amenable to a private market. Those things do not exist in the former Soviet Union and they need to be built and that's a very, very difficult problem. Unless the economic problems are addressed, the political instabilities are going to remain very difficult, as we saw just this morning with the challenges and the pulling back of some of the authority that Yeltsin has. So, yes, I agree with you. That is the major intelligence issue and the major military planning issue of the United States: the former Soviet Union still remains the focus of our greatest concerns.

That also brings to mind the proliferation issue that you mentioned. Proliferation concerns are not new, but have been something that administrations have been aware of and tried to counter for quite a long time. For example, Iraq going after a nuclear capability has long been a very serious concern and remains so despite all the inspections underway. Incidentally, the international inspections there are less than satisfactory in terms of the results that we are getting out of them.

But, setting that aside, what has introduced a new dynamic into managing proliferation is this breakup of the former Soviet Union, and the new, what could be seen as supply-driven, proliferation problem. You have an abundance of supply, not only of hardware and materials, but also of scientists and engineers with practical experience in designing and testing and building and operating nuclear weapons, who now may find themselves out of work. Where do these people go? Well, some of them (most of them, I think, if given their choice) would like to come to the West and work here. But we don't have a need; with the declining defense budget, our nuclear scientists themselves are out looking for work half the time. Where are they going to go? There is a serious concern about the connections with Iran and the connections, frankly, with the Chinese, for acquiring not only personnel, but also the material and the weapons themselves, and there is a whole new national security problem in how do you manage this, and how do you approach it? How do you create disincentives in order to keep them from going to countries of concern? How do you redirect military establishments that may be producing weaponry into doing something else, so that they stop producing weaponry? So long as you still have military plants within Russia for producing weapons and they find they have a market and can sell these weapons and earn hard currency, they have an incentive to stay in that business.

The management of all of those questions is almost an overload, on the U.S. national security community, and it is going to take a while to sort through them. But, thank God, this country seems to have a little angel looking over its shoulder, because when we are given all these difficulties, we are also given some breathing space to try and figure out how to deal with them. That breathing space is given to us by the very political developments in the Soviet Union, which created the problem in the first place. But there is no question that you do have a decreased level of hostility or threat posed by the Soviet Union to the United States by virtue of the facts that: (1) it is broken up, (2) its political leadership has changed, and (3) the future has changed, and I think that we have more reason to be hopeful now for the future of this world than we ever had in the past. That doesn't mean there aren't a lot of very serious problems confronting us.

Student: Some things that you were talking about at the beginning about spreading democratic values and also about national security and controls. About four years ago there was talk about our building a fiber optic network in the Soviet Union, but it got to, I guess, a Top Secret review and then was rejected, I think, only because we didn't want to give them

five-year old technology, or something like that. It does seem like a great opportunity, sort of along the lines of the Caterpillar thing in the 1970s. They were going to build a pipeline and we said no, we didn't want to help them do that, so they just got the Japanese to help them. This just seems like a great opportunity for us to get our foot in the door. That could have all kinds of ramifications.

Van Cleave: That's an example of a generic tension that exists between the commercial world, on the one side, wanting to do something, and the national security implications that might derive from that. The question usually is raised, "Well, if we don't permit U.S. firms to go in and get this business, some foreigner is going to come in and take business away." But, in the particular example that you raised about a fiber optic network in the former Soviet Union, that, in fact, did not pertain. The Russians, who were the Soviets at the time, were looking to acquire a telecommunications capability that was very advanced relative to what they had already in the Soviet Union, and, from our perspective, more advanced than they really needed if all they were concerned about was updating the domestic telecommunications network within the former Soviet Union. Indeed, there were some pretty serious and very sensitive national security questions attached to that, which we won't discuss, but one thing I would mention is that there was a serious concern about the extent to which this upgrade in telecommunications capability was really being driven by military needs and requirements versus just trying to help out the economy. It wasn't the consumer and the domestic users and the family unit or the business unit that this fiber optic network was really designed or intended to help. In this particular case, the President made the decision to disapprove the license to export this technology and capability to the former Soviet Union, in concert with the British, because they were also facing a similar application from a British firm. And frankly, those were the only two sources in the world at the time that had the ability to install such an extensive network within the former Soviet Union. So, when that "no" decision was made there, it wasn't that the Japanese or someone else were going to leap in and take the market away from us. That's sort of an unusual instance of a more general point, though, that I think you were making.

Student: Technology has really transformed how information travels and its availability. Where does that leave military security? The context that I am thinking of is the Gulf War. During the Gulf War there was a real problem between the media and the military. I feel that because there was a lot of technology transfer in real time. What kind of policy do you think the Clinton Administration will take on that?

Van Cleave: I have no idea what the Clinton Administration is going to do about that, or anything else for that matter. So, I don't know and I am not in a position of speaking for them at all. But the issue that you raised is an interesting and very important one on a couple of levels. There is the whole relationship between the public's need to know or the right to know or the freedom of the press and the broadcast media on the one hand, and the need for national security controls on the other hand. That's a tension that has existed for a long time, but I think is certainly exacerbated by the persuasiveness and real-time capabilities that the media now represents. The security threats associated with that have increased as well. How are we going to manage that and how do we reconcile those things? I think that there are others here who may have looked at that more carefully than I have and have other opinions to offer about it, but it's also true that the information technologies that are exploited by the media are also exploited by the decision makers. You can go over to a particular command post and you will find CNN is going to be on all the time and it is going to be a source of important information. It is very useful. It isn't just that one anomaly about the Gulf War, but it is a real-time thing that happens on a day-to-day basis in the midst of crises, and I'm talking about very situation room-type planning sessions. CNN is going to be on. Of course, it's a source of information to others as well; it will be a source of information to the adversary in that sense.

So, the whole question of the information revolution and how that changes relative power balances in the world is an interesting one that is probably beyond my small thinking right at this minute, but it's something that is very interesting for this course. I'm certain that's a theme that you will want to explore.

Student: Where do you see the U.S. R&D budget going and what impact will that have on the national security business? The national security part of it is just about 50 percent or so.

Van Cleave: Yes, traditionally the defense share has been even higher than that: it has been up to 70 percent and was as low as 60 percent at the end of

the Bush Administration. This President's budget has it at 56 percent, and he has stated a goal of making the federal R&D national security portion under 50 percent by 1998. So, clearly, President Clinton intends to "change the mix," as his technology policy document puts it, and "the balance" between civilian R&D and defense R&D. Let me just say that when I read that, I noted that there is a rather significant difference in how this administration is talking about all federal R&D responsibilities from the way that past Republican administrations have talked about them. I never thought that the issue was one of finding a balance. It doesn't make sense to me to say that you must somehow balance investments you are making on the civilian side with investments in defense and national security. It's a false dichotomy. If we didn't need to invest in defense R&D, if there wasn't a reason to do it on the merits, we shouldn't do it. It shouldn't be done because we're artificially balancing it against some investments in some other area.

Oettinger: But, on that score, let me get your views on the need for more and against the stated argument. That was kind of an overstatement. Absent a major nuclear exchange, the likelihood is that things will have more of the character of, if not necessarily Desert Storm, then Somalia or Bosnia or something, where the environment isn't one in which there is EMP (electromagnetic pulse) all over the place and the whole infrastructure of the world has been annihilated and only the Postal Service is delivering to a nonexistent resident — in which case there is a great deal of reliance on civilian technology for things. So, one could make the case, especially in a situation where, over the last decade or so, in a lot of the electronic, electro-optical areas, the private sector has kind of overtaken the military for a whole variety of reasons, that the need may, in fact, diminish. There are some things like resistant armor plate that the civilians are not going to develop, but on electronic and particularly intelligence, command and control kind of things, this may be an area, in fact, where we need less military R&D except in a few very specialized areas. Is that something that strikes a responsive chord? Do you think it completely foolish, or what?

Van Cleave: I guess I go back to your earlier comment, which is the notion of planning for the unexpected. There's a very large element, as we've all acknowledged, of unpredictability about the emergence of future threats, and I would argue that it's also certainly very unpredictable on the technological end what future threats might look like. Being able to keep on the cutting edge of technological excellence has always been the real deterrent and real center of America's defense. As a general statement, that's going to be as true in the future as it has been in the past.

With respect to some of the specific issues that you raised now, I'm not so sanguine that we don't need to worry about hardening or nuclear effects anymore. On the contrary, if what we're looking at is the potential for regional conflicts in the future, you couple that with your proliferation concerns and I'm really concerned about needing at least to plan defensively for the potential employment of nuclear weapons by a smaller state. Certainly it's very true at the biological and chemical end — very true there. So those threats remain.

Then I look at, for instance, the area of strategic defense and theater defense and the technological challenges that we have in defending against the proliferation of ballistic missile technology and how we are addressing them. The SDI remains the largest single R&D program that we have under way. Is that less of a concern now that the Soviet Union has fallen apart? Well, from one perspective it is because the threat of a coordinated strategic nuclear attack is down. But, as we said earlier, we have all kinds of questions about unauthorized uses of nuclear weapons and protection of the country against that, I would argue, is a serious undertaking. It's similar with theater engagements or the protection of U.S. forces deployed abroad — the Gulf War is such an obvious example you don't even need to state it. So I'm not comfortable with the thought that we can just rest on past successes and say that's going to get us by in the future. I don't think so.

Student: Right along those lines, you just took the words right out of my mouth about SDI. Do you think SDI will survive much longer under the Clinton Administration, independent of the proliferation or the threat? Also, do you think, given the amount of time that SDI has been a program, that we have received a proper return on our investment?

Van Cleave: Your questions are much more political than they are technical, sir. At least the first one is. I do not think it's likely that SDI is going to "survive" as SDI per se because it is identified as the primary defense initiative of Ronald Reagan and the Republicans. A Democratic President will want to come in and put his own stamp on it and change it to fit his own goals. That's a political issue more than it is a mission- or military-specific issue.

But, with respect to the substantive issues changing SDI's focus, that had already started under President Bush. The emphasis under President Reagan had been, as you'll remember, the concern about closing the window of vulnerability. It was based on the calculation that the Soviet strategic offensive capability had grown disproportionate to our defensive ability, raising doubts about the survivability of our deterrent forces. That required modernization of U.S. strategic offensive capabilities, but also occasioned a reexamination at the defensive side. These were the concerns when the Reagan Administration first came into office in the early 1980s, and it was in that kind of an environment in which President Reagan announced the Strategic Defense Initiative, which was focused principally, and properly on the strategic-nuclear threat posed by the Soviet Union.

In today's world, I think there's a different emphasis, and that emphasis is on how to deal with the unauthorized strike, and how to protect allies and U.S. forces against theater ballistic missile capabilities. So I would see President Clinton emphasizing particularly the latter, the theater capability, first, and then being able to guard against or to protect against the limited nuclear attack that could occur through unauthorized or rogue deployment of strategic nuclear capability or other countries that might develop the delivery systems capability to launch ballistic missiles into the United States. So, I think that those threats are real, and because they are real, they will need to be addressed. Maybe a Democratic President will have more success in seeing through a real program in SDI than a Republican President did, because under the Republicans, it became a political issue rather than a military mission and national security requirements issue, which is really unfortunate.

That gets to the second part of your question — have we gotten what we should have from the investment in SDI? I would have to say that we have not, but it isn't for lack of trying, or for lack of talent, or lack of effort and dedication and accomplishment by those who were working on strategic defense, but rather because of some of the political and other constraints that were placed on the program. Don't forget, we have an antiballistic missile (ABM) treaty that prohibits operational testing. In fact, it prohibits the very objective for which SDI was founded, which is to deploy defenses against ballistic missile attack. We have an international commitment saying we can't do that, and because of that, there are severe artificial constraints on what SDI could do. But there are also domestic political constraints, questioning whether this program should be moving ahead at this kind of pace; and some of the same people responsible for inhibiting SDI are now among the most vocal critics complaining over the lack of progress. This is hypocritical because political brakes put on the system and inconsistencies in funding resulted in a lot less delivered than would have been the case if SDI had not suffered from these kinds of constraints. So, it's been an odd chapter in American defense history to have observed what has happened with the SDI. And, again, I think that we're going to see changes, but are we going to discontinue investment in the capability to defend against ballistic missiles? I don't think so. It certainly would be at our peril, and I don't think that the national leadership would be willing to incur that kind of a risk. I can be dead wrong, but that's the way I read it right now.

Oettinger: It seems to me that a lot of the assumptions about the state of the world depend on the U.S. having a credible capacity to launch a defensive strike against anybody of any size, from Russia on down to Iraq. If that disappears, then all of the assumptions on which these more benign scenarios depend also evaporate, because nobody gets too angry or vents their anger in too obnoxious a fashion because of the notion that the U.S. is just about crazy enough to loosen a nuke against somebody and deliver it quite accurately, not necessarily even in extreme situations, but just if things get pushed too far.

Van Cleave: Certainly, we have the capability to do that, but I don't know that any nation in the world believes that we, in fact, would do that. The provocation would have to be pretty great — short of a nuclear attack on the United States.

Oettinger: Yes, but that's what I mean. In an era where folks put explosives in the World Trade Center, one would hope that they're deterred from the notion of putting a nuke in the World Trade Center by virtue of the notion that we credibly would go ahead and take out Baghdad or Tunis or whatever.

Van Cleave: Which brings us back to the criticality of intelligence to be able to understand who would be responsible for doing that in the first place. I don't know. I think the credibility of nuclear weapons as a deterrent to the scenarios you raise is something that we can debate, but certainly this

country has never been willing to use nuclear weapons where other means of effective response were available.

Oettinger: It has never disavowed it either.

Van Cleave: It has never disavowed it. We've never adopted a no-first use policy. That's right. And wisely so. That is the deterrent value of nuclear weapons.

Student: I just wanted to say, I've gotten the sense that you were hinting or hoping we were to ask questions on the marriage between our economic needs and intelligence.

Van Cleave: Sure.

Student: I can't speak for the whole class but last week I came out of the lecture from Randy Fort, and I left that room thinking there was no more to be said about whether the United States should be proactive on the involvement in economic intelligence. It just seemed like it was just . . .

Van Cleave: So he convinced you completely?

Student: He convinced me completely. He put everything from, you can give it to IBM or Apple to if intelligence officers are willing to die for their country, will they be willing to die for G.M., and other issues. I don't know if other people felt that way but I was pretty convinced last week but there's not much you. . . . So, if you have anything to say for it . . .

Van Cleave: Well, I basically agree with Randy on all of that, but I do have a proactive role that I would like to advocate for the government in that general area that is quite apart from sharing intelligence to give an advantage to U.S. business against the foreign competition. I don't know whether Randy got into this discussion or not, but I believe that there is a role for the U.S. government in assisting in the protection of technology and information within the United States, and here is why. Clearly, certain foreign governments support their private sector in acquiring information and technology from the United States, which puts corporate America at a disadvantage, and there is a serious question about what, if anything, the U.S. government is going to do about that. Now I agree with Randy's analysis that it doesn't make sense for the U.S. government to get involved in that kind of intelligence-sharing, for all the reasons that I'm sure that he articulated for you. But I do believe that there is a role for the U.S. government in working with industry to make them aware of the threats against them and their vulnerabilities, and then to leave it up to the private sector to make their own decisions about how they're going to protect themselves, if at all.

Oettinger: Michelle, is that even an issue? It seems to me that that is so elemental a police function, if you will, with intelligence implications, et cetera, et cetera, using our intelligence as a beginning. But the obligation of a government to protect its nationals, or for that matter, its residents, or for that matter, foreign entities that are guests and living here and so on, is one of the elemental functions of a state and so I would be puzzled as to why anybody would be against what you just enunciated.

Van Cleave: I don't know who would be against it, Tony, but we're not doing it. So, that was sort of the issue.

Oettinger: So, there's a crack.

Student: Isn't this function already being accomplished by open source materials — journals, media, et cetera, et cetera?

Van Cleave: Yes, there is a lot of that. Let me just take a minute to lay that out. To the extent that we're talking about competition in the marketplace, and a particular firm is being targeted by a foreign entity for takeover or for a particular share of the market or to try and get a particular product to market more quickly, this kind of business competition is going on all the time. That's what business is all about.

What I think is different now, or maybe we're just becoming more sensitive to this, is the clandestine involvement of foreign governments on behalf of their business sector in entering into the marketplace against other firms, in particular, U.S. firms. Certainly, there hasn't been very much of this in the public domain, but at least you know the one case of Bull, where the French used classic espionage techniques of penetrating U.S. industry, recruiting agents from within to provide information. Other techniques include telecommunications intercepts, bag operations against U.S. businessmen (bag operations being, if you leave your briefcase in your room because you've gone off to a meeting, you come back and someone's gone through it), intercepting faxes certainly, bugging cabins on airplanes, and listening to conversations between businessmen. I don't want to exaggerate this, but this kind of activity, which is unethical and illegal and wrong, is going on to some extent in the private sector.

For the most part, business and industry have dealt with this on their own. Where they've had foreign competition, they had their own security people, who were responsible for training their executives on what to be on the lookout for, and not to talk when they go off to meetings and reveal corporate secrets, or proprietary information. They're sensitive to that. Corporate security managers are there for the purpose of ensuring the security of their business operations. But, in talking to the individual corporate security managers, and I have met with a lot of them, what they can't handle is the involvement of a foreign government bringing all of the resources that a government has at its disposal to bear in order to disadvantage a particular firm in the marketplace, and sharing the information thereby obtained with their business and industry so they might gain advantage over the U.S. firm. I think there is a public policy question of whether or not the U.S. government has some kind of a responsibility (1) to collect against this kind of activity going on in the United States, which we have not dealt with; and (2) to analyze that and then somehow disseminate that information in order that the private sector can protect itself.

Student: But not to do the same things the French are doing.

Van Cleave: Exactly.

Oettinger: I guess I remain puzzled as to why this is not already sort of an ordinary police function. I'm not puzzled by the notion that it might not be the highest priority and that maybe one ought to energize some folks, but why does it require a policy decision other than on priority?

Van Cleave: It goes back to something that we said many times already this afternoon. The intelligence community has been oriented around the Soviet threat, and to the extent that you have former Soviet operatives still doing these things for their former clients, we have some understanding of their activities. But we have not devoted resources to understand what the French, Japanese, Germans, Israelis, South Africans, whatever, might be doing in the United States proper or against U.S. businesses operating abroad because the government has not had a mission to protect business activity. It's not about the defense contractors. We're watching who's going out to the defense contractors and we understand about the protection of government information and technology in the defense community, but the intelligence community has never had protection of the non-defense business community as one of its possible requirements.

Oettinger: Even when you include the FBI?

Van Cleave: The FBI, just two years ago, in developing its new national security threat list, took it upon itself to look at foreign intelligence threats — to critical technologies within the United States. Now, a threshold question: How do we define the critical technologies? What is it that they're supposed to be watching? What are the things that are really the targets of interest of foreign services, intelligence services, in support of their economies? The Bureau doesn't know. How are they supposed to know? So they've got to try to develop some kind of base of information as a first-order problem in implementing this new counterintelligence mission.

Oettinger: I'm having difficulty grasping what their problem is, other than maybe budget, because for a long time they've had as part of their mission to protect banks, especially when the robbers are in interstate something or other. There might be an argument if it's a state-chartered bank and the robbers stay inside the state . . .

Van Cleave: Oh, you're talking about criminal activity now?

Oettinger: Yes, I'm asking you maybe now as a lawyer, if there's a foreign agent gathering information by bugging or by other means against a U.S. company or, for that matter, a foreign company on U.S. soil, isn't that criminal activity? Or do we have funny legal loopholes? Can you sharpen up what the problem is other than lethargy or lack of budget?

Van Cleave: Where there are specific criminal activities, there are criminal sanctions, which may fall under federal or state jurisdiction, and may vary from one state to the next. What is more common, though, are those things that are not clearly criminal activities but are information-gathering kinds of activities. Is it criminal, for example, for a foreigner, who may or may not work for a foreign government but probably does so indirectly, to misrepresent himself when he goes into a particular business and to say, "Gee, I'm so-and-so, can you tell me about what you're doing in this particular area?" and gathers information that's readily provided by that company, which he then takes back to be used by a competitor to the disadvantage of this particular company? Maybe the company would not have let him through the doors if they had known that he was working for a foreign government.

Oettinger: Yes, but if he was working for Boesky, they shouldn't have let him through the door either, but they do.

Van Cleave: Let me give you a real-life example of a dilemma that U.S. business faces. You have a company that is a big name in high-performance computing and they invite in a particular Japanese firm because they believe this Japanese firm is a potential customer for something that they've just developed. They lay out all kinds of information; they've got a great sales pitch, and the potential Japanese customer takes careful notes and says, "Thank you very much." The Japanese customer walks out the door and goes back home to Tokyo and hands over everything that he just found out to a competitor of this U.S. company, which then uses that knowledge to its advantage.

Oettinger: But everybody whom I talk to in business who worries about strategic alliances also worries about his strategic ally doing just that to them. That kind of is Business Strategy 1A. I'm wondering why the majesty of the U.S. government is involved in somebody being a jerk and letting themselves be conned by somebody who comes up with a gold-plated business proposition that's a sham.

Van Cleave: You can argue that the U.S. government shouldn't be involved. That's a legitimate perspective to take, too.

Oettinger: Okay, but that's the issue then.

Van Cleave: Which is a far cry from what you said a moment ago, Tony, which was that it should be obvious that this is a protection function and we all ought to be doing it, so why aren't we.

Oettinger: No, no, no, wait a minute. I was reacting, I think the record will show, to bag jobs and break-ins and wiretapping . . .

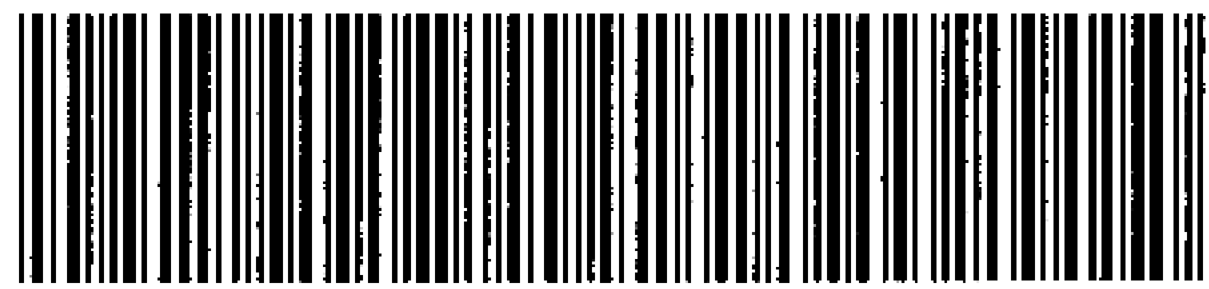
Van Cleave: But what I'm arguing with you is that it's all of a piece. I mean, there is a variety of activities that are going on. At what point are we dealing with activities that the private sector really cannot discern on its own because they're sophisticated intelligence threats about which the United States government really would have a monopoly of understanding, and when are we dealing with legitimate and ordinary business operations, and where do those things overlap? My argument is that where, in fact, you have foreign government involvement, in concert with its own private sector, there is, at a minimum, a public policy question about what the proper relationship should be between the U.S. government and our private sector in at least bringing government resources to bear to shed light on what is going on, and leave it up to the private sector to decide whether they're going to protect themselves or not, and what they might do. So, that's . . .

Oettinger: A threat that might otherwise not be visible.

Van Cleave: Yes.

Oettinger: Okay. I think that's a good note on which to thank our speaker and bestow a small token of our appreciation.

Van Cleave: It's very nice.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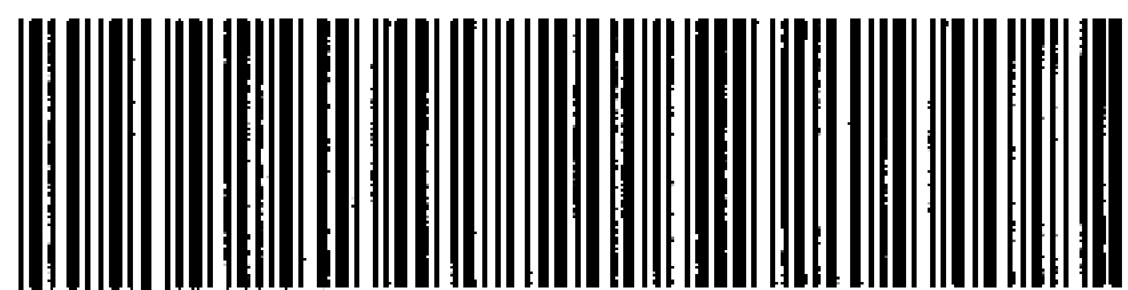
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