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This is an oral history interview with Dr. Alain Enthoven held in Stanford, California, on February 3, 1986, at 2 p.m. The interview is being recorded on tape and a copy of the transcript will be sent to Dr. Enthoven for his review. Representing the OSD Historical Office is Dr. Maurice Matloff.

Matloff: Dr. Enthoven, as we indicated in our letter of December 16, 1985, we shall focus in this interview on some of the events and issues of the period during which you were associated with the Department of Defense, particularly during your service as Deputy Comptroller and Deputy Assistant Secretary, 1961-1965; and as Assistant Secretary for Systems Analysis, 1965-1969. By way of background to your service in OSD, would you discuss the circumstances of your appointment at Rand, the kinds of problems on which you worked there--I believe you were at Rand from 1956 to 1960--and any dealings that you had with the DoD during that period.

Enthoven: I first came to Rand in the summer of 1955. I had met Henry Rowen when we were both graduate students at Oxford. He had been previously at Rand, and through him I met Albert Wohlstetter. They did what they often did to recruit young people--invite graduate students for a summer job for a mutual looking over. I did that in the summer of '55 and that led to a job offer when I completed my Ph.D. in economics in 1956. I went to work at Rand full time then, working with and for Charles Hitch, Albert Wohlstetter, Harry Rowen, Bill Kaufmann, Herman Kahn, et al. The first problems that I got involved in had to do with operations of the Strategic Air Command. Albert Wohlstetter, with Rowen, Fred Hoffman, and Bob Lutz, in the early '50s, had done some very important path-breaking studies on the selection and use of strategic air bases and the whole conception that

of fundamental importance to the Strategic Air Command was to be able to survive a direct attack on it and strike back. So I was involved in issues of how could the whole system be organized in such a way that it would be able to survive a Soviet attack and strike back. From there my interests and the studies that I was involved in dealt with issues of the vulnerability of the Strategic Air Command and then with larger questions of the role of nuclear weapons and forces in our total defense strategy. I got interested in and concerned about such problems as NATO strategy, and the problem of what appeared to me to be the excessive reliance on the threatened first use of nuclear weapons for the defense of the NATO area, and also studies on continental air defense. So you could say by 1960 I had spent the better part of four years studying strategic offensive and defensive forces and strategy and their interrelationship with NATO.

Matloff: Had you gotten on to the PPBS studies while you were still at Rand, or did this come later?

Enthoven: The Planning, Programming and Budgeting System, if you like--that was something that was conceived by Charles Hitch, who was the chief economist and who became McNamara's first comptroller. Hitch was chief of the economics division at the Rand Corporation. The economics division had three main parts, one of which was the cost analysis department, headed by Dave Novick, which was developing the capability to estimate what we called "total system costs." In other words, if you were deciding whether we should add several more wings of B-52 bombers to the defense program, it was important to know not just the purchase price of the bombers but the

total cost, including building the bases, buying the spare parts, training the pilots, the operations—what we called "the grand total system cost," to try to make some sense out of comparing what you get for your money with one weapons system versus another. In doing that, Hitch, Novick, and the bright people working for them came to realize that you couldn't account for one piece of the Air Force until you could account for the whole thing. So, in order to talk sensibly about B-52s, you had to be able to talk about the whole budget and where all the money was going. They developed that as a research tool in support of our cost-effectiveness analyses. Hitch saw that the same methods and techniques had a natural application as a planning and management tool for the Secretary of Defense, when he met the Secretary of Defense and the Secretary said that he wanted to shape the strategy and control the forces and budgets. That was what we called the programming side of it. Then the systems analysis side of it was the idea that there should be independent, quantitative, systematic analyses of the costs versus effectiveness of alternative strategies and forces. We used "systems analysis" at Rand as a discipline-neutral term. The problem was: we were trying to promote systematic interdisciplinary studies, and the idea that to do a good job of what should be the strategy of the United States, you needed people who were engineers, economists, those with military backgrounds and others, working together. So we needed a kind of discipline-neutral term, and we picked "weapons systems analysis," shortened to "systems analysis." The PPBS was sort of the marriage of programming and systems analysis in Hitch's mind. So you could say that it grew out of research

tools at the Rand Corporation, which became operating tools for the Secretary of Defense in the Pentagon.

Matloff: What led to your decision in 1960 to leave Rand and to join the Defense Department?

Enthoven: I'd been at Rand for the better part of four years. We were doing a lot of studies on issues that I felt were very important. The studies were sent back to Washington and briefings were presented, but the conclusions that I felt were terribly important weren't being acted on. I remember in 1960 saying to Charlie Hitch, "I don't think there's much use doing more work on what the strategy and weapons should be, if there isn't some process of rational choice back there. I think what I ought to do is go and do a study and write a book about the organization and management of the Defense Department." Charlie said that could be a good idea, but that perhaps first I ought to go and work there for a year or so and get some experience. I thought that sounded like a very good idea. So I applied for and got a job in the Office of the Director of Defense Research and Engineering and began that work in May 1960. Originally the idea was to be there for a year or so and to help the DDR&E establish some kind of concept and system for planning.

Matloff: You were working with Herbert York then?

Enthoven: That's right. That's what took me to Washington in the spring of 1960.

Matloff: How sophisticated did you find official thinking in OSD in this area that you were getting into in 1960?

Enthoven: OSD really had not been systematically involved in the question of strategy and weapon systems. I use the word "systematically" advisedly. There was nobody in the OSD who was charged with that responsibility. In fact, the Comptroller wasn't supposed to have anything to do with weapons, forces, and strategy. It's an absurd notion as we look back on it, but I can recall that the Chairman of the House Armed Services Committee was even trying to put some language in the authorization legislation one year explicitly prohibiting the Comptroller from having any involvement in how the money was to be spent, in terms of strategy and forces. The idea was that the Joint Chiefs of Staff were to do all the work on choosing weapons and forces. The problem was that the JCS had become a great big political logrolling affair. There was no independent analysis. Officers assigned there were ordered to do everything they could to further the interests of their own service, so there was no pretense even at objective analysis. As part of this conception of how the Defense Department was supposed to run, while the Comptroller wasn't supposed to have anything to do with strategy and forces, the Joint Chiefs of Staff weren't supposed to have anything to do with money. So they were supposed to come up with what was called the "pure military requirement"--what is it, from a military standpoint, that we need. That's nonsense. Strategy has to be a matter of dealing with the inevitable fact of limited resources and imperfect technology. So, in a sense, you could say that McNamara and Hitch's idea was to bridge this gap and to create one unit that is at the same time involved in questions of money--what do things cost, how much money have we got--and what do these

things do, how many do we need and why--and work toward an efficient balance. So on the question of systematic analysis of benefits versus cost, value for money, strategic analysis, that was virtually nonexistent in the OSD before McNamara and Hitch. I say virtually nonexistent. There were very smart people in the OSD who recognized the need: Herb York, for example. Some attempt at this kind of strategic analysis was being made in DDR&E. DDR&E seemed to be a natural place for it because those were the people who were trained in quantitative skills and disciplines--John Rubel was there as assistant secretary. I think part of what they had in mind in offering me a job there was that I could bring some of that. But they just weren't set up for it. They didn't have the range of disciplines, the information systems, the tie-in to the financial system, and so forth.

Matloff: What were the circumstances of your subsequent appointment as Deputy Comptroller and Deputy Assistant Secretary ('61-'65), and then as Assistant Secretary of Defense for Systems Analysis?

Enthoven: I was in DDR&E when the election occurred; I read about McNamara being chosen Secretary of Defense in the newspaper. Very shortly thereafter I got a telephone call from Charlie Hitch saying that he had been picked by McNamara to be the Comptroller, that he was going to accept, and that he would like me to move over to the Comptroller's office and work for him. At that time he was not in a position to describe exactly what the title would be, but he had in mind creating what he called programming and systems analysis. He was able to explain it to me very concisely by using the

analogy of our shared experience at the Rand Corporation. He wanted me to come over to the Comptroller's office and do that. When I got there, McNamara right away said he wanted to do a complete overhaul of the defense budget in three major task force areas: strategic offensive and defensive forces--he asked Hitch to head that task force; conventional forces or limited war forces--Nitze was to head that task force; and R&D--Herb York was to head that one. Then the Comptroller's office was also supposed to perform an integrative and coordinating function, pulling it all together. Pretty soon after we got started, Charlie Hitch came down with pneumonia and was in the hospital and out of work for a few weeks. So several of us, myself included, stepped into the vacuum. That's when I started working with McNamara and established a relationship that continued over the years.

Matloff: Had you known him before?

Enthoven: No. Probably the first time I met him was at one of those meetings where I was Charlie's man and the issue was: What are the recommendations about the strategic offensive and defensive forces? I had been studying that question at Rand and so I had a pretty clear idea of what I thought and why. I knew that this was very much on the same wave-length as Hitch. McNamara found the ideas persuasive. Basically, the thing was to accelerate the production and deployment of weapon systems that could survive a deliberate Soviet attack and be able to strike back, and to save money by cutting back on soft, vulnerable weapon systems. So that's how we got started in 1961. We worked about three months on the big overhaul of the budget. That was an intense effort. In the spring of '61 Charlie

Hitch said that he now wanted to recruit and bring in some kind of management systems people, that I would work with them for a while to explain from the user's point of view what this financial management and control system needed to do, and that they would take over and do that. Then I would get going on building a small civilian analytical office. We would start analyzing questions of how much is enough--how many weapon systems; how many forces; which weapon systems, and why? We would start doing analyses for the Secretary of Defense that would gradually broaden in scope until we were able to cover the whole defense program. The question always came up: What were these young civilians doing? Shouldn't this be done by people with long and broad military experience? I've always tried to emphasize that, of course, the input of people with long and broad military experience was essential, but that the civilians brought a couple of ingredients that were very important also--one was career independence. We were working for the Secretary of Defense and we were not vulnerable to the threat of bad fitness reports by some admiral if we didn't do a good job for the Navy. In the case of many of us, we had been studying these issues in a sustained way over a considerable period of time, at least several years, whereas most military officers were rotating from one career assignment to the next. A typical man working on strategic forces in the Joint Chiefs of Staff had previously been commanding a squadron, and before that he had commanded the motor pool, or been an attaché, and was moving around. In the case of the Navy, he would command a ship for six months at a time because there was a shortage of command assignments. There was a lot of

rotating around and generally not a sustained, systematic study of weapons and forces. So we were able to bring that dimension to it.

Matloff: What led to the establishment of the separate position of Assistant Secretary of Defense for Systems Analysis? You were the first incumbent. Were you brought in on the background discussions of the establishment of that position?

Enthoven: Yes I was. Basically what happened was fairly simple. Charlie Hitch was Comptroller until 1965. At that time he felt that, for reasons of personal health, finances, etc., it was appropriate for him to move on. He had been offered the job as financial vice president of the University of California and decided that was the time to do that. Then the question came up of who would succeed him. By that time there were other deputies, but probably I would have been thought of as one of the few leading candidates, if not the leading candidate, to succeed him. One day McNamara called me in. He was talking with Charlie and said that, in his reflections on what to do about Charlie's departure, the thought occurred to him that if I were to become Comptroller, I would have to spend a lot of time on auditing and budgeting--you might say, the routine financial management procedures. In his view, I was really interested in the strategy and choice of weapons, shaping the defense program. He would like requirements functions to be centralized in the Office of the Secretary of Defense. For example, manpower requirements were done by the Office of the Assistant Secretary for Personnel. McNamara said that over the years the man holding that job was likely to be

a personnel expert who knew about things like personnel policies--how much to pay, feed, and care for--but not how many we need, which has much more to do with how many Army divisions we want, how ready they should be, and so forth. Similarly, in the Office of the Assistant Secretary for Logistics, they had taken on the responsibility for how many torpedoes, how many bombs, how many tons of bombs--and again those were strategic issues of readiness. He said that in his view he would prefer to hire somebody else to be Comptroller, an accountant. Also he made the point that over the years, in the future, the man who was Comptroller was going to be an accountant, not an economist interested in weapon systems and strategy. So, even if I became Comptroller at the end of the Johnson administration, my replacement would probably be an accountant. In that case, the job that I was doing, of giving the Secretary of Defense an independent civilian analytical arm to deal with requirements issues, wouldn't be institutionalized. Therefore, wouldn't it be better to pull together these requirements functions from elsewhere in the Office of the Secretary of Defense, attach them to my office, and make me an assistant secretary of defense? I guess that the way they got a slot for that was that the law provided for seven assistant secretaries of defense and one of them was being used by Gene Fubini as the Deputy Director of Research and Engineering. Gene had left the DoD. So I took that slot and became an assistant secretary. By the way, I readily agreed. I found McNamara's analysis of the whole thing completely persuasive. It didn't take any persuading, or deliberation on my part, to see that I

was much more interested in trying to produce a balanced, efficient, cost-effective defense program and a rational strategy. By institutionalizing the Office of the Assistant Secretary of Defense for Systems Analysis, we would create what we hoped would be a long-lasting institution. It might be worth adding that President Johnson, seeing all this, decided that this would be good not only for the Defense Department but also for government agencies in general. In 1965, under the Bureau of the Budget, he directed that the planning, programming, and budgeting system be spread government-wide and that there be created in the other offices an assistant secretary for planning and evaluation, which was modeled on my office in the Defense Department.

Matloff: How much leeway did you have in selecting and organizing your staff?

Enthoven: Great leeway. I had the feeling that the Secretary and the Deputy Secretary were avid consumers of our product and eager to get more and better. So I didn't get much resistance. They told me to come in with a plan and really figure out how this thing should be done well. I said that eventually in a maintenance role it probably wouldn't need to be so big. But for a period of a few years, while we were developing and training people and expanding, we grew up to roughly two hundred people in the organization, including non-professional support and clerical personnel.

Matloff: You had military as well as civilians?

Enthoven: Yes, in fact for a time I think that I cornered the market on Naval Academy graduates who were Rhodes Scholars. I had people like Robin Pirie, Stansfield Turner, C. Thor Hanson, Charles DiBona, and others. But we

approached the question of the military with care. The problem, as we saw it, was that it would certainly be helpful to us to have serving military officers working with us, in terms of explaining the military realities. What we were very worried about was that the officers who were assigned to our office would be coerced by their services to represent the service, subject to career reprisals if they weren't successful in getting the policy papers written in our office to reflect the service's line. In other words, the naval officers were expected by the Navy to be in there fighting for the Navy. We said, "We just can't have that, we've got to have some kind of understanding with the services that this is going to be different. If you want military men in our organization, which we would like, we have to work out a modus vivendi so that they are not on the front lines. They are not expected to produce for their service; they are expected, while they are with us, to call the shots honestly as they see them and participate in an analytical rather than an advocacy sort of mode." One of the things we generally tried to do was to identify our own officers rather than sitting back waiting for nominations by the services. We particularly looked for officers who had had civilian post-graduate education. I would say, generally speaking, that it was enormously successful. We had some absolutely marvelous people, a most impressive collection of talent. As I mentioned, among the Navy people were C. Thor Hanson, who went on to be Director of the Joint Staff, and Stansfield Turner, who, among other things, became head of the CIA. We had Bob Pursley, who became a lieutenant general in the Air Force, and Frank Camm, who became a prominent lieutenant general

in the Army. We occasionally had an unfortunate case of some kind of career reprisal. We tried not to get our military men out in front. If somebody had to go and talk to the service, we'd have one of the civilians do it. We tried to behave in a prudent way so as not to provoke problems. I can only think of a small number of episodes in which someone seemed to have been burned. Generally I think that it worked quite well. I'm grateful to people like Admiral Smedberg and other directors of personnel in the services that we were able to discuss this thing frankly and that they were willing to play fair. I think that from their point of view, they felt that it would be valuable experience for their men really to get in and understand what we were doing. They were willing to agree that we had something to contribute.

Matloff: How about working relationships in this post of Assistant Secretary—with the Comptroller, for example, and the Secretary of Defense, and other top officials in OSD? How closely did you work with them and how often did you meet with them, particularly with the Comptroller and the Secretary of Defense? Did you enjoy working for Mr. McNamara? Did you have any differences in policy or matters of administration with him during that period?

Enthoven: I worked very closely with and for McNamara; I just loved it. I found it tremendously stimulating, exciting, and a terrific challenge. He didn't always buy my ideas or conclusions. So it was a real test, because he was such a powerful and forceful intellect. I just felt myself constantly stimulated to be sure that whatever we were studying, we had thought through very carefully. I didn't want to be in a position where I came in with an

analysis and had him say, "Have you thought of this?" and think, "Oh, my God, why didn't I think of that?" So we felt challenged to analyze and study very thoroughly. I did find that McNamara was not a folksy, chatty person. I think that other assistant secretaries probably had a similar experience. Sometimes you felt that you would like just to sit down and kick something around and think it out together, but I learned that that just wasn't his style. I think that once, when I was trying to feel him out as to where his thinking was going in a particular area, he said to me something like, "I hired you to figure that out. You figure it out and tell me, and then I'll decide whether or not I agree with you." I learned that on business matters the best thing to do was to communicate in writing; and that the written word, for complicated issues, was much better than the spoken word. There's a discipline--you've got to get it down in black and white, criticize it, and say, "Is that what I really mean?" Earlier on, he forcefully criticized what he felt was an overly complicated and verbose writing style, which forced me to learn to write concisely, clearly, and effectively. I had a lot of prodding by McNamara on that, so I tended to work with him mainly in writing, and not with a lot of conversation. There would be conversation. I saw him once or twice a week, face-to-face, I suppose. If I needed to ask him about something, the phone was always right there. I didn't have the feeling of any difficulty of access. Any time I wanted to talk to him, I could. By the time I was Assistant Secretary, we had shaken down; we had been together for several pretty intense years, and so I had a pretty good feel for what wave-length he was on. As I say,

most of the communication was in writing, although we would do such things as have lunch on a Saturday.

Matloff: How about with the other assistant secretaries, the DR&E man, for example?

Enthoven: We worked together, because our work cut across that of a lot of the other assistant secretaries. For example, I worked quite a bit with ISA on NATO strategy. Before we came along, ISA might have felt that it owned NATO strategy. I felt that our responsibility was to figure out how many soldiers there ought to be. Fortunately, with John McNaughton and Paul Warnke, and with Paul Nitze and Bill Bundy before, I always had excellent relations. All of us had very much the same line of thinking on NATO, which was that we must reduce our dependence on the first use of nuclear weapons because of inadequate conventional forces. So, with all four of those people, I felt very much on the same wave-length and that was very effective and harmonious. The deputy in ISA for NATO Affairs was either Harry Rowen or Fred Wyle, very good friends, excellent people I thoroughly enjoyed working with. With DDR&E, there was a certain amount of tug of war, I'd say, because the engineering point of view is different from the economic point of view. Although I had excellent personal relations with Harold Brown and Johnny Foster, and had a lot of respect for them as people and as intellects, there was naturally a certain amount of friction of a healthy, constructive kind between the two organizations, because the engineers would come up with what they thought was some terrific engineering or technological step forward, and when we analyzed the effectiveness versus

cost we might say, "We don't see a value for money there." I can think of times when they were quite positive about one or another weapon system that we were rather negative about. When that occurred, we would try to sort it out. Sometimes there would be a split paper--that is, we would agree to disagree. McNamara did not like compromises. He smelled and criticized waffled-over compromise, and would zap you for that. What he would say is, "I want a paper with stated, known disagreement--exactly what are the points of agreement or disagreement and why--so that I can understand what the issue is and profit from this fact of disagreement." So I would say that with DDR&E there was a certain amount of pulling and hauling over that. With the Comptroller's office, there was a certain amount of guerrilla warfare at times over "turf" questions--when we'd work out the whole plan and were going to buy so many bombs, let's say--then the budget review would come and the budget examiners would be under a lot of pressure to find ways of saving money. We would work out what the program was supposed to be; then they were supposed to come in and really scrub it. Sometimes I would feel that in their struggling they would cut below the fat and get a little muscle, but again, generally, I emphasized to my people very strongly the very great importance of the budget examiners and their scrub, and they were making room for us to have more good forces and strategic options that we wanted by squeezing down the fat. I always tried to go out of my way to be very cooperative with Joe Hoover, who was the chief budget officer. I realized that in his position a lot of people thought of him as the enemy

because his job was to be the tough guy. I wanted to support him in that, because it's necessary. I realized that sometimes we would fall in love with some program--one of my analysts would think something was absolutely terrific--and then Joe would find out that we were paying twice what we should for it, and so I thought he was performing a valuable service. I'd say that worked out fine. I did a lot of work with Paul Ignatius, who was Assistant Secretary for Logistics. With the Comptroller it was with Joe Hoover, the chief budget officer, that the action really occurred. I didn't want to stand on ceremony. With Paul Ignatius I tended to work more directly with him on questions like the supply and demand for bombs, ammunition, and so forth.

Matloff: How about working relations with the service secretaries? Did you ever have any problems getting information from the services?

Enthoven: Information was the name of the game. I met and worked with each of the service secretaries a fair amount when there were important issues about requirements affecting them. Then as McNamara expected, and it would have been appropriate, I would go to see the secretary and say, "Here's the analysis that my people came up with. I'm not seeking a compromise. This isn't a political operation; this is an analytical operation. But we may have the facts wrong, or we may not be aware of all the alternatives, or there may be some ways of accomplishing the economies that we want that would create less of a problem for you." I can recall numerous meetings with each of the service secretaries; that was a fairly frequent thing. I met with Stan Resor, Secretary of the Army, over issues of readiness and

over the anti-missile missile. I met with Harold Brown, Secretary of the Air Force, over choices of weapon systems, and over such questions as how many pilots did we need and how many did we need to train? I met with Paul Nitze, lots of long, heavy discussions trying to develop various strategic requirements for the Navy--how much Navy did we need, and why? In connection with information, my analysts had something that was new in the history of the institution, and that is, we got them intelligence clearances where needed, so that they had access to the basic intelligence information, and they also participated in the budget reviews and were thoroughly acquainted with the cost factors--American costs--associated with the programs they were reviewing. This gave them some perspectives that I think nobody had ever had before, at least on a systematic basis. For example, in studying the Soviet tactical aviation, they would find that the Russian pilots did very little flying training, didn't have very much ordnance, and didn't have accurate air to ground rockets--things that we were spending a lot of money on and that our Air Force was saying it had to have--twenty-five hours a month of flying per pilot, or something like that. So then my people could say, "There seems to be an imbalance here, a contradiction. When you look at that Russian plane, you count it just like an American plane, but it doesn't have all that good stuff that ours does. Now which is it, that our stuff is not necessary and we can be just as effective on the cheap like them, or that our stuff is necessary and so we shouldn't count one of theirs as being as good as one of ours?" McNamara wanted each of the various areas of requirements to have ongoing studies done by the

appropriate military agency--the Navy, the Joint Chiefs, etc.--with regular participation by one of my analysts. Let's say that we wanted the Navy to do a study on how many guided missile frigates would be needed to protect the aircraft carriers. We would ask the Navy to do it, and then the memo from McNamara would say, "Please work with the Systems Analysis Office," or contain some words that meant one of the systems analysis people would regularly attend its meetings, and get thoroughly familiar with all the information. We tried to build a mode of operation that would minimize the gamesmanship. When they wanted money, they would have to come clean with the Comptroller. So my guys would be there listening to that story and would pierce this business of trying to manipulate conclusions by manipulating access to information. Interestingly enough, in 1961 McNamara prepared an order saying that every document in the Defense Department would be available to him and to appropriate officials in OSD, which was a big change from the past. I remember objecting, saying, "Don't do that, because if you do, that will just dry up the sources of information." He looked at me and said, "Alain, I'm going to sign the order and I'm looking to you to prevent that from happening." I think that he was right; that that was the right way to do it.

Matloff: How about the Joint Chiefs of Staff and the Chairman, did you ever sit in on their meetings? Did you seek their advice regularly, and if so, on what kinds of issues?

Enthoven: We had, of course, at the staff level, staff counterparts. I had very little meeting with the Joint Chiefs of Staff as an institution--

occasionally, but it would be unusual. I did go down "into the tank" a few times. But my staff teams would have counterparts in the Joint Staff, and we would work with them. In some cases we had very extensive and productive interactions. For example, one of my deputies, Laurence E. Lynn, was a very talented young man who had a Ph.D. in economics from Yale. He ran part of my shop that dealt with strategic mobility and transportation—a very important issue because how big an Army depends on how fast you can move it. He and his people developed a grand computer model, using linear programming and mathematical techniques. We came to realize that the Joint Chiefs of Staff needed a strategic mobility office and had to be able to use modern methods of mathematical programming and computers so that, if suddenly a plan had to be made up to move forces from here to there in the fastest possible way, you could use a mathematical program that would take on the job and produce the answers. Larry had conceptualized that, and he worked up a set of memos, that McNamara signed, recommending to the Joint Chiefs of Staff that they create an office called Special Assistant for Strategic Mobility. Larry Lynn and his bright young analysts, who were people out of the top graduate schools with advanced mathematical training—one of them, for example, Evan Porteus is a professor here at Stanford University—had very close relations with my shop and the Special Assistant for Strategic Mobility. That then attracted some very good military people, who were really turned on by this interesting challenge, to take this big step forward in terms of planning capability.

At that working level there was a good deal of interchange of information and analyses and from time to time on one or another issue I would go and personally talk to the Chairman or one or another of the Chiefs would have me to lunch. So we did see each other, although I didn't interact with the institution of the Joint Chiefs very much. To be honest, they often seemed to be a problem because they would come up with some recommendation that appeared to be engraved in stone and have the hallmarks of a logrolled compromise.

Matloff: How about relations with Congress--did you encounter any problems in dealing with Congress, and on what kinds of issues?

Enthoven: That is, let us say, putting it mildly. Congress at that time was very different from now. The Armed Services Committees still had great strength of representation by a group of southerners who were very pro-military people, like Mendel Rivers and Eddie Hébert, who used a great deal of very strong pro-military rhetoric and at the same time got bases, buildings, and programs in their districts. The biggest problem that I had was with the House Armed Services Committee, where I felt that people like Mendel Rivers and Eddie Hébert really were attacking me very viciously. I remember once, in hearings, Eddie Hebert calling me "the most dangerous man in the United States." They would get people to pour out page after page of invective attacking us. In fact, three years in a row, 1966, '67, and '68, the House Armed Services Committee passed and got through the House a resolution whose purpose was to abolish my office. So I think you could say that in those days, with Rivers as chairman and Hébert deputy chairman,

relations were really very bad. There were other members of the committee who were personally sympathetic. There was a very nice man from Tacoma, Washington (I grew up in Seattle--Washington is my home state), on the House Armed Services Committee who was quite low ranking in seniority. Once I was over there for two days of extensive grilling by Rivers and his buddies and the tone was extremely nasty. Finally, we got to the last man on the committee and his chance to question. He had a few rather nice and supportive things to say (I think he was horrified at the abusive tone that Rivers and some of these people were taking). I invited him to lunch to thank him for being nice, and he said, "You know, afterwards Rivers came up to me and said, 'What's this all about, is he a constituent or something?' and I said, 'Yes, he's from my home town'"--which was only stretching it by a few miles. Rivers felt that that was all right then, because that was something he could understand as a congressman. So he said, "By the way, how are the plans for that new naval hospital coming along in your district?"--which was an unveiled threat that if he didn't behave himself, he would lose this naval hospital.

With other people, like Congressman Mahon, it was very different. He was in appropriations, and was always very gentlemanly and smooth. Sometimes he would have a little bit of fun. I remember once testifying before Mahon, and he, with a smile, made some remark about his having been on the committee for 20 years before I was born, or something like that. Stennis was always very polite and courtly. I think that Stennis and some people on the Senate Armed Services Committee had a difficult time accepting a view that

I was associated with and defending in the later '60s: that we cannot and should not seek to maintain a wide margin of advantage over the Russians in strategic nuclear weapons; that that would just get us nowhere but an endless arms race, which would not add to our security, but would add to our costs and our insecurity, and that we needed to move toward some kind of tacit acceptance of rough equality, a position that Nixon later openly adopted. I was one of the first people defending that view publicly, that in strategic offensive forces we should accept some kind of rough parity. Subsequent secretaries of defense were able to say that and not get into much political trouble, but when I was preparing the way, I think that people like Senator Stennis were having a hard time with that. I felt that Stennis was always polite.

If you wonder now if the House got this resolution abolishing my office through, why didn't it pass, one important reason would be Henry Jackson, who was a very good friend all those years. Scoop was the first person I ever voted for, because I grew up in the State of Washington and one way or another I had known him from pretty far back. We didn't always see eye to eye--we had our disagreements on one or another issue from time to time--but I felt there was always a feeling of friendship and mutual respect, and on things like the House trying to pass this bill to abolish my office, Jackson just wouldn't hear of it and stopped it. I talked to him on the phone about it once and he said, "Alain, we're hanging in here; we'll head it off at the pass." So I felt I had good supportive relations with Scoop Jackson.

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

Enthoven: My general attitude was that nuclear weapons were extraordinarily dangerous and destructive and that the right thing was to minimize their role in our strategy. The strategy that evolved in the 1950s had just about no room for non-nuclear warfare; the strategic doctrine was that any war involving Soviet forces would be a nuclear war. My view was that that was extremely dangerous and destructive. I agreed completely with the critique that President Kennedy had made, that if we tried, in something like the Berlin crisis, to deal with it by the threatened use of nuclear weapons, it was a threat that would be dangerous and ineffective. The Russians could then confront us with a choice of humiliation or holocaust, suicide or surrender. They could always "salami-slice" the threat or the affront to the point that it wouldn't be worth going to nuclear war and then we'd have to cave in. The only appropriate use of nuclear weapons was the threat to use them in retaliation for a first nuclear attack on us. In 1963 I gave a speech that was widely reproduced and published in a couple of articles, called "Reason, Morality, and Defense Policy," in which I said that we should never be in a position that, because of weakness, we would be forced to be the first to use nuclear weapons. We should do two big things to make nuclear war unlikely: one, have protected, survivable, retaliatory forces where the emphasis is on survivability and the ability to retaliate. That would mean no B-70s parked and concentrated on some

airfields where they can be knocked out by enemy ballistic missiles. Instead, our forces would be ICBMs in concrete and steel underground silos, missiles in submarines, etc., protected retaliatory power, so that the Soviets wouldn't attack us because we could strike back in retaliation. And second, we should have conventional forces sufficiently strong that we would never have to resort to the use of nuclear weapons. I felt that adding tactical nuclear weapons to our posture in Europe was a mistake, and tried to slow that down. It took longer than it should have. But nobody could ever come up with a sensible scenario as to how to use tactical nuclear weapons in Europe. Nobody had really thought through how they were going to use them. In particular, nobody could come up with a scenario that made first use of nuclear weapons to our advantage. If you think of the logic of the situation--just to mention a couple of major pieces--one was that we are the ones dependent upon ports and airfields to reinforce our forces. Who was going to benefit in the nuclear exchange? Our lines of communication were particularly vulnerable to nuclear weapons. That's contradiction number one about planning to use nuclear weapons in the defense of Europe. Contradiction number two is that studies, in which I feel proud of having played a part, were showing that it wasn't true that we were outnumbered ten to one, or by some vast amount. In fact, in terms of soldiers in the center region, we and the Warsaw Pact had about the same number of soldiers. There were all these exaggerations and biases that overstated them relative to us. With respect to tactical nuclear weapons, people would say in opposition to this, that the Russians had huge forces

in reserve. I would say, "Then what is the sense of the tactical nuclears, if you mean that we and the Russians use tactical nuclears to destroy the other's front line deployed center region forces, and having done that, we just leave the field to their massive reserves, the likes of which we don't have. That doesn't make any sense either."

Matloff: Did you get drawn in on the discussions in the department, particularly at the OSD level, on the shift from massive retaliation to flexible response?

Enthoven: Yes, that was a key issue as far as I was concerned. I felt that we should go as far as we realistically could. In the speech that I referred to, I had outlined that we should go as far as we could "to make the punishment fit the crime" and have forces that can meet each level of aggression and not be in a position where, because of weakness, we are the ones that have to escalate to thermonuclear war.

Matloff: Perhaps we could add that speech to this interview.

Enthoven: Yes. Let me give you one place where it's been republished, where you can get it. I have in my hand a book called Ethics and Nuclear Strategy?, edited by Harold P. Ford and Francis X. Winters, and published by Orbis Books, Maryknoll, N.Y., copywright 1977. That is one of the places where my article, called "Reason, Morality, and Defense Policy," was reprinted from America Magazine, originally published April 6 and 13, 1963. Also in this book, ten years later, I published a paper called "1963 Nuclear Strategy Revisited." So in the 1963 articles I explained the necessity for what became known as flexible response.

Matloff: Were you able during this period to keep abreast of the work done by Rand theorists--Wohlstetter, et al?

Enthoven: I wasn't personally on the phone to Wohlstetter often, but I certainly did talk to him and see him from time to time. I arranged for him to come and have lunch with Secretary McNamara. He was a highly respected thinker. I stayed in close touch with William W. Kaufmann, formerly RAND, then at M.I.T. In fact, he did a lot of the work on the Secretary's Posture Statement and on some of the speeches, such as McNamara's Ann Arbor speech. A number of the Rand people were interacting with my staff and, in fact, I recruited some staff people from Rand, such as Frank Trinkl, Frank Eldridge, Herb Rosenzweig, and Ivan Selin, who was my successor. There was a fairly regular flow of people. I think that my office became perceived as one of the intellectual centers of Washington thinking about strategy. So people such as those from Rand would certainly want to drop by, talk with us, and share ideas.

Matloff: Can you shed any light on the development of McNamara's thinking about strategy--the Ann Arbor speech, for example? Did he ever discuss any of those questions with you?

Enthoven: Sure, we discussed strategy a lot. I think that he came in persuaded by what President Kennedy had to say about the importance of survivable retaliatory forces and about the importance of adequate conventional forces. What you might call a major developmental problem existed because in 1961 there was still a widespread perception that we were greatly outnumbered by the Russians. A few key people, like Maxwell Taylor, Paul Nitze, Charles

Hitch, Henry Rowen, William Kaufmann, and myself, just didn't believe that, and thought that it just couldn't be true, looking at their population and their GNP. The intelligence estimates placed the number of soldiers that the Red Army had at about 2,000,000. The United States Army had nearly a million, but we also had all these NATO allies. NATO had more men under arms. It took quite a while, but gradually over the years we were able to dig out and expose a lot of this overstatement. At first, if we'd say that we didn't want to be using nuclear weapons right away, the critics would say, "What do you mean, when we're outnumbered a hundred and seventy-five divisions to twenty-five? What in hell are you talking about? That's crazy." The thing would be, if we were so badly outnumbered, what was the point of using conventional forces? How long could we hold out, an hour, a day, a week? It doesn't do you a lot of good to be outnumbered two to one instead of seven to one, if that means they can defeat you in two weeks. The only sensible stopping point is for us to have forces that are of the size, readiness, and effectiveness that are needed to defeat an attack by Warsaw Pact forces. And that means readiness, good weapons, and the like. So it took years of work to clarify the actual situation regarding the balance of forces.

Matloff: How serious a problem did interservice rivalry prove to be, particularly in that post of Assistant Secretary of Defense?

Enthoven: Personally, I didn't feel that interservice rivalry, as such, was necessarily a bad thing. I came to the conclusion that a necessary

condition for a good weapon system development program was a clear and present threat to cancel it, if it turned out badly. One of my great regrets about the present scene in the 1980s is that it appears that Mr. Weinberger has never met a weapon system that he didn't like. I think that if you don't have any discipline, you get bad programs building on bad programs. We found often that interservice rivalry, if it was appropriately managed by the Office of the Secretary of Defense, could be a healthy and constructive force. Let me offer a fighter plane example. In the late '50s, the Navy had developed the F-8U and the F-4H. I'm told by Russell Murray, who was my deputy for many years, and who had been in the fighter business then, that there was a big competition going on between McDonnell Douglas and Chance-Vought for what was going to be the fighter plane of the future. There was also, to some extent, a competition going on in the Air Force--the F-104, the F-105, and the F-106, though these were designed for different missions. Gradually, in the early 1960s, we were canceling off one or another of those based on the finding that the F-4 would be a better plane for that job. We canceled the F-105, for example, and replaced it with the F-4, which turned out to be a very good decision. That was a case of getting the Air Force to use a Navy plane. I'd say, where you had two services involved, you tended to get the advantage of more openness, of conflicting points of view. If you had a service with a monopoly on a situation, like the Navy with antisubmarine warfare, you had much more of a closed situation and it was harder to get information and the test of competing and conflicting points of view. So personally, I don't think that the abolition of interservice

rivalry is the way to solve our defense problems. But I do believe that a reform that's been talked about lately would be constructive, and that is that officers serving in the Joint Staff would be drawn from service in joint commands and would go back to joint commands, and their promotions would be dealt with by a joint organization. It really became ludicrous that a man from a particular service would so obviously be fighting at every turn to get a paper to reflect the benefit of his service. So there were some very destructive aspects of interservice rivalry as well as some constructive ones.

Matloff: How about any problems encountered with the services in implementing the PPBS system?

Enthoven: It was just a big management problem with the services. The Air Force took to it very naturally; they understood it; that wasn't very far from where they were, anyway. The Air Force never had a big problem with civilians; I think they were closer to industry. It was somewhat more difficult for the Army. The Army would come in and say things to us like, "Air Force mans equipment, but we equip men." To me, that didn't mean we couldn't have a planning, programming, and budgeting system to define requirements, readiness standards, and so forth. I would say that for the Army and the Navy it was a less familiar idea and took somewhat longer to work out and to have it make sense in terms of their idiom.

Matloff: What was your attitude toward American involvement in Vietnam? What did you think was at stake for American security or national interest? Did you or did you not believe in the domino theory?

Enthoven: One's thoughts are inevitably influenced by subsequent experience. I think that the first main thought I had about it all was that I didn't know anything about it. I didn't understand it; I hadn't been there. In the case of NATO, I felt that I'd been there. I had been a Rhodes Scholar; my mother is French; I come from a prominent French family and was able to go to France and speak in French to prominent generals. I also had a certain shared cultural background with English people that I dealt with--my father was English. I had traveled around Europe. So I had a feel for the terrain and the history--I had studied European history in college--and felt that I could deal with NATO in an informed way. I had spent intensive years at Rand studying about nuclear strategy. When it came to southeast Asia, I'd never been there; I didn't understand the culture. There were all these different theories about what it was all about and I didn't personally feel informed. Therefore I didn't try to assert any role in policymaking because I felt that I didn't want to jeopardize my credibility on NATO and nuclear matters where I felt well informed. As our involvement expanded, I did have, I'm sure, the same sinking, growing feeling that other people had, of a bottomless pit, of diminishing returns, that more resources put in didn't get more results out, that a war of attrition made no sense for us, but nobody was asking me to get involved. Occasionally one or another incorrectly informed observer will say this was all an invention of the "whiz kids" or systems analysis office. That was inaccurate. We did set up for Secretary McNamara at his request something called the Southeast

Asia Programs Office, as a kind of planning and control system that would keep track of how many soldiers of different kinds were supposed to be out there. That was sort of adjunct to our manpower requirements and force requirements system. But the decision as to whether another battalion ought to go was a conversation between Westmoreland and McNamara ratified or modified by the President.

Matloff: In your volume How Much Is Enough? you wrote, ". . . this most complex of wars never got serious and systematic analysis"; and another point--that the conduct of the war from Washington suffered not from "over-management," but "undermanagement." Can you recall why you thought that, and how this could have happened?

Enthoven: I think that one line of obtaining insight into the whole thing would be in the politics of it. You recall that McNamara's personal role, pre-Vietnam, was extremely controversial. No Secretary of Defense had behaved that way before--really gotten in there, made decisions, controlled things, and said, "No, you can't have more than this," "Don't do that program, do this program," and so forth. As a benchmark, as late as 1960 Secretary Gates directed the creation of the Joint Strategic Target Planning Staff, in part in pursuant to the National Security Act of 1958. I think that Mr. Gates was trying to do the right thing. Admiral Burke is reported to have gone to the White House to the President to protest the creation of the Joint Strategic Target Planning Staff and to ask the President to overrule the Secretary of Defense and undo that. Can you imagine? It's just incredible by today's perspective. I put that out as a benchmark of where

the 50-yard line was--what the normal expectations were. Then McNamara came in as Secretary of Defense, got deeply involved, and brought these young civilians in who got deeply involved. And there was a lot of upset and opposition among some military leaders and some of their supporters in the Congress. It seemed very extraordinary, new, and different. I think there was a feeling that the President was backing it and that it had to be accepted when it had to do with budgets and the civilian decisions about strategy. We built the case for the acceptability of what we were doing on the authority of the President and the fact that civilians had always had an important input in science and technology, finance, and grand strategy from the State Department. So this could be seen as sort of an extension of that--acceptable in peacetime. But I think that there was an unspoken understanding that when it came to fighting a war, "you civilians keep out of that; that's our business, not yours." Occasionally, as we reported in How Much Is Enough?, there was a certain amount of modest pilot effort by one or another person in my office who would go out there and show an interesting way to do an analytical study, to see if we could seed the more analytical mode of thinking as to how to deal with this. There was a study that somebody did about small patrols versus large patrols. One part of the explanation of what you are getting at would be rooted in an implicit political "truce" that the civilians may shape the peacetime budget, but when it comes to fighting the war, that's the job of the military, and there would be no support for civilians "meddling" in that.

Matloff: Your book implied that Vietnam was not a full test of systems analysis.

Enthoven: I don't think that it was a test of systems analysis at all. I don't think that either we were taking an analytical approach to it, or that Westmoreland and his people were. I didn't see any signs of strategy out there. There was just massive application of force.

Matloff: Were you drawn in on any questions of arms control and disarmament?

Enthoven: Yes. That really got going when we did the study of the ABM, back in 1964 and 1965. The conclusions are reported in our book. The point was that McNamara asked us to start doing calculations as to outcomes of thermonuclear war under various assumed circumstances. One of the variables that we would test was what would happen if the Russians had more or less forces? McNamara could see that the size and character of Soviet forces would make a huge difference. He called that to my attention and asked me to develop and work out the implications of different Soviet responses. When the Army did studies showing that an antimissile missile could save a hundred million lives in a nuclear war, they were assuming, implicitly, that the Soviets did not respond by deploying penetration aids, multiple warheads, increasing their forces, and doing exactly all the things that we were doing to make sure that their antimissile missile wouldn't be able to stop our offensive forces. It became apparent that if we and the Russians went ahead with an antimissile missile, we would spend huge amounts of money to counter it. The other side would spend more on offense and the result would be no gain in security for either. So wouldn't we really be a lot better off if we got together and agreed not to deploy ABM systems? One of the streams that fed McNamara's thinking about arms control at the

strategic nuclear level was the flow of sharpened insights from the studies we were doing. (I'm sure that he was also influenced by Kennedy's speeches about recognizing a certain shared interest in avoiding a nuclear war and attenuating the unremitting hostility.)

Matloff: Would you hazard an estimate of Secretary of Defense McNamara as an administrator, his strengths, weaknesses, and accomplishments? How do you view him in retrospect?

Enthoven: I would say that McNamara had an enormous impact, that he permanently raised the standards of what is expected of a Secretary of Defense by a long way. He raised the standards of what is an acceptable analysis or rationale for a defense program or weapons system. His leadership made it possible to make these major changes in our total defense posture. Recall how different it was before McNamara came in. We had "massive retaliation," Davy Crocketts (tactical nuclear weapons) in the hands of infantrymen, and the idea that any kind of war would be nuclear war. The Air Force was building B-52s to be followed by B-58s and B-70s, large bombers, soft, concentrated, vulnerable, with the idea that, if ever used, they would be in a retaliatory strike against the Soviet Union for their attacking in Europe, not taking account of the tremendous vulnerability of those forces to an ICBM attack. So he completely changed around the strategic posture to one of protected, survivable forces, undertook Herculean battles with the Congress, which wanted to go on buying bombers, and got that stopped. He turned out to be absolutely right. The major change in the whole NATO picture was that he restored the idea that we ought to have

strong conventional forces. He created the Nuclear Planning Group of the NATO Alliance, an effort to make the NATO allies face up to what a ridiculous proposition instant use of nuclear weapons was. He made them go through the thought experiment to explain the scenario of how we could use these to our advantage. This really made the Europeans think and, I think, set the whole alliance in the direction of strengthening and seeking adequate conventional forces. McNamara, I would say, completely changed the management system and completely changed the strategy. I think there's been some backsliding on the side of management in recent years, which I very much regret. While I am completely sympathetic with strengthening our defenses from the inadequate state they had reached in the mid- to late seventies, I believe that force-feeding them with money is not the way to do it. I think that it is important to have a strong assistant secretary for planning and evaluation. If the DoD hasn't stayed at the high standard that he set, certainly he was the high watermark, and that's the standard by which future secretaries of defense will always be judged. I think it's a tragedy that all of these other important achievements got overshadowed by the frustration, the complexity, and the tragedy of Vietnam.

Matloff: What do you regard as your major achievements during your tenure as Assistant Secretary of Defense, and then conversely, any disappointments or frustrations in the post, as you look back on it now?

Enthoven: I think that I acted as one of McNamara's main assistants in bringing about the changes that I described. I played a key role in the early and continuing restructuring of the strategic offensive or strategic

retaliatory forces. And in the whole NATO effort, I feel that my efforts contributed substantially to creating an understanding in the Defense Department, in Washington generally, and in the NATO alliance, as to what the realities of the relative force sizes were, and the value and needs of improving readiness and having effective conventional forces, thereby greatly reducing our dependence on the threatened first use of nuclear weapons. I feel very proud of being able to say in 1963 that we should never, because of weakness, be the first to use nuclear weapons and to be able to defend and maintain that position, which I think increasingly has come to be the policy. I think that the Systems Analysis Office was the instrument of raising the standards of what is an acceptable analysis; that before that people could use just vague general rhetoric; now they had to have hard analysis about what were the goals, the alternatives, the opposing forces, and all the rest of it. I think that a lot of very talented people were attracted to the Systems Analysis Office and made large contributions. I felt very proud to be associated with this collection of really talented people and to watch them go to work in different areas and really improve the analysis and the understanding of the Defense program. In one after another area, we were able to do a systematic analysis in depth that improved understanding of how much is enough and why and provided for a more economical and effective defense program. Then finally, I'd say, that in turn spilled over into the spread of PPBS generally. While PPBS as a system didn't hold up because many of the other departments just weren't ready for it, and it had too many elements that were specific to national defense, numerous

other government agencies, particularly Health and Human Services, for example, created an Office of Assistant Secretary for Planning and Evaluation that was modeled on my office and the organization that I created in the Defense Department.

Matloff: Any major frustrations or disappointments in the position? any tasks left uncompleted?

Enthoven: A major disappointment would be this: From time to time McNamara would talk to me about an ambition of his that I came to share. He talked about the achievement of Alfred Sloan in creating the management system that became the permanent long-term management system for General Motors. McNamata said that his ambition for the Defense Department was to create what would be a permanent reform in the management system of the Department in the hope that future secretaries would build on that, and strengthen and improve it. When Nixon came in as president, as a concession to his right wing supporters, one of his campaign promises was, "I'm going to root out the whiz kid approach from the Pentagon." So one of the first things they did was to downgrade the office from Assistant Secretary to a lower status. Now it has become a bit of a political football where under the Democrats it is an assistant secretary and under the Republicans it is not, which, I think, is ridiculous symbolism. The Republicans ought to be as much in favor of cost-effective defense management as Democrats are. I think that some people, like Dave Packard, definitely would have been in favor of that also, but politics from the extreme right of the Republican Party interferes with that. Unfortunately there is no serious political support for a cost-effective Defense program. Some want to spend more; some want to spend

less. Some want the detailed decisions to be made by the military; others want them to be made by congressmen. Members of Congress want bases and programs in their districts. But there is no political force to support efficiency or cost-effectiveness in choices of weapon systems and forces. My disappointment is that there has been significant backsliding, instead of carrying forward with the further refinement and development of management systems. I think that if you look at what we have today, it's enormously different from what we had in the late '50s. The thousand Minuteman ICBMs, the missile launching submarines, the Triad, and the idea of readiness in Europe--all those really big ideas have endured.

Matloff: Thank you for your cooperation, patience, and willingness to share your recollections and observations with us.

OFFICE OF THE SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

(Administration)

July 14, 1986

Open as fine -
Alain Enthoven
21 July 1986

Alain Enthoven
Marriner S. Eccles Professor
of Public and Private Management
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Stanford University
Stanford, California 94305

Dear Professor Enthoven:

Enclosed is a transcript of the oral history interview which you held with Dr. Maurice Matloff of this office on February 3, 1986. In accord with our previous policy, we have taken the liberty of making editorial changes for the sake of clarity. Please make any changes, corrections, or additions that you wish and return the transcript to us. We would particularly like to direct your attention to the question marks on page 4, line 12, and page 20, line 19, where the tape recording was not clear. After you return the transcript, we shall prepare a final version and send you a copy for your files. A self-addressed envelope is provided for your convenience.

As I indicated in my letter of December 16, 1985, the information contained in the transcript is intended primarily for use in the preparation of a history of OSD. We shall, of course, follow 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. Please indicate what your wishes may be in the matter.

We appreciate very much your help and your willingness to discuss the important events in which you played a key role.

Sincerely,

Alfred Goldberg

Alfred Goldberg
OSD Historian

Enclosure
as stated