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Matloff: This is an oral history interview held with Dr. Richard D. DeLauer on April 22, 1986, at 9:00 a.m. in Arlington, Virginia. The interview is being recorded on tape and a copy of the transcript will be sent to Dr. DeLauer for his review. Representing the OSD Historical Office are Drs. Alfred Goldberg and Maurice Matloff.

Dr. DeLauer, we will focus in this interview particularly on your role as Under Secretary of Defense for Research and Engineering from May 6, 1981, to November 30, 1984. First, by way of background, I should like to ask you to summarize your previous service and assignments with scientific programs sponsored by the Department of Defense; for example, what contacts you had with the previous Secretaries of Defense before your appointment as Under Secretary, your relations with them, and any impressions of their attitudes toward scientific research. You probably remember the reputed statement of Charlie Wilson that basic research is when you don't know what you're doing.

DeLauer: Why don't I take what I was doing just before I went into the Pentagon and go back from that. At the time that I retired from TRW I was Executive Vice President and Director. My responsibilities covered the sector called systems and energy, which for all practical purposes included all the government business, except selling components to suppliers--all government prime business and main government sub-contract business, both in the defense area and in the energy area. I ran an energy system of business worth $100 million a year. It also covered the energy-industrial side, which included deep well pumps, replacement parts for oil derricks, drill bits, and these sorts of things out of Houston; energy control systems out of a Houston organization; and

it was international. So I handled that sector and had developed the energy business practically from scratch when I got Johnny Foster to come to work for me in about 1974-75. Prior to running that sector I was the group executive that ran the TRW systems group. That group was headquartered in Redondo Beach, California, and its job was essentially 100 percent government, either with DoD or with NASA. The main product lines were spacecraft and major communications satellite payloads, plus systems engineering on the ballistic missile program, which we had ever since 1955-56. I held numerous jobs with TRW from the period 1958 through 1981, all of them pretty much in the systems business at reasonably general manager level. I was the manager of a laboratory, then became the Titan program director. At that time I first came into contact with McNamara. In 1958, when Eisenhower was still president, I dealt primarily with Ben Schriever and his crowd of people that were doing the ballistic missile program at that time. Prior to that, I spent 15 years in the Navy as an aeronautical engineering officer, entering there from having had two or three work years of industrial experience as structural designer for both Martin Company and Northrup, when I first got out of college in 1940. So from 1940 to the present time I have been dealing primarily with engineering activities that associate with security. During my service in the Navy, I went to graduate school under the Navy program, and subsequent to getting my Ph.D. at Cal Tech, I had duty here in Washington in the old Navy Department, in the Air Frame Design Divison, which was the technical division of the Bureau of Aeronautics at that

time. I was responsible for all air-launched missiles. As a matter of fact, they are still around—Sparrow and the others. Then I was detailed to Los Alamos in the latter part of my Navy career. I spent 4 1/2 years at Los Alamos, first in the weapons development business, as a project engineer on all the existing thermonuclear weapons, and the last 2 1/2 years as a chief designer in the nuclear rocket division. I had to quit flying because of my eyes. I was a lighter-than-air pilot, so I was able to get flight pay in those days.

Goldberg: What were they flying lighter than air?

DeLauer: K-ships, blimps; they went out in 1962, or something like that. I was on the board of inspection and survey of the big N ship. Danny Murphy and Carl Syberlick, two men who made admiral, and I were all in airships together. Danny Murphy and I were office mates at Lakehurst. While I was at Los Alamos, I decided to get out because I couldn't pass the flight physical, and almost all aeronautical engineering duty officers had to get duly qualified, if they were only blimp qualified. I couldn't quite make that, so I decided that 15 years were enough. The Navy wouldn't let me get out and stay at Los Alamos, as I owed them another year of service, so I went to Albuquerque for the last year. From there I went to TRW. At TRW, I was always in the business that had to do with government, primarily defense, particularly with the ballistic missile program. That was when I had the biggest interaction at the very senior levels with the Defense Department. I remember briefing General LeMay on the Titan problems. He had absolutely no use for ballistic

missiles. All the coaching I got from the troops was to be sure that I lifted the charts over the sill of the easel so that when they were turned they didn't make a rasping sound, because it resonated in his hearing aid. He fell asleep most of the time.

Goldberg: Did he react much?

DeLauer: No, he didn't care much for ballistic missiles.

Goldberg: He didn't react at other kinds of briefings, either.

DeLauer: That's right, to a certain extent, except that he reacted if something happened to SAC. The story goes that one wing commander had some incidents that were kind of repetitious and LeMay called him up and said, "Colonel, what's the problem?" and the man said, "I've just been unlucky." LeMay said, "OK, you're through. There's no room in SAC for unlucky wing commanders."

Matloff: You have had a very long experience in this area, bringing us to the appointment of Under Secretary of Research and Engineering. Do you recall the circumstances of the appointment—who recommended you?

De Lauer: A big recruiting program was going on at the time. I had been almost ten years on the Defense Science Board by that time, and I had been running its management panel. In the activities of the Defense Science Board, particularly in acquisition management, most of the time I either was the chairman of the task force or participated in it. Also, I participated in the A-Mark Study, which led to the reorganization of the Army and the Materiel Command. I was on the Navy Research Advisory Committee at the time that I went into the Defense Department.

Goldberg: Did you have much to do with Harold Brown?

DeLauer: Yes, while I was on the Defense Science Board, and I knew him when he was at Livermore and when he worked for McNamara as DDRE. So I had known Harold Brown ever since 1955.

Goldberg: What was your impression of him as Secretary?

DeLauer: I think that he did a good job; he did it all in the closet; he devoted a terrific amount of time to it. Harold Brown is not an easy man to have conversations with. He's very private; only a few people really are his confidants. On the other hand, at that time Gene Fubini was Chairman of the Defense Science Board and we had pretty good access to Harold. I had known Bill Perry well before; I think we were elected to the National Academy of Engineering at the same time. Herb York I knew from Livermore. He was pretty close to Brown. Harold followed him almost everyplace, and then Johnny Foster after him. They all came out of the nuclear model, so to speak. Back in the Nixon period, I'd been asked to come in and interview with Mort Abramson, who worked for Elliot Richardson at the time, to interview for Bob Seamans' job, the Secretary of the Air Force, who was leaving. That was about 1973-74 and I was just really starting to make some senior salaries at TRW, and so I turned it down. It turned out pretty well, because the weekend I was interviewed was the weekend of the "midnight massacre." Elliot Richardson was Secretary of Defense on Friday, and Attorney General on Monday. It was a real mess. I'd been talked to once or twice about coming into the Pentagon, and when this Republican transition started they had gotten a few search firms to help them—one was Pete Harwick's—Mitchell, (Doug Mecom), Corn Ferry, Bill

Flestercorn; and they called me up about the R&D job. About that time I was within a year-and-a-half of retirement at TRW. I really wanted, if I was going to come in, to be the Deputy. I felt that I had the experience, and that I was at the right age. I didn't know who was going to be Secretary. I never pushed to be Secretary of Defense, but I kind of turned them down on being R&E at the time. I really felt I could do a better job as the Deputy, and I felt that whoever they brought in would need somebody with industrial experience. After the first of the year Rube Metler and I sat down and talked about what was going to happen in the next year and a half, and he and I didn't quite agree on some things. So he suggested that perhaps one of my alternatives would be early retirement. Sy Ramo was part of the transition team primarily for the Science Adviser, not so much for the Defense Department. Word got around that maybe I would now be more interested the second time around. So they called me up again. By that time Carlucci and Weinberger had been appointed. So I came in and had an interview with them; we talked and in a day or so Frank called and said they were going to suggest the nomination to the White House. I had no problem at all with the men at the White House. Tom Reed was supportive of the appointment. Tom Reed and I are old friends.

Matloff: Had you had any contact with President Reagan before this?

DeLauer: I was the vice chairman of the Transportation Task Force in California, a project which really created Cal-Trans. Before, it was the Department of Highways. The Governor wanted to put it together and he had this task force of which Bill Perrera, who was a well-known architect

in California, was the chairman, and I was the vice chairman. He and Charles Luckman did the LAX airport. When the Governor was trying to put the ceiling on budgets as a referendum, which he personally took on in his last term in Sacramento, I got involved with him on that, particularly because he was making a lot of public speeches. He would come to Space Park and I could turn out 12,000 people. But I was not one of his team. As a matter of fact, I was a registered Democrat most of the time, the house Democrat of TRW. That got to be a real problem when I came back here because of the Litmus test. I had been an avid opponent of Governor Jerry Brown, and tried to do everything I could to beat him. I felt I had a better chance to beat him within the party than outside, but I had been giving my own money to the Republicans on a national and local level. Dick Viguerie and his computer had all of that in the record, so they knew at least where my money was going. Actually, Bill Wilson, part of the "kitchen cabinet", and a member of the LA country club as I am, kind of objected when I was nominated, but then I had a lot of support from an old classmate of his, Charles Ducommon, people who knew that I had been more conservative than Genghis Khan when I was on their board of directors.

Matloff: What instructions were given to you when you received the appointment, either oral or written, and did Secretary Weinberger or Deputy Secretary Carlucci play any role in orienting or guiding you?

DeLauer: I think it was the inverse; I had more experience in the Pentagon than they did. It was clear, we saw the Secretary at the staff meeting and that was it—he was off someplace—and still is. Of course,

he didn't like the building. What amazed me was when they used to have the barber shop in the White House he had his hair cut over there, when he owned the Pentagon. But he'd get away all the time. Frank ran the place, along with his administrative assistant Mr. Puritano, in whom he had a lot of confidence. We got to be very close. Vince had the job of putting together the Carlucci initiatives on the management changes. If you look at them in detail, you'll find most of them came out of two Defense Science Board reports: one I wrote and was chairman of; and the other Bob Fuhrman chaired and I was the vice chairman. Most of that stuff on the Carlucci initiatives came as a collaboration between myself and Vince.

Matloff: What was your initial conception of your role as Under Secretary, and what problems did you face when you took over?

DeLauer: It was clear that my job was to provide the oversight function for the Secretary on how the services were going to do their programs. I knew what the job was. On the other hand, we had to get our hands on the fact that, with this desire to close the gap of vulnerability, the first decision had to be the strategic programs and what they were to be. All we had were the B-52s and the cruise missiles, the development work on the stealth fighter, and some of the B-1 was being continued. There were real questions about whether we were going to build a D-5 missile or put the C-4s into the Triton.

Goldberg: What were your views on the window of vulnerability at the time?

DeLauer: My concern was that I had been working on MX for a long time, because we had the systems engineering job on the ballistic missiles. I

knew that MX was sized and designed primarily to fit in Minuteman holes. That's what we did in 1970, and everybody kept kicking it down the road. The Nixon administration kicked it down the road; the Carter administration kicked it down the road. With SALT II coming along, by that time it was clear that the Soviet capabiity for accuracy had gotten to the point that the silos were getting to be fairly vulnerable. So the whole question of vulnerability of the land-based systems was an issue. I was very skeptical of the deployment scheme that was being put forth by the Carter administration; I felt that it would encounter opposition from an environmental standpoint which was going to cause a problem, and also it was going to be too expensive. I've always been convinced that if President Carter had been elected, he would never have deployed it, he would have used it as a ploy to get SALT II ratified by the Senate and then cancel it for expense and other problems.

Goldberg: Were you alarmed about the vulnerability gap, as the administration seemed to be?

DeLauer: To a degree, but I felt I knew more about the substance, so in certain areas I was more concerned than they were. I was less concerned than they were in regard to the land-based missile systems. I felt that putting them in the holes was fine. As long as the Triad existed, they were installed capability; they had to be dealt with; they really provided a modicum of survivability. If you really wanted to do something, hardness was the way to go. Unfortunately, Cap didn't understand the technology well enough. He knew that he didn't want things running around Nevada, and

then we wasted a whole year trying to study with the Townes Commission what to do. We ended up doing just what I said we ought to do in the beginning, put them in Minuteman holes, only start to strengthen the Minuteman holes, and focus on the rest of the program. The first thing I did, and knew I had to do, was put the strategic program together. It was clear that the Air Force wasn't going to do it, and it was clear that none of the other services was going to do it. So my office really put the program together, and we focused on the things that I thought were the most important. One was the survivable C^3. I focus12 on survivability. I felt that the one problem we had was the lack of survivability, not the lack of capability, as far as equipment is concerned. I still feel that way, even conventionally. So I focused on being sure we got enough money in the plan for C^3, which we did. We had more money in the plan for C^3 that never has been touched by Congress than we had for the B-1. Then I looked at the bomber problem. I could see the Soviets with their SS-20s. It was clear what they intended—they were going to go mobility for survivability. Their fixed systems were not going to be able to be survivable against our accuracy. So I said, "Look, you've got to do something about mobility, and you've got to start looking at the manned bomber." The B-52 was obsolete, and still is. It's non-survivable, for base escape, or en route, and the charade of having a stand-off with cruise missiles is nonsense. You'd lose all the advantages of a manned bomber, which is to go after imprecisely located targets. With cruise missiles you can only hit a fixed geographical position. That was just to extend the life of the B-52. So I fought that.

Now the question is: What we are going to do about the manned bomber? There's no question that the stealth technology had tremendous amounts of appeal. On the other hand, I worked on the first flying wing; I knew what problems we had with it. Most of the technology that has subsequently developed would help some of that.

Goldberg: Was it back in the '40s that you worked on that?

DeLauer: In 1942, I worked on the B-35. Von Karman, a Northrup consultant, and I developed the structural analysis. I did what he told me to do.

Goldberg: Were you on the B-49 also?

DeLauer: No, because I was in the Navy by that time.

Matloff: Were you setting your own priorities, or were they set for you?

DeLauer: They were set by discussion with the Secretary and with Tom Reed, and there was no question that I was not setting my own priorities, but I had my own priorities, and I was doing the staff work that was necessary to do it. Then, of course, the D-5—I felt from the triad standpoint that it was the right missile to go. We had to spend a little time seeing whether the D-5 could do the MX job, and so forth.

Matloff: In selecting and organizing your staff, how much leeway did you have? What kinds of people were you looking for, and how did you organize your shop?

DeLauer: In the first place the basic organization was there with Bill Perry, when he was the Under Secretary. We had a slightly different set of circumstances because I got there a little late and the policy people had sliced up and taken some of the Assistant Secretaries away from me. They did away with the Assistant Secretary for C^3, and put another

Assistant Secretary up with Policy, Richard Perle, and also made the legislative liaison assistant an Assistant Secretary, Russ Rourke. That left us short, and so I had zero assistant secretaries. There was myself and all the rest of the people. I knew Bob Cooper, from NASA, and wanted him to run ARPA. Jim Wade and I had been friends for years on the Defense Science Board and so there was no question about him as my deputy. Then we recruited Latham for the C^3 job and the rest of the people, T.K. Jones, Edie Martin. So the Deputy Under Secretaries were pretty good.

Matloff: Did you have military in the organization also? If so, how did you select them?

DeLauer: My job primarily was to select the Directors that ran each of the warfare sections, and then they would go ahead and staff their organizations. My own personal staff—Ken Hollander, who now works for me—was in the office already as administrative assistant, and ran the place like West Point. The only man I hired was really what I would call a technical military assistant. Paul Kaminsky was Bill Perry's man and he wanted to go up to the Air Force and continue the Stealth program so I recruited John Douglas as my man.

Matloff: To focus your attention on the working relationships with various agencies and people, starting out within OSD—Weinberger, and the Deputy Secretary—how often did you see them?

DeLauer: We had a staff meeting every day. If Weinberger wasn't there, the Deputy would have the meeting. The staff meetings were not substantive; they degraded into just responding to the yellow bird. It's amazing that the official on the right hand of Caspar Weinberger was always the public affairs man; Frank sat across from Cap.

Matloff: How would you characterize the Secretary of Defense's attitude toward Defense research policy?

DeLauer: He was reasonably supportive. He made the case. He focused mostly on budgetary items, not on roles and missions. I never was in a meeting with him and the JCS, as in the tanks. Fred Ikle would go, but I wouldn't go. He just didn't think that I was needed to do that. I was the acquisition executive. I had the very same job that is being touted in the Packard Commission, except I wasn't a half a notch higher. But I didn't need to be with Frank or Paul, because I had all the clout I needed in the world. I had complete carte blanche from an oversight standpoint, except on the NRO programs. I did that through the agency because I knew the people there.

Matloff: Did any differences develop between you and him on any issue?

DeLauer: Yes, primarily in interaction with Richard Perle. That had to do with technology transfer. Richard tried to bring under his control the department's oversight from a technology transfer standpoint as it pertained both to the munitions and the commercial cases. I had a group called International Programs and Technology, of which, under Harold Brown, Bill Perry was the major domo, and had most of the people doing that and policy was not that strong; but, under Cap, the policy people took a lot stronger role, particularly Perle with his attitudes towards things. Right off the bat, we faced the pipeline case, which set the stage for both of us fighting against each other. My view was the hell with them, I was in the pipeline business, what difference does it make

whether you let them do that or not, it's good business for us. I wanted us to sell them equipment. But Weinberger and Perle didn't want that—I don't know how much of it was substantive and how much was form—and the President supported them. We started right off on the wrong foot on this whole question of things being lost to the Soviets. There was no question that the Soviets got most of their things by espionage, so the technology transfers to our allies got hung up in this ideology matter. Perle liked it because it provided him a lever that he was able to use in tertiary matters that he was working on.

Goldberg: How about Ikle?

DeLauer: Fred's a survivor; he never took Cap on frontally at all.

Goldberg: How about Perle? Did he ever take Perle on?

DeLauer: No. He took on Bing West, and they had a problem. That's when Bing West left. But he wouldn't take on Richard.

Goldberg: Bing had worked for him once before.

DeLauer: Yes.

Matloff: Francis West, ISA—did you have many dealings with him?

DeLauer: Yes, but he was mostly southeast Asia, the stuff Armitage took over. I had no problem with any of them, even Richard. Intellectually we went at each other—neither one of us is stupid—but our ideology and style were different. Richard focused on particular subsets and issues, and he didn't manage an enterprise, so you couldn't get him in the schedule. He might show up at a meeting or he might not.

Matloff: How about your relations with DARPA and the Defense Resources Board?

DeLauer: Dr. Cooper reported to me, so I reviewed the programs all the time. Same way with DCA, DNA, DMA—they all reported to me, so I had responsibility for selecting all those new directors. We made some great advances in DMA, as a consequence of the fight over the use of some of the overhead resources when Nicholson left.

Matloff: Did you attend meetings of the Defense Resources Board?

DeLauer: I was it. When it came to push come to shove, who was going to present the OSD position against a service position? There's no issue if the service position prevails. That's a non-issue with the Defense Resources Board. It's only when the service POM is questioned that it's an issue, and I was the front man. The way that Carlucci set the thing up, while PA&E was supposed to do a certain amount of analysis, the responsibility for pulling it all together was essentially R&E's. So on all the issues, I'd get up there and take on John Lehman, or whomever.

Goldberg: Did you find Thayer effective?

DeLauer: Yes. He just didn't have enough time. I've known Paul since we were children, and we were both in the Navy together. I urged him to come in. I was getting a little unsettled and said I'd stay if he came in, which I did. I stayed after he left because I felt there was a hole to fill; so I stayed the full four years. Paul backed me up 100 percent, particularly with John Lehman; so did Frank. I had no quarrel with either one of them. I didn't need any additional leverage from them. At the same time, it was a good arrangement to have Will Taft as the General Counsel. He was a terrific ombudsman for us with Cap. Cap is not easy

with a lot of people. While he is more affable in a social sense than Harold Brown, to me he was a much tighter guy to deal with. You really couldn't get what Cap was thinking.

Matloff: Did you have much contact with the Air and Army Secretaries?

DeLauer: Yes, right from the word go. I knew Verne Orr when he had been up in Sacramento; but he didn't know that much about the technology. We had a problem with GLCM. The joint cruise missile program office was not doing a decent job and the Air Force wasn't giving it good people, so I broke up that whole thing. It had all been managed by Bill Perry in EXCOMM. I broke the EXCOMM and took the GLCM out and gave it to the Air Force. I said, "You and I are the EXCOMM now, Verne, and I'm never going to have a meeting; you run it." He did; he made a good success out of it, and put the squeeze on the Air Force. Jack Marsh (Army Sec) wanted me to get somebody to help him. I recruited Jim Ambrose for him and that was the best thing I did for the Army, regardless of his style.

Goldberg: What did you do for the Navy?

DeLauer: We agreed to disagree. John Lehman and I never saw eye to eye on his program or his style, even though he's a nice enough guy. Paul and I got decorated by the Air Force, the Defense Department, and the Army, but we both got zeroed by the Navy.

Goldberg: Why was he successful in getting what he wanted?

DeLauer: Because he exploited the hell out of one of the characteristics of the leadership. Cap did not like confrontations. He did not like to be forced to make a choice between two subordinates. He told you to go work

them out. John took advantage of that. On the 600 ships—the President never knew what he was doing. It got slipped into a speech and became a gospel.

Goldberg: But in effect he was making a choice by not making a choice, letting him have his way.

DeLauer: That's part of it, or you get a uniform botch, which is the same thing. That's what happened with Richard Perle and myself. We were trying at least to codify how to manage this thing, when Richard end-ran the whole department, went over and got Scoop Jackson to give him 40 people. Frank [Carlucci] was smart enough—he found it was in the bottom of the legislation—and he wouldn't let them have all 40, he only gave them 25, but that was more than he had before. He gave me 12 or 15 or some number like that. Frank kept things pretty well under control, knowing what the responsibility issue was. Paul wouldn't handle that one, and I was disappointed that he didn't turn that one around, but I guess he had his reasons. The whole Bing West matter, and the CNA thing—look what Lehman did with CNA. We had a hell of a mess on our hands with that, firing those guys. Bob Sproull came down too late, but I couldn't do anything; I was supposed to be in charge of FCRC, and I was the last man to know. He invited Mrs. Reagan to go aboard a carrier to visit and never told the Secretary. He double-crossed him on another program. He played it to the hilt; so did Richard.

Matloff: I gather that you did not sit in on the JCS tank.

DeLauer: It so happens that I went down and had meetings with them, but only on certain issues, like MX. Iklé went. That's the way Cap was, he

didn't consider the top team his top team on all things. Look what we have—32 people reporting to him. Part of it is Congress's fault, part of it is his own.

Matloff: Did the chairman ever invite you to sit in?

DeLauer: No. I had no problem with it, but I had to go down to meet with, especially, Jack Merritt or Jim Dalton, when they ran the staffs. I wanted to get the job done, and I dealt with them.

Matloff: How sympathetic did you find congressional committees toward Defense R&E? What programs or issues were they particularly interested in?

DeLauer: I think the biggest difficulty I had with Congress, and in which I sympathized with them, was the multiplicity of programs. I did my best to chop them out. As I facetiously called it, we had the radar of the month club—every time I turned around I'd find a new low-probability intercept radar, a new radar being developed by a service, or by ARPA, or somebody. It got to where we were spending nights trying to chop them all down. With the House, particularly the R&D subcommittee, which at that time Mel Price ran—Bill Dickinson was the strength of the subcommittee, and Tony Battista and Tom Cooper were on the staff—I think they were reasonably happy with what I was trying to do. They weren't completely satisfied with the results, but they couldn't take issue, and I knew the subject.

Matloff: Did you find that the congressional committees and their staffs were reasonably knowledgeable in this area?

DeLauer: Yes, I think that they were a lot more knowledgeable than the civilians in the services were.

Matloff: Did you encounter any resistance in funding certain programs; for example, basic versus applied research?

DeLauer: Not too much, a little bit. I'd get a little bit of static out of Tony Batista, more than anybody else, because he came out of NRL.

Matloff: Did the Secretary give you complete leeway when you testified before a special committee?

DeLauer: Yes, no problem. I don't think he ever read my testimony ahead of time. The only problem I'd have is if it showed up in the press.

Matloff: How about dealings with NASA?

DeLauer: With NASA there was no problem at all, because Jim Beggs and I are old friends, so are Hans Mark and I--we knew each other when he was at Ames and TRW built the Pioneer Satellite. We had a joint board, which Hans Mark and I chaired, and we met quarterly and did our jobs together. I was supportive in sending Jim Abrahamson over there; I thought that was the right thing to do.

Matloff: On the question of threat perception, how seriously did you view the progress of Soviet research and engineering as a threat, when you took over?

DeLauer: I didn't view with alarm a lot of those things, because I had been following the progress for years and had a pretty good idea of what they were doing. I took issue with some of the characterizations of the threat--with how much resources they applied to things. People were more

interested in rates of growth instead of where the growth started from. They attempted to equate things on budgetary terms, when that isn't how the Soviets run. They have a GNP, and the GNP is how many people work and what is their productivity. Some piece of that goes into security, and it's a lot bigger than "the national estimate" is. They attempt to equate it to characteristics of our budget. I had arguments on that, but as far as their being nine feet tall, I didn't think that was the case.

Matloff: On things like propulsion, satellites, or ICBMs; were you particularly alarmed about their progress in these fields?

DeLauer: No, I really wasn't. I was pretty much concerned about the consequence of the progress; for instance in the case of their getting better guidance accuracy and on what is loosely referred to as the short-range capability. The SS-21s, 22s, and 23s, I felt, were every bit as threatening to Western Europe as the SS-20 was.

Matloff: Did your view of the general threat facing the United States differ in any way from other members of OSD, or were you pretty much all the same?

DeLauer: I think we were reasonably the same. We never had much disagreement, but a question of difference of degree and where.

Matloff: I came across an interview that you gave in the Defense Week on August 31, 1981, in which you are quoted as saying that one of your chief goals was to "force the Soviets into a reactive posture that is advantageous to us." Would you explain what you meant by that statement, and how you hoped to achieve that goal?

DeLauer: The whole question of the stealth activities, for instance, is a perfect example. If we could really have stealthy assets, including fighter aircraft, the whole Soviet fire control capability from surface-to-air missiles, for surveillance, and from fire control for air-to-air capability, would all be negated and they would have to find other means in which to get back to the level of capability. They'd either have to go visual—because certainly the things aren't invisible; acoustic; some infrared. On the other hand, in Europe particularly, you can fly in soup; if you fly in the clouds, IR is not much good for you. To me that says that with one piece of technology I can make them have to redo something that they hold very dear, and, particularly, if they feel that to be comfortable they had to have an overwhelming quantitative margin. That meant that they just had that much more to do, and turning over inventory is not an easy thing to do. It takes time, and that's what I wanted, to keep time going.

Goldberg: They don't turn it over; they just keep everything.

DeLauer: That's right, but if it's not useful, they have to keep it and build new.

Goldberg: Are you still optimistic about stealth?

DeLauer: Yes, absolutely. I think it's absolutely great, but that doesn't mean it's a panacea. You can see it particularly in certain areas. I think they are going to get optical systems, and that's one reason that I'm concerned about their not having a stealthy fighter. Both Europeans and our Air Force want to have a new supersonic fighter, and they are non-stealthy, they make a lot of big targets up there.

Matloff: I take it that you were having a relatively free hand in the area of setting projects that you were interested in and following through with them. How about the attitude of the administration in general toward basic versus applied research? I might even ask you whether Weinberger had an attitude on this question.

DeLauer: No, he really didn't. As a matter of fact, I was concerned when I left that the tech base would get eroded. The administration didn't have much of a push. Keyworth was off doing other things. I think they finally made some inroads and NSF got more, but basic research other than under DoD was being eroded by the initiative of cutting down on government costs. They pretty much let me put the program together and then they reviewed it. We had arguments in the DRB about program. It almost got to be a joke between Verne Orr and myself, on VHSIC. He didn't know what VHSIC was, but he objected to it every year. Then we'd have an argument and he'd put it back in the program. The problems, primarily, were with the services; John Lehman didn't want to spend any money except for ships. We argued about VHSIC at one time, and John was arguing vehemently in the DRB that this was a waste of money, would not help anything, was so far off, and so forth.

Goldberg: Do you find this typical of the services, that they are more concerned with the present and immediate future rather than the longer term; they would rather put their money down now?

DeLauer: I'm more critical than that. I am concerned not with their concern for the immediate future, but that they are more concerned with

platforms than they are with anything else, and not even platforms you can operate, just running the numbers up. The Air Force is driving toward trying to get the 44 wings. They'd sacrifice anything to get the 44 wings; the 600 ships, the same thing.

Goldberg: And this, you would say, has been true all the way, throughout?

DeLauer: I think so. I think all the services have been platform-oriented.

Matloff: On DoD guidelines in the whole field of scientific research, particularly in dealing with other non-governmental agencies or even other governmental agencies—were you drawn in on setting the policies? Who set the policies there?

DeLauer: I wasn't drawn in in what you would call a formal sense, but I had interactions with NSF and made a strong recommendation that Eric Brock take the job over there when it came up. So I had a little something to say about it.

Matloff: How about the research in the universities?

DeLauer: I did a lot of that, because at that time, starting really in the early '70s, when the National Academy of Science expelled the Defense Department from the fraternity (they wouldn't let us go back to do the summer study up at Wood's Hole, and things like that), Kistiakowsky and Weisner and those people dumped us. I decided that that wasn't going to be the case, that I was going to do something about getting the universities back in the fold, so I established what is called the DoD University Forum, of which Don Kennedy was the co-chairman. Stanford was my school. I had been working with putting the Center for Integrated Systems up on

the campus, and got him to come in. Murph Goldberger, Paul Gray, Gardner, Sproull—I got them all. [Showing picture: There we all are, Don Kennedy, there's the academic crowd. This is Tom Cooper; some of these are my people; here's the man from I&L, but this is pretty much the university crowd.] That was a great thing. Matter of fact, it was funny as hell. Because of responsibility of some committees in Congress, they were raising a little bit of noise about all these boards and commissions. They decided that this university forum was a quasi-statutory matter, so the members had to go through the Mickey Mouse of being appointed, reviewed, and everything else. I remember Marybel Batjer coming down almost in tears and saying, "Dick, aren't there any Republican university presidents?" I said, "Sure, there's old Bob Sproull, he's our token Republican on the committee."

Goldberg: We had the same trouble with historians and advisory committees. One of the Air Force generals said, "Aren't there any Republican historians?" We did find one.

Matloff: Do you feel that relations with universities were improved as a result?

DeLauer: Absolutely, no question about it. Go ask them. We tackled research—I got that through beating Richard Perle down. I finally won that one with support from J. Keyworth, when the President came out and said, "Look, all university research is unclassified in general. If it is classified, it will be classified before the fact, and it's up to them to say whether they will take it or not. But none of it will be declared

classified after it is in progress, none whatsoever." All of the schools aren't of unanimity of opinion; a lot of universities will take classified research.

Matloff: Let me ask you about the interaction of R&E with strategic planning and policy in the period when you were Under Secretary. The early 1980s were a period of renewed ferment—which is still going on in many ways—in strategic thinking among the defense intellectuals in the United States on such subjects as deterrence, MAD, and now SDI, which is a very hot issue. Did you and your staff keep up with the debate outside DoD on these subjects, and how much contact did you have with the so-called defense intellectuals?

DeLauer: The Defense Science Board is a good meeting ground for that. Albert Wohlstetter and I used to meet; now he, I, and Charlie Hirschfelder are technical advisers to CONTEL, of which Albert's brother Charles is the Chairman.

Goldberg: How did Albert get to be a technical man?

DeLauer: He's used technology to support his broad strategic things. Much more, for instance, than Fred Ikle. Albert, on the other hand, was a consultant to Fred, so we did interact there. I'd have long discussions with Richard Garwin, who I think is second rate; and with George Carrier, who is first rate—he did the nuclear winter study for the National Academy of Science after the crazy guys at Cornell came out with an overstatement of the problem.

Goldberg: Nuclear winter?

DeLauer: Yes. I was part of that mafia for a period of time.

Goldberg: How about Bill Kaufmann, did you have any discussions with him?

DeLauer: No, I haven't had much dealings with Kaufmann. I've read some of his stuff.

Matloff: We've interviewed Wohlstetter and will be interviewing Kaufmann, among others, and getting their points of view.

DeLauer: Sid Drell used to come in, and now I'm a member of the Stanford Center out there.

Matloff: What was your attitude toward nuclear weapons, strategic and tactical—their buildup, use, and control? Did you favor the use of nuclear weapons, and if so, under what circumstances?

DeLauer: I don't like to use the word "use." To me, nuclear weapons were probably the most inexpensive way to create a deterrent, if you can make it survivable. That's what it's got to be. To be effective it would have to be utilized, and you have to have the will to use it. The President certainly had that. Our strategic systems are very good, and so the whole question was survivability and I focused on that.

Matloff: What was your position on conventional versus nuclear defense?

DeLauer: That depends on where you go. [Refers to recent publication, The Conventional Defense of Europe: New Technologies and New Strategies in Europe/America series edited by Andrew J. Pierre and published by Council on Foreign Relations, 1986.] I wrote the piece on the emerging technology. You can have a deterrent conventionally, too.

Matloff: May we keep this?

DeLauer: Yes, that's yours to keep, for me to give away.

Matloff: We'll attach this to the record.

DeLauer: That gives you a good idea of my views in regard to the conventional stuff.

Matloff: Do you want to elaborate any more on the question of the manned bomber versus missile issue?

DeLauer: There were two pieces of the strategic program on which I think I made an impact, other than putting it together for Cap and going through getting it all approved. One was the two-bomber thing—to have the stealth, no question about it, but to get some capability early with the B-1. Also, at that time we wanted to have competition and I wanted two systems in competition. I was very critical in the middle '70s when we first selected the F-16s, that we should have put the F-16 and F-17 together, focused a little differently from each other. We didn't; we waited two years; and it became the F-18, which is really the F-17, but with a different prime contractor. The United States never got the benefit of the competition. Canada did; Australia did; Spain did; but we didn't. So I tried to make the argument to the Secretary that we wanted to keep two bombers in production long enough that we could really pin down the costs of the ATB. In the first place I knew Tom Jones—we were fraternity brothers, he was a couple of years behind me in school—and they never built a big airplane like that, not under his leaderhip, and I wanted to be sure that we didn't get taken to the cleaners. That is still my argument. I'm still pushing to try to get at least the 101st, 102d B-1 going, just

to keep it open. Also, I wanted to get the B-52s out. Part of the plan, how we actually laid down the bomber force, was by arithmetic rather than by force structure analysis. We took how much it cost us to keep the B-52s in service to the year 2000—all the MODs and everything—the attrition and the effectiveness, and came up with $100 billion. So we could say for the same period of time with that money we could build 100 B-1s, 134 ATBs, and that was it. It had nothing to do with what they did or anything else.

Matloff: I take it that you were for a balanced strategic triad. How did you try to get that, how did you see the proportion of each element within that system?

DeLauer: It turns out that it pretty much came out with the money. A little over $20 billion were for the C^3; the D-5's were going to cost a little bit more; about $50 billion for the bombers, all told. So, when you looked at the two missile systems and the bomber system, what was missing was the air defense. That part fell out of the thing; the services would not fund that.

Matloff: In connection with the issue of the anti-missile defense system, what role did you play in formulating research plans for it? How much of that role was dictated by administration policy, by OSD, or by your own initiative?

DeLauer: What was our defensive research capability? We had a modicum of work being done by the Army in the kinetic energy systems. We hadn't really pursued Hard Point during the Carter administration, but we had

looked at exo-endo research and had that going. Most all of these were under ARPA direction. We had the high energy laser business, chem laser business, which was at my place in TRW. In fact, I made the first decision in 1970 to make a capital investment to go into the high energy laser business, as a consequence of our rocket engine work on Apollo. We converted our test site at Capistrano to lasers. I followed the beam activity both at Los Alamos and Livermore. We knew the program was underway, and certainly the third generation. Edward Teller and I talked about it for years. He was a consultant to TRW. I had to interact with High Frontier even when I was outside, and I felt High Frontier was a charleton's game. They were overselling both the ability to do it in the time scale and the cost. Not the effectiveness—I didn't have any argument about the fact that we probably could make a pretty effective system. So I kept pushing them back, and that's where I got to be tarred with the brush of being reactionary. Bob Cooper and I wanted to take these research programs and bring them along. Essentially the 17, 18, 20 research programs we had going were the basis of SDI. In those programs, before SDI was SDI, we had scheduled for the '80 force budget $1.2 billion—that was in the 5-year plan. My biggest effort was not so much in the defensive technologies as it was in signal processing. I was instrumental in getting VSIC started in the Defense Science Board—I pushed it.

Goldberg: What is VSIC?

DeLauer: Very high speed integrated circuit. That program is really now coming to fruition. It's ahead of everybody, but it was primarily for signal processing, not number punching.

Matloff: What did you see as the major objective of ballistic missile defense, BMD?

DeLauer: Just enhanced survivability.

Matloff: Any connection with arms reduction?

DeLauer: To me, the higher the degree of survivability, the lower the number of assets you need. I used to have arguments with Sen. Levin. He said, "Are you down to one?" I said, "I won't go that far." If I could assure myself that 50 percent of the force was going to be survivable under almost any scenario that's reasonable, I would say you could reduce it, and I testified so in Congress.

Matloff: Do you see major technological hurdles to BMD, or are you sanguine about the prospects of overcoming that?

DeLauer: I think it's just a matter of time and will. The physics is there; it's the engineering. We've been working 31 years on a research program to be turned into an engineered program of lighting electric lights with fusion energy. We have yet to light an electric light with fusion energy, and we spent 31 years at it. I was at Los Alamos when we started, and some of those things are just too hard to do and they haven't solved them yet. We have Tocomac's all over the world. Half of Princeton is torn up for Tocomac. The Soviet's have one, the western Europeans have one, the Japanese have Tocomac, and we've been able to burn hydrogen but not make an engineered program out of it.

Matloff: What is Tocomac?

DeLauer: A great big teroidial magnet installation, you've seen it in magazines, where there's a big teroid, as big an area as two football fields, all a bunch of magnets. You put the hydrogen plasma in this thing and contain it and then increase the magnetic field to the point where you pinch it. When you pinch it and get it essentially to go down into such a small space that it will burn when you hit it with a neutron of some kind, you'll burn the hydrogen. [redacted]

OSD 3.3(b)(2), (4)

Goldberg: You're trying to control it?

DeLauer: You're trying to contain it, and you can't let it go. You get it to burn and then you have to get the energy out by protons, so they have to come out through mirrors. It's a tough engineering job.

Matloff: I take it, then, that you felt that such technologies as BMD and the stealth bomber were promising. Were there any others that you regarded as promising? Signal processing?

DeLauer: Signal processing—the high speed, the super computers, and the artificial intelligence. The one initiative of Bob Cooper and me at ARPA was a super computer. This was in answer to the Japanese. We were trying to leap frog them.

Goldberg: How did you feel about developments in Army R&D weapons—tanks, the Bradley and all the others?

DeLauer: The problem we had with the Army was that we just had to get the programs they had underway fixed. We had to correct the deficiencies

in the M-1, which we did. They had to worry about division air defense which the DIVAD was supposed to be for, and which should have gone ahead, but was killed by fratricide within the Defense Department, nobody else.

Goldberg: Were you satisfied with most of their major programs?

DeLauer: Yes, I think to a degree I was.

Goldberg: The tank, the Bradley vehicle?

DeLauer: The Bradley has its problems. They will get a fix on that. The M-1 turned out to be a pretty good tank. I wasn't too happy with some of the Army armor research, but they are doing better now.

Goldberg: I ask some of these questions because I asked the same ones of Bill Perry five or six years ago. I just wanted to see what's happened.

DeLauer: He was upset with them. That's why he brought Walt LaBerge down to try to help him out.

Goldberg: But he was very pleased with the way things were going by the time he left. The Army modernization program was doing very well.

DeLauer: Yes, he was, and I think it's so. They had their problems and we haven't had a decent inexpensive antitank weapon yet, but we'll be working on that.

Matloff: How serious a problem was interservice rivalry for you, and what efforts did your office make to foster cooperation among them?

DeLauer: Again, you can't overstate and you can't generalize. I had broad disagreements on some of the broad force structure concepts with both of them. Not so much with the Army--the poor men didn't get enough

money, so they weren't getting anywhere near enough divisions, and they were trying to figure out how they could accommodate.

Goldberg: When you say both, do you mean all of them?

DeLauer: The two I had problems with were the Navy and the Air Force. The Army was not much of a problem there, really. In the case of the Air Force, I had a real problem with the fact that they were so focused on the platform, particularly when Charlie Gabriel came in. There was a TAC man, and he brought in O'Malley, who was TAC, and they had Welch in the wings. They were figuring on a twelve-year dynasty of tactical airmen, and all they wanted was fighter aircraft. We're spending over $200 billion in ten years on four fighter aircraft. Everybody gulped at $26 billion for SDI, and it's one-tenth of what we're spending on fighter aircraft. So I had problems with them on that, on their analysis.

Goldberg: Did you have a problem with numbers?

DeLauer: Both. And the biggest problem was tradeoffs. I couldn't get them really to embrace stealth; they still haven't. ATB was forced down their throats; Jerry O'Malley tried to cut the ATB budget all along. They killed one program. When Weinberger finally sat on them and Sam Nunn and others said we were going to have an ATB, the same men switched off the ATB and started downplaying the B-1. They don't want to put any more money into bombers than they have to. They sent Larry Welch out as SAC commander, when he's a TAC man, and he's trying to keep the B-52s. I had a big argument trying to get the B-52s out of the force.

Goldberg: It's a remarkable turnaround for the Air Force since SAC days.

Matloff: You mentioned your opposition to the Navy 600-ship program, the Lehman program. What were your specific objections?

DeLauer: Not the carrier, but the battle group, more than anything else, which was the biggest expense. It's nonsurvivable against war with the Soviet Union, because they have too many land-based bombers. If you don't fight the Soviet Union, you don't need a battle group, because nobody else can sink a carrier by itself. If you fight the Soviet Union, send them out of harms way. They can do a good job of sea lane control.

Goldberg: Why can't you sink a carrier?

DeLauer: By itself, if you keep it away from land-based air, it's too fast.

Goldberg: What about missiles?

DeLauer: The thing's moving; you can't do a hell of a lot with it. Land-based air missiles can; they can follow right into the target with stand-off air-launched missiles and some terminal guidance.

Goldberg: Submarine-launched missiles?

DeLauer: Somewhat, but they outspeed it. Submarine-launched missiles get about 20 miles; you do a little bit better than that with your own aircraft. But if you have all that garbage with you, you can't go that fast; they have to slow down to be refueled. Most of the nuclear carriers don't have to be refueled; they just go forever. I wanted more ASW for sea lane control and more attack submarines.

Matloff: What input and control did you have over the formulation and allocation of the Defense budget for R&E?

DeLauer: I had control because I had oversight. We submitted the stuff for DCA, DNA, and ARPA.

Matloff: Did you get support in this area from the SecDef?

DeLauer: Pretty much so. Then when the services submitted their POMs, I had the last word on that in terms of review. If I didn't agree with them, then we'd fight it out in the DRB. I won some and I lost some.

Goldberg: You mentioned before the services' starting all kinds of developments and going into all kinds of weapons systems that you didn't think were necessary or desirable. Was this the result of getting so much money so quickly?

DeLauer: No, because a lot of those programs had gotten started earlier.

Goldberg: But they got a lot more money to keep them going then, didn't they? There was a big jump.

DeLauer: There was a big jump in money but there wasn't a big jump in programs. In my confirmation they told me to cut the number of programs down.

Goldberg: But did they know what to do with all that money?

DeLauer: Yes, they were buying big ticket items. Also they started buying spare parts; that's why we have this spare parts problem. We hadn't bought spare parts for so long that inflation got into it. It got miscast, as somebody's trying to screw somebody. We knew that we had a spare parts problem in May 1981, because I'd gotten copies of letters between San Antonio and Oak City and they were complaining because they had transferred engine maintenance from one to the other and they were complaining to each other about buying the spare parts. So I knew that we were going to have a problem because we hadn't bought them for so long. We bought them under a basic ordering agreement; the pricing

under a basic order agreement is the price of the last buy plus inflation. That in itself, let alone whether the material changed or whether they had to set it up or whether they had the capability, led to tripling and quadrupling the price. I mentioned at the Secretary's staff meeting that he was going to hear about a spare parts problem and we were working on it. Six months later Roth, Resor, and all those people got to screwing around and first we had navigator stool, then the diode at Sperry; and the Secretary went on the point and decided to take this on and call everybody a crook, and we never did get it back on track. It was a non-issue, a peanut issue. Yet that one issue festered and spoiled the consensus we had.

Matloff: Were you satisfied with the percentage of the defense budget allocated to R&E?

DeLauer: I think so. Not to R&E but the tech base, because we don't allocate it to us. If you were talking tech base, that was a reasonable out. It was down about 6 percent, and we were pushing it up toward 8, which was fine.

Matloff: How about the proportion between basic versus applied research?

DeLauer: It was about even, about right. I had no big quarrel about it—you might find some—but in balance we were doing the right things.

Matloff: To turn your attention to the relationship with foreign R&D programs, to what extent were you and your office involved in those programs with allied and friendly countries, and with what kinds of programs, particularly with NATO?

DeLauer: Through the emerging technologies; and, of course, the formal organizations, The Council of NATO armament Directors. Four times a year we had meetings. We had a four-power meeting in the spring, just before we'd go to CNAD (that would be the French, British, Germans, and ourselves); we'd meet as armament directors, discussing global programs, R&D, and things like that; the big fight on IFF. Two weeks later we'd go to CNAD and the whole crew would be there, except the deputy would be there instead of the French armament director, and we'd thrash out many of the same issues. We would essentially support what we had said two weeks ago, and the poor little guys had to follow us. We would do that twice a year. So I was following in detail their development programs.

Matloff: What did you see as NATO's major problems in this area?

DeLauer: Not putting enough money into conventional areas, particularly Germany, during my four years.

Matloff: How about with other alliances--for example, with SEATO--did your office get involved with any of that?

DeLauer: We had a 25th anniversary of a technical collaboration with Australia and New Zealand.

Matloff: Were you satisfied with the coordination and the R&D programs in NATO and other alliances?

DeLauer: Yes; I had a good group of people in my international technology programs.

Matloff: Do you think that integration can go further in this field?

DeLauer: Absolutely, no question about it.

Matloff: Any particular areas?

DeLauer: Mostly electronic warfare and some of the associated areas.

Matloff: Talking about foreign areas brings up the question of crises and incidents that arose during the period that you were Under Secretary. Did any of these incidents—for example, Grenada in 1983, or the landings in Lebanon in 1982 and staying on 'til '83, and the Central American or Middle East unrest—impinge in any way upon your office? Were you consulted, for example, by intelligence agencies in connection with any of those crises?

DeLauer: After the fact of Lebanon, because they had some captured equipment, and we had some people participating with the intelligence people on the lessons learned. In the Falklands the same way. We had pretty good access with each other normally. [redacted] and the English [redacted]

Matloff: [redacted]

DeLauer: Of course. OSD 3.3(b)(2), (4), (6)

Matloff: Let me ask you some general questions about cold war policies, a more general field. Did you believe that containment was a realistic policy? that its assumptions were valid? or did you view detente as the more realistic policy?

DeLauer: Either one of those is kind of overstating the case. I think in certain instances you have to do some containment. I think

in cases of South America and Central America--to me, that's containment. People that equate those to Vietnam are doing the country a disservice, because it's not the same.

Goldberg: You speak of military containment. There are different kinds of containment.

DeLauer: If you could contain them politically, then you wouldn't have to worry about military, but we didn't do it. Nicaragua was not contained politically; they got a Marxist government in and they're embarked on subversion of the rest of the region. We're only a thousand miles from it; they don't have a place where they can go; there's no sanctuary like Cambodia or China. We do not have to support our operation with a great big construction program and all sorts of infrastructure like we needed in Vietnam. It's a different thing. As a matter of fact, it's easier in some cases than Grenada, as far as support goes, because you could probably use friendly neighbors to help. It's a different military situation. It's a tough problem. I'm not saying you have to go invade them, but I think somebody ought to examine what the options might be. In the case of Afghanistan, I think we're doing the right thing. In the case of the terrorists--that is a tough problem. I'd be much more clandestine, but you can't do that with this Congress. Nobody will keep his mouth shut.

Matloff: One of the questions that interests historians about the cold war policies is: How effective is military assistance to

friendly foreign governments as a tool for political leverage? Could you apply this specifically to the field of military R&E?

DeLauer: There were one or two instances where we provided that kind of capability and it worked. It certainly did in the case of the 1973 war with Israel, when we gave them some up-to-date EW equipment and everything else; it saved their bacon.

Goldberg: That's the wrong word.

DeLauer: In the case of the Falklands, there were some things that we supported them on that were very positive.

Matloff: On arms control and disarmament, the whole general area of such interest today, what was the relationship of your office to programs or proposals for arms control and disarmament? What role, if any, did you and your office play in this area?

DeLauer: R&E always had some people, particularly on the atomic energy side. Rich Wagner dealt with that and with chemical warfare, too. He was the liaison on the weapons development, so that had a lot to do with the testing program and things like surveillance. DNA was doing a lot of the activity; that reported directly to me; and that had arms control implications. Some of the second level delegation members would come, and every three months I'd have a debriefing with one or two of the men. They would come over and tell me what they did—more of an informational transfer.

Matloff: What were your views on arms control?

DeLauer: I think that it's a very tough problem, one that you have to keep talking to each other about. I think the Soviets made a mistake walking

out during the TNF negotiations, and thank God for SDI, or they couldn't have found a face-saving way to get back in.

Matloff: How far did you sense the Weinberger administration was willing to go in this direction? Was it sympathetic toward it?

DeLauer: It depends on whom you talk to; Adelman is.

Matloff: How about the Secretary of Defense?

DeLauer: Not particularly; and Richard Perle, definitely not.

Goldberg: How about Ikle?

DeLauer: Fred is an old arms controller, so he tends to be more of a negotiator. Weinberger and Perle don't tend to be negotiators.

Matloff: Is it fair to ask you what technological directions appear to be most promising for future exploration in this area?

DeLauer: I think a lot better sensing capability; rapid dissemination of photographic capability; remote sensing of all kinds that can be rapidly transmitted. Things that would make the whole question of inspection almost moot. It's not easy. Those are are the technologies that would have to be used.

Matloff: Here's a question I put to Herbert York: How much is arms control or reduction, in your view, a political, strategic, or technological problem?

DeLauer: When you look at the element of the strategic concept, you look at survivability and technology is very important to survivability. Can you move them, can you make them hard, can you dig them out, both offense and defense. From an arms control standpoint those things are important. If

you have very super-hard silos, like the Soviets are making and like we should be doing—then our high accuracy gets offset and in an intellectual way that means the Soviets ought to be able to have less of them. If you go mobile, you ought to have less of them. On the other hand, as you go mobile you need more manned bombers. So in an arms control sense, in the B1B you would have to trade off warheads versus the ability to go after mobile targets, if you wanted to make the offense continue to spend in survivability.

Goldberg: How survivable are the manned bombers in that kind of environment?

DeLauer: That's one of the things you've got to worry about. I think bombers also have a problem of technological obsolescence. On the other hand, we're doing a lot of good things with EW, and if we do things with stealth, maybe we could work them in conjunction with each other. That's the part that concerns me. We're going to have 200 bombers, about half stealthy and half penetrating, and nobody's figured out how to work them together.

Matloff: Could you describe a typical work day in the life of an Under Secretary of R&E?

DeLauer: Drinking out of a fire hose while you're running on a treadmill.

Matloff: You had considerable experience in the private sector. How would you compare the role of the public manager with that of the private manager?

DeLauer: The enormity of the job is different. There are so many more dimensions to the job, both in content and in detail. At TRW, I didn't have to know everything about the F-16; we didn't build the F-16. I had

to worry only about our stuff. I had to worry about competition, however. The examinations are the same—where are your product lines, what's the market, and what's the competition doing? If you're to be any good, you have to be sure you have a reasonable amount of information on all those things. I took it to heart, and I did have a reasonable amount of information on most every single subject matter I had. I knew the technology, I knew the programs, and I knew the problems we had. But it was one of oversight. You didn't try to cover the whole enchilada every night. I took two full briefcases home every single night.

Goldberg: You're operating in a much larger arena here, with a lot more players and institutions involved.

DeLauer: And a hell of a lot of people to worry about. When I was working for TRW, I worried about the customers. I didn't worry too much about the Board of Directors. I was one of them, and there were only ten of us. I got 565 over here, and 20,000 staff members and 15,000 reporters. You can't open your mouth, especially with a Secretary that was reactive to the media. I went to the editorial board of the Times and made some comments about the nonsurvivability of some of the aircraft, and I was concerned about the Europeans building a new European aircraft just like the old one. I said that the worst thing they can do is build another Tornado; that's not the right kind of airplane. Bud Andrews, the jackass, misquoted me that I said the Tornado is no damn good.

Matloff: I take it that the life of an Under Secretary, as you led it, was more than a nine-to-five job.

DeLauer: Absolutely. When he printed this thing, and I went to the staff meeting the next morning, Cap said, "What did you say that for, I'm getting all those calls." I responded, "Wait a minute, Cap. How is it that when Bud Andrews quotes you he always misquotes you, but when he quotes me you believe everything he writes. Don't you think maybe he's the same guy?" He said, "Maybe that's true." I said, "The guy misquoted me—I did not say what he said I said."

Goldberg: Reporters are good at that.

DeLauer: Yes, and lawyers. The whole place is run by lawyers.

Matloff: Did you receive any help in preparing for press conferences?

DeLauer: Public information yelled for help, because I knew the subject matter.

Matloff: On the basis of your experience both as Under Secretary and subsequent reflection, what is your judgment of the structure and working relations both in DoD and in the intragovernmental system—this whole area of organization and management for science and technology for national security? Do you see any need for changes—for example, in the relations between the SecDef and the Under Secretary for R&E; between the White House and Defense; between OSD and service programs?

DeLauer: I think that a better appreciation at the top of the nature of the technology, and of what technology can do for you and what it can't do for you, and the need for adequate lead time for implementation, are some things that could be changed. In my view, the present modernization is a fait accompli; it's just a question of getting it done. You pay the bills, but there are no real big decisions to make on modernization now.

What we should be doing is slowing the pace down, or cutting the force structure down, or something, so you can put enough money back in the tech base that will give you the foundation for the next period of modernization, which will be in the mid-90s to mid-2005. They're not doing that.

Goldberg: This is what Perry said, too.

DeLauer: It's a cycle, and we should be doing it. Right now we're starting to insert all the stuff we've done in microelectronics and things like that; we're getting remote sensing done pretty well; we're getting some integrated systems in the Army; we ought to continue those. But to buy more of the same thing just to build up the force structure is nonsense. You should put that money back in the tech base and worry about the next level of modernization, with a different agenda. Things are going to be different there. We cannot afford all the people around the joint; it would cost too much money.

Goldberg: Who's going to make the services do that?

DeLauer: The only one that can do it is one man, the Secretary. Nobody tells him what to do, if he decides he wants to do it.

Matloff: Do you have any thoughts about the use of outside consultants and advisory councils—did you find them useful?

DeLauer: I always did. I thought that the Defense Science Board was a very useful thing, too useful, because it started getting attacked by some of the critics on the Hill.

Matloff: Was there any impact of the use of the service scientific advisory boards on OSD?

DeLauer: Yes, some I took issue with, especially when they fostered a service position instead of the facts. I could never understand why, in light of what the Naval Studies Board, a National Academy of Science Board chaired by Bob Frosh, who was an Assistant Secretary, said regarding the carriers and their problem, no one paid any attention to the findings.

Matloff: Here's a question which I ask everyone: How would you characterize the styles, personalities, and effectiveness of the Sec/Def and other top officials in OSD with whom you worked? Do you want to add anything about Secretary Weinberger?

DeLauer: He's just not an open man. He only wants to deal with people with whom he has had a long confidential relationship. Also, I found him not too open with a man about his own age and experience, but much more receptive to younger people.

Matloff: How about the Deputy Secretaries of Defense? You had three of them.

Delauer: They were all different. Carlucci was a great help because he knew what Cap wanted to have done before Cap did. Paul Thayer was damn good because he was a tough manager and he hung in there and wouldn't let anybody push him around. He was just getting to where Cap had confidence in him when he had to leave. It took a whole year just to get there. Taft is too young for the job, and you shouldn't have two lawyers in the same place. You should have somebody with some experience. I think the biggest problem that I see in the Defense Department is no experience. Jim Ambrose is the only man that has any industrial experience. Both he and

Don Hicks came out of the technical side of the corporations, not the general management side. I was the only general manager in the whole place, the only guy that had profit and loss responsibility.

Matloff: How about the Assistant Secretaries, like Comptroller Borsting?

DeLauer: He came out of PG school, and was an educator. Vince Puritano was pretty good because he knew the system. Bing West had a personality problem with his leader, Ikle.

Matloff: How about Ikle himself?

DeLauer: Fred is a pleasant guy, but he's in arms control, not a policy man. They're getting better, but the Defense guidance hasn't been that good.

Goldberg: Did you have any real connections with Ikle? Komer and Perry apparently hit it off very well and had a lot of exchanges, so that Komer had some input on R&E and Perry had some input on policy.

DeLauer: Let me give you this. Bob Komer, whom I saw last night at dinner, was a lone wolf. He would never meet with anybody. I remember when I was on the Defense Science Board on a two-way street and so I got to know him. We did the summer study together and that sort of thing. I was going over to visit NATO and TRW wanted Ramo to tag along; they didn't want me out by myself, I guess. I wanted to get Ramo up to speed, and had a hell of a time getting Bob Komer to spend some time with him. He didn't meet with contractors. He said that again last night.

Goldberg: But he met with Perry.

DeLauer: But he had his own agenda for what he wanted to accomplish and the way he wanted to do it. He was really more of an ambassador. That's not the case with the crowd up there; it's not so much Fred as his people. For instance, in the Perry arrangement, they were going to bring DSAA down to Bill—that was all in the works. They should have transferred to him before they left. You couldn't get Ikle, Perle, and those men to let DSAA go; that's a powerhouse for them. They're a power hungry bunch of guys up there. That is different from Bob Komer. He didn't mind personal power and influence, but he didn't need organizational trappings in order to accomplish it. What Policy wanted to do was become a little State Department. That's what we've got here; that's why Cap likes it. He is a little Secretary of State. So with all that crowd up there, the actions have nothing to do with running Defense, but how Defense interacts in an international relations point of view. That is the State Department's problem, not ours; we should be setting Defense policy and security policy. We, not the State Department, should be taking the lead on the anti-terrorists, that's a security issue; and we're not. We're worrying about technology transfer, treaties, bases, selling arms overseas. Are these policy issues? Baloney. They are acquisition issues. The policy is yes or no, and from then on the implementation should be in acquisition. How can we be running the F-16 line, if they're out there selling F-16s and F-18s, willy-nilly? I just disagree with the way they organized Policy.

Matloff: Any impressions of James Wade and Richard Wagner, chairmen of the Military Liaison Committee?

DeLauer: I recruited Rich Wagner. I knew him in the atomic energy business. He's going to go to work for somebody else now. He wanted to be the Director of Los Alamos. I sure would have liked to have had him there.

Matloff: How about the JCS—any impressions of their style and effectiveness?

DeLauer: The best report in the world that could happen is the Packard Commission report go into effect. The staff is not a staff. I did all I could the last two years, when Andy Goodpaster went over to IDA and we turned almost all of IDA's resources over to Andy to support the JCS. We got some good studies done. They needed staff support, and all they got was a regurgitated service position. The fact is that, by God, the chairman is the military adviser, and the chairman is going to have an independent opinion. We got SDI because the CNO opened his mouth in a meeting with the President.

Matloff: Anybody else in OSD or JCS who particularly impressed you?

DeLauer: A lot of guys were impressive, there's no question about it. I thought Shy Meyer was impressive. I like the Army guys; they are a nice bunch and they try to do the best job they can with the money they have. Right now the Air Force leadership has disdain for civilian control, and the Navy is in a war—John Lehman against the blue suiters and the world. Jim Watkins is up there trying to save his service, and that's not good.

Matloff: Do you remember President Eisenhower's farewell address in which he called attention to the so-called military-industrial complex?

DeLauer: Yes, but he also called attention to three other G-D- complexes in that same speech before and after. Wasn't one the press and the government,

acedemia and the government another, the church and the government another, and the other the military-industrial? I think that there were four of them in that speech. Somebody ought to keep publishing the full speech.

Matloff: Were you at all concerned about this so-called complex?

DeLauer: No, it's no different from any other. I've worked in all of them. For example--with banks, in the credit information business at TRW our customers were the banks. They're cutthroats, a facade; In God We Trust is a Hollywood set; behind it they're at each other's throats with knives. I've dealt with oil companies, and there's more mismanagement there than you ever could see. Look what EXXON did, they abandoned a whole city--in Colorado; they bought a company for $1 billion and did nothing with it. They mismanaged funds a lot more than the Defense Department. Take a look at the automobile business. The companies never talk to each other. They were certainly slow in making changes. Then I take a look at the Defense business. Just to survive, you only have one customer, the Defense Department, but it is competitive. The oil business is not competitive. When you have a product they want, they will pay any price for it. When they don't want it anymore, screw you. Here you can be a prime, a sub, an equal partner, all at the same time, with different people, with different programs, and yet keep it all straight. At no other place is business conducted like that. If that doesn't take a management skill that's out of this world, you're just kidding yourself. Not only that, but you have cost accounting standards, with more people looking down your throat than any other part of the business or economy. Government

business--NASA, ourselves, and Energy--we're the only ones that really use cost-accounting standards the way we do. Everybody else has a different accounting system, a financial accounting system.

Matloff: Was there any special reason for leaving when you did, at the end of 1984?

DeLauer: My wife was upset. She didn't think that she got much out of the tour here--that the White House was kind of a closed social affair; and that we didn't get our share of social goodies like we did when Mel Laird was there, for instance. Cap could care less about that. And I had run the gamut. Four years were enough. I was 66-67, and it was about time to retire.

Matloff: What do you regard as your major achievements during your tenure as Under Secretary of Defense for R&E and did you leave with any frustrations or tasks uncompleted?

DeLauer: There is always the latter. I think the best thing was that I put the strategic program together and held it together as long as I did. I got a limited amount of MX's. The next was some of the initiatives in regard to joint programs--I did a little bit to help that. That's about it.

Matloff: And on the uncompleted side?

DeLauer: I don't worry about that. I characterize it, and lump it all together, that I leaned on the Pentagon for four years and never moved it one micron.

Goldberg: Now you just have to turn around and keep your eye on it every day of the year.

DeLauer: It won't move either; nobody else will move it.

Goldberg: With reference to Weinberger and his role in Defense policy and his relationship with the White House, were there other people involved at the upper levels in influencing Defense policy, in addition to Weinberger and Reagan, that you are aware of?

DeLauer: There were not very many. I think that Frank Carlucci characterized it best. He said, "One thing about Cap Weinberger, he's only got a constituency of one, but it happens to be the President."

Goldberg: It was primarily a matter of that relationship?

DeLauer: Sure.

Goldberg: Is Weinberger really reflecting Reagan or has he powerfully influenced him in the directions he was going?

DeLauer: My observation of the President is that he's got good instincts. He's not a great planner, but he has good instincts. I think it was more the latter that explains the direction in which he has gone, because nobody decided on 600 ships, or 44 planes, or any of those things, as basic policy.

Matloff: Thank you, Dr. DeLauer, for your cooperation and sharing your recollections and insights with us.

DeLauer: Thank you for coming.

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, DC 20301-1100

COMPTROLLER
(Administration)

January 13, 1988

Dr. Richard D. DeLauer
The Orion Group, Ltd.
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1213 Jefferson Davis Highway
Arlington, Virginia 22202

Dear Dr. DeLauer:

I am returning herewith for your files a copy of the final version of the oral history interview held with you by representatives of this office on April 22, 1986. This final version incorporates the changes you made on the transcript.

Please indicate your wishes in the matter of future access to your interview. Four categories are normally in use: ~~Category 1--open; Category 2--permission of interviewee required to cite or quote; Category 3--open only to DoD historians; and Category 4--permission of OSD Historian required.~~

I wish to thank you again for taking the time to review the transcript and for your cooperation on this project.

Sincerely,

Alfred Goldberg
OSD Historian

Enclosure