

Linda Cavalluzzo: The topic of our first panel today is the implementation of the all-volunteer force—its trials and tribulations. Our panel chair is Dr. Curt Gilroy, who has had a distinguished career in public service. He was a government employee and a fine one at that, a friend of CNA, and has done much work in the military manpower area. Recently retired as the Director of Accession Policy for the Office of the Secretary of Defense, I am delighted to welcome Curt back to Washington.

Curt Gilroy: Thank you, Linda. I have asked the panel members to speak briefly so as to allow enough time for comments and questions not only from the floor, but from among our panel members as well. We'll conduct this in a rather informal way. I think Walter would have liked that.

When Walter Oi passed away, I called former Secretary of Defense Melvin Laird because I knew he would want to know—and he did. Secretary Laird and I have become good friends over the past several years. He lives not too far from me on the Gulf Coast of Florida in Fort Myers. He's 93 now and calls me from time to time to talk about world events and things that are happening in the Department of Defense.

He talks on the phone for perhaps four minutes and then typically says, "Over and out," and that's the end of the conversation. Secretary Laird sent a letter to Marjorie upon Walter's death. Then the Secretary called Secretary Rumsfeld, and Secretary Rumsfeld, too, sent a very nice letter to Marjorie. I mention this only because we all need to know how revered Walter was in the eyes of two very important public servants.

Some of you may remember a very special moment at the conference commemorating the 30th anniversary of the all-volunteer force at Fort McNair in 2003. Secretary Rumsfeld interrupted his formal remarks, left the podium, and walked into the audience to shake Walter's hand and thank him for his

contribution to our all-volunteer force. That's how important Walter was. Now, Secretary Laird wanted to make sure that he wrote something about Walter that would be included in this special day at CNA. Because his letter is printed in the program included in your packet, I will not read it. But I would like to read the last seven lines for everyone to hear.

He writes, "There were very good analysts on the Commission's staff, but the economist most associated with cogently arguing for a volunteer military and then carrying the banner for it for the past 40 years was Professor Walter Oi. Walter had the ability to speak in plain English and even tell a good story to get his point across. He had such an ability to convince skeptics. People listened to Walter because he was able to capture the essence of an argument. That was so much a part of Walter's character. Not only was he a first-grade economist, he should have been a Nobel Prize winner. He influenced public policy. He played a most influential role in what has turned out to be one of the most significant public policy initiatives of the 20th century. For that we bless you, Walter and Marjorie. As a former Secretary of Defense you have my utmost gratitude and the gratitude of our nation."

No one knows more about the writing of the Gates Commission report than our first speaker, David Kassing. David was one of the four research directors of the Commission. Since then, he has spent 40 years as an analyst and manager of defense policy analyses, about 20 years at RAND and about 20 years at CNA. He was actually president of CNA from 1973–1983. I am pleased to introduce David Kassing, who will present some highlights of the Gates Commission.

David Kassing: I want to begin with a few words of praise for Walter Oi. I think it is fair to say that without Walter the Commission's staff could not have done what they did in the 10 months they had. On the organization chart, Walter was one of four research directors who guided the research staff: (1) Stuart Altman was responsible for

analyses of officer corps issues; (2) Harry Gilman directed analyses of the supply of enlisted personnel; (3) I led the work on historical, political, and social issues; and (4) Walter organized and conducted the analyses of military personnel requirements and costs.

That brief recitation greatly understates Walter's contributions. He was far ahead of most of us in thinking about the issues, doing relevant analysis, and disseminating his work. He began consulting for OSD's manpower leaders in 1964. He presented his work and made his arguments at the Chicago conference on the draft in December 1966. He published his research in the *American Economic Review* in 1967. His experience and his publications provided a jump start in organizing and conducting the staff's projects, updating and refining the analyses that Walter had completed and published earlier. I liken Walter to a one-man Lewis and Clark Expedition. He explored a new territory, discovered the routes through it, identified paths that were dead ends so others could avoid them, met the natives and their tribes, learned their languages, and documented what he found. (I should acknowledge now, as Walter did then, the early contributions of Stuart Altman, Alan Fechter, and Harry Gilman.)

Now I will turn to CNA's role in the Gates Commission analyses. There are three topics: First, how CNA became involved in the Gates Commission work; second, what CNA analysts did; and finally, the importance of CNA's contributions to the Commission's success.

How did CNA get involved?

The connection between CNA and the analyses for the Gates Commission ran through the University of Rochester. At that time the Navy had contracted with Rochester to operate CNA. Allen Wallis was the president of the university, and he chaired CNA's board. During World War II he had directed the Statistical Research Group that used statistical analyses to advise the U.S.

military on operational and management issues. In the 1950s Wallis had worked in the Eisenhower White House as a Special Assistant to the President in the late 1950s. One of his duties was to serve as the executive director of the Cabinet Committee on Price Stability and Economic Growth. This committee's chairman was the Vice President, Richard Nixon. Wallis was a close friend of Milton Friedman, a strong and well-known advocate for the all-volunteer force.

During the 1968 election campaign, Martin Anderson had put the AVF bee in Nixon's bonnet. A month before the election, Nixon had spoken out in favor of ending the draft. At the University of Rochester, Allen Wallis followed Nixon's campaign closely. Shortly after Nixon won, Wallis spoke to the American Legion in Rochester. The title of his speech was "Abolish the Draft." In late December 1968, Wallis asked four economists at Rochester's business school—Walter Oi, Bill Meckling, Harry Gilman, and Martin Bailey—to estimate the first-year costs of moving to an all-volunteer force. CNA provided them with much of the data they needed. Their paper was quickly done and distributed to several members of the incoming administration. Wallis spoke with his friends among the President-elect's aides whenever the chance arose. When the White House opted to create a Presidential commission, Allen Wallis and Milton Friedman were named as members. Bill Meckling became the executive director for the Commission.

When CNA's Economics Division was created in 1962, Meckling was hired from RAND to be its director. By 1968 economists were mixed throughout the staffs of CNA's divisions. Several labor economists had been recently recruited to do studies for the Bureau of Naval Personnel. Meckling naturally thought of CNA, as he knew the staff well. He had been the director of the Naval Warfare Analysis Group at CNA, the acting president of CNA, and a member of CNA's Board of Overseers. CNA prepared a proposal to provide research support to the Commission, and after due review, it was accepted

That, in brief, is how CNA came to work for the Gates Commission. RAND and IDA submitted similar proposals. These three organizations provided most of the analytical support to the Gates Commission. A few other highly qualified analysts were recruited from academia and the Army and Air Force staffs.

What sort of work did CNA analysts do?

The analytical work for the Gates Commission was organized into four broad areas mentioned earlier. Three of them were focused on the heart of the policy issue: (1) enlisted personnel requirements, (2) the supply of personnel for the full range of military services, and (3) officer supply and requirements. Most of this work involved straightforward economic analysis, following the paths that Walter had made. Studies in the fourth area addressed historical, political, and social issues related to military manpower-acquisition policies.

In each of these broad research areas, CNA staff provided support to the Commission: they authored studies, prepared briefings, assisted the Commission's researchers, typed reports, edited them, provided space for visitors. CNA supported the Commission researchers as it supported its own research staff regardless of their other affiliations

More than a dozen CNA researchers were directly involved in one or another of these research areas. Three CNA analysts worked directly with Walter Oi (Brian Forst, David Reaume, and Dave O'Neill) on officer and enlisted quantity and quality requirements. Four other economists (Burton Gray, Harry Grubert, Rodney Weiher, and Hugh McCulloch) worked with Harry Gilman on enlistment supply and reenlistment rates for the Army and Navy. Another, Mordechai Lando, reviewed military requirements for medical personnel and found that medical officers' pay would need to be about doubled to attract and retain a volunteer military medical force.

Jamie McConnell, Jack Rafuse, Pat Flanary, Des Wilson, and Jessie Horack authored five of the eight historical, political, and social studies published by the Commission. (I did a sixth.) Jamie wrote a detailed history of military manpower policies in Europe from the early 19th century well into the 20th century with his customary thoroughness. Jack Rafuse provided a similar account of U.S. experience with volunteer and conscripted forces. Pat Flanary analyzed England's 1957 decision to abolish peacetime conscription. Des and Jessie did two papers. One examined the relationship between military service and veterans' attitudes. The other studied the relationship between military recruitment and militarism in Latin America.

What was the impact of CNA's work?

The impact of all the research projects was in the first, and most important instance, on the 15 members of the Commission. When the Commission was established, the commissioners were thought to be divided into three groups—one third appeared to be committed to the idea of an all-volunteer force, another third were, at best, highly doubtful of an all-volunteer force, the remaining five were thought to have no prior position on the issues. In the end, the Commission unanimously endorsed an all-volunteer force for the U.S military. Some part of this change must be attributed to the research staff. The ideas and the results were conveyed to the commissioners by Bill Meckling and the four research directors, both formally by briefings to the Commission and informally in one-on-one chats with commissioners. I recall that at least two commissioners came to CNA and spent half a day each to meet one-on-one with CNA researchers

Beyond that, the Commission's economic analyses, published after independent professional prepublication review in November 1970, effectively forestalled serious challenges to the Commission's estimates of the costs of moving to an all-volunteer force. In the 1970s the strongest challengers to the AVF were members of the

military sociology community. They harped on questions of the racial mix in the AVF force, the potential for isolation of a “professional” force from the society it is recruited to protect, and the lack of effective mechanisms to limit the employment of volunteer forces by the executive branch. The experience of the last 40 years has muted, but not stilled, the sociologists’ concerns.

I conclude with a suggestion. The time has come to stop describing U.S. military forces as the “all volunteer force.” Voluntary entry has been a reliable source of recruits for most of United States history. That was taken for granted as the American tradition. The draft was used only in large and lengthy wars. Conscription during the first 27 years of the Cold War is the only significant exception; there was no continuing large-scale combat with the Soviet Union. Until 1973 our military forces were never defined by the way personnel entered them, whether by conscription or as volunteers. They should not be now.

Forty years ago the new U.S. voluntary manpower recruitment policy could be viewed as an experiment. But this experiment was widely judged as a success many, many years ago. Just as Walter never doubted the many benefits of volunteer service, he never doubted the endurance of the volunteer service he so greatly helped to restore.

Curt Gilroy:

Thank you, David. You talked about skeptics of the all-volunteer force. In one of my conversations with Secretary Laird, he said that Al and Henry were skeptics of an all-volunteer military. I asked the Secretary who might Al and Henry be? The Secretary said, “Curt, Al Haig and Henry Kissinger. They needed their arms twisted,” he told me. “The President asked me to speak to them on occasion, but they were very reluctant partners in the all-volunteer force.” General Haig, of course, passed away some years ago, but Secretary Kissinger still writes and speaks, and is in contact with Secretary Laird on a regular basis.

The transition to the all-volunteer force was slow yet sensible, as it was intended. Secretary Laird talked to the President and said, “We do not want to do this immediately. Let’s gradually reduce the draft calls to zero by the end of fiscal year 1972.” That would be June ‘72 because that was when the fiscal year ended in those days.

The early years of the all-volunteer force were quite successful. Congress enacted the largest pay raise ever—about 60 percent (which was Walter’s original estimate of how much pay would have to be raised)—in order to provide new recruits pay comparability with their civilian peers. The highly popular GI Bill was still in effect and was an important incentive, as we know. Recruiting resources, such as the number of recruiters and recruiting facilities as well as advertising budgets, were certainly adequate. An expanding youth population and rising unemployment both resulted in a rich pool of potential recruits.

The recruiting climate was good for three or four years, but overconfidence then set in and characterized the next five years. Recruiting resources were thought to be more than adequate and became targets for budget cuts. Does this sound familiar in today’s environment? The original surge to pay comparability was not sustained. A growing economy, rising private-sector wages, and inflation eroded military pay. Unemployment was falling too, and the very popular and effective GI Bill expired. Not only did enlistments fall, but the Army and the Navy missed their numerical missions in 1977, ‘78, and ‘79, while the Marine Corp failed in ‘77, the Air Force in ‘79. The quality of recruits fell drastically as well. For the Army, the proportion of AFQT I-IIIAs was only 22 percent in 1980. On the other end of the spectrum, the Army enlisted 56 percent AFQT IVs—the lowest aptitude category.

In addition, the Department recognized that in the late seventies the Armed Services Vocational Aptitude Battery (ASVAB) had been misnormed, which resulted in the services enlisting more low-aptitude individuals than they thought. We’ll leave the discussion

of misnorming to Dr. Sims later. But there were other fundamental problems in recruiting that needed fixing. What would it take to turn recruiting around? Nobody can speak to this more effectively than Dr. Bernard Rostker, who has recently published the book *I Want You: The Evolution of the All-Volunteer Force*.

Dr. Rostker currently is a senior fellow at RAND. He was Under Secretary of Defense for Personnel and Readiness, Under Secretary of the Army, Assistant Secretary of the Navy, Director of Selective Service, among other positions. Not only was he a senior leader in the Department, but also an excellent analyst who is widely published. Please welcome my good friend, colleague, and former boss, Bernard Rostker.

Bernie Rostker: Thank you. I'm going to take you back and suggest there is a name that hasn't been mentioned here and, in some ways, we owe a debt of gratitude. You will not recognize this name associated with the issue we are addressing today. That person's name is Barry Goldwater. Because if Barry Goldwater hadn't run for President, Lyndon Johnson wouldn't have said, "We'll study the all-volunteer force." Bill Gorham wouldn't have been hired to direct the study team for the 1964 draft study, and Walter Oi would not have been selected to work on the study, paving the way for the Gates Commission.

Because, as John Warner has said, it was the follow-on of that 1964 study, which was put on the shelf because of the Vietnam War, that provided the basis for Martin Anderson pressing Richard Nixon, and Nixon making the decision that a volunteer military was a good idea.

We mentioned the Vietnam War. Sam Nunn would have said that the most important reason we have an all-volunteer force was the Vietnam War. I'm an economist, and I think my union card will be taken away after what I'm going to say. The notion of the hidden

tax is all well and good, but young 18-year olds who are paying the tax don't vote. That argument is hardly going to carry the day.

Bob Hale described the condition of the Army in 1968 very well. Many in the Army came out of Vietnam convinced that the Army had to change, and that they had to get rid of these draftees who were creating problems. In 1968 the Army was ready to support an all-volunteer force. By 1970, however, when the large draft calls were done and the future seemed brighter, the Army wasn't so sure they really did want a volunteer force.

With a volunteer military, a whole new vocabulary, a whole new paradigm, a whole new way of thinking would have to be developed. The Army was not sure they wanted to do this, and Mel Laird later described to me an incident that would change the course of history. He told me he had learned that the Army was about to reverse its support for the all-volunteer force. He said he invited General Westmoreland to lunch at the White House mess. He told the general that he could support the all-volunteer force or he could resign. A week later, Westmoreland, in a speech to the Association of the United States Army, announced the creation of the Office of the Special Assistant to the Secretary of the Army for the Modern Volunteer Army (VOLAR) and the Army got in line. Even with the general support of the Army, implementation was not without conflict. You might even say there was war in the Pentagon, and the war was between systems analysis (then recently renamed Program Analysis & Evaluation) and the manpower offices.

I want to read you an accounting that Gus Lee, who was running the manpower requirements shop, wrote in the first history of the all-volunteer force. It says, "The locus of difference between the manpower and systems analysis offices was not only bureaucratic, it was also intellectual." The prevailing view of the systems analysis office was that programs like Project Volunteer (the Department's own study of a volunteer military) were suited to assessment and analysis. They fundamentally disagreed with the lack of formal

evaluation and experimentation supported by the manpower offices.

Years later, Gus Lee pointed out that from the view of the Project Volunteer committee, there was not enough time. The committee wished to use these funds as efficiently as possible and was not persuaded that efficiency meant waiting for the research and the analytic community to give them the answers. More than a year of study and analysis had preceded the formulation of the program, and the committee decided to go ahead and try the programs, then modify or drop them if they were not efficient.

However, Lee later admitted that even after a year of trying to respond to systems analysis criticism, the “empirical work was still not definitive.” There was a conference just last week sponsored by the Army Recruiting Command at RAND. An issue came up: Shouldn’t we cut the terms of initial term of service to two years, because obviously four years is very discouraging? In fact, that same argument in those same words was heard in the 1970s and again in the 1980s. We conducted an experiment and yes, there was a supply response, but the overall reduction in man-years served meant they would have to have recruited many more people and it was not cost-effective. The issue of how you look at policy and analysis and experimentation came to the fore in the early days of the all-volunteer force, as it does today.

There were some other practical issues that had to be learned. It’s very easy now to talk about it, and I have had the wonderful opportunity to go around the world and talk to militaries about going to the all-volunteer force. I just spent 12 days in Taiwan doing exactly that. I could talk about the road map that we could lay out, the issues we raised, the role of compensation, the role of experimentation. In 1970 there was no road map. We had to learn it, and we learned it in many ways the hard way. Curt alluded to being overconfident. One of the many things we had to learn was how to recruit, and in this context we heard the name Max

Thurman mentioned. Max was the Army officer who taught all of us how to recruit: focus on quality not quantity, look at the long term, and the importance of maintaining standards.

There were two final issues that I want to talk to you about that dominated the transition to the all-volunteer force and, indeed, to a successful all-volunteer force. One was cost and the other was quality. Bob Hale made reference to the fact that we spend a lot of money on people and we're squeezing other parts of the budget out.

When I heard Bob's words I looked at my watch and it kept flashing 1973! Why 1973, because those were exactly the same arguments that led the Congress to establish the Defense Manpower Commission in 1973. The Commission was set up to find ways of driving cost out of the volunteer force. After two years of some excellent work, they came to the conclusion that if you want a volunteer force, you're going to pay for a volunteer force. That so annoyed the Congress that they never had a hearing on the recommendations on the study that they had commissioned themselves.

A decade ago there was a conference at IDA on exactly the same issue. I used the same story about my watch flashing, and I'm sure we could round up a group here that would like to have the same discussion today. You pay for a volunteer force. The unexpected consequences of the volunteer force has been super quality in the force. I would submit to you that the success that we've seen over the last 40 years is less because we removed the onerous conscription tax from 18-year olds, and more from the fact that the AVF gave us the high quality professional force we have today. The last thing I want to talk about is quality, because we went to war in the 1970s over the issue of quality.

Quality was a euphemism for race, and senior distinguished members of the sociology profession put forward a notion of a tipping point. That if we became too minority oriented, whites

would not join the force and we would have a poor black force, a nonrepresentative force. There never has been any empirical justification for that. In fact, over the 40 years we have largely recruited a force that reflects the average of America. But that was not always so. Many of us in government in the 1970s were quite convinced that we were doing very well with quality, yet the feedback from the field did not support that. Ultimately we found that because in the rush to produce a culturally unbiased set of AFQT tests, we had failed to do due diligence and we had a faulty instrument. We found that large numbers of people we were enlisting did not meet recruiting standards. I'm going to let Bill Sims talk about that; I would only say in the decade of the eighties we extensively researched that issue of what is quality and how much quality do we need to sustain the all-volunteer force.

Curt Gilroy:

Bernie has just provided a perfect segue to our next panelist. In the late 1970s, the services enlisted more low-quality recruits than they thought, as a result of a flawed scoring algorithm in the Armed Services Vocational Aptitude Battery. This resulted in the enlistment of over 400,000 low-aptitude recruits between 1976 and 1980 who should not have been permitted to enlist. No one can speak to this issue any better than Dr. Bill Sims, who has been a research analyst and manager for over 40 years at the Center for Naval Analysis.

His work has been in a number of research areas, but he's most noted for his analyses in aptitude testing, and especially his work in uncovering the misnorming of the ASVAB. This turned out to be critical, as Bernie has just mentioned, in the evolution of the volunteer military. Bill received his Ph.D. in physics from Florida State University. I'm delighted to welcome Bill Sims. It's good to see you again. Bill, the floor is yours.

Bill Sims:

Making good policy is *hard*. It is particularly hard when the underlying facts by which you measure your success are, in fact, not true.

This was the situation in which manpower policymakers found themselves in the late 1970s. Recruiting goals were not being met; the General Accounting Office (GAO) was investigating recruiter malpractice; and critics of the all-volunteer force were again proclaiming the concept a failure. However, there was one bright spot—at least the recruits that were being enlisted were of high quality. DOD was consistently reporting to Congress that only 5 percent of all recruits fell into AFQT Category IV, the lowest acceptable ability category. Never in history had quality been so good. Unfortunately the reports were *not true*.

The AFQT scores are the basis for categorizing recruits into AFQT mental categories ranging from highest (Cat I) to lowest (Cat V). Cat V personnel are excluded from service by statute. Cat IV personnel are usually accepted only in small numbers.

In the mid-1970s, CNA analysts made a trip to the Marine Corps Recruit Depot at Parris Island. There we met with drill instructors and with the commanding general, Robert Barrow, later Commandant Barrow. General Barrow told us that the recruits were “awfully slow.” This paradox—of DOD reporting that quality had never been higher, contrasted with General Barrow and drill instructors reporting that the recruits were “awfully slow”—was difficult to reconcile. Senator Sam Nunn, a vocal critic of the AVF, would later report similar findings from his trips to the field commands. Understanding this paradox and fixing the underlying problems took many years. CNA eventually traced the paradox to the massive inflation of test scores due to the *combined* effect of cheating on aptitude tests and the ASVAB misnorming.

First let’s briefly talk about cheating on the test.

Cheating is an age-old problem. Recruiters are very resourceful people. When they are faced with an impossible quota . . . they find a way. One of the easiest ways is to increase supply by helping a willing low-aptitude recruit cheat on the enlistment test.

The Marine Corps had a secret weapon that enabled them to understand the seriousness of the cheating issue better than the other services. Each recruit was “double tested”: once at the AFEEES examining station before enlistment, and again right after the recruit arrived at the recruit depot at Parris Island or San Diego. CNA used this double-testing data in the mid-1970s to estimate the number of anomalous scores observed at the recruit depot retest.

The results were striking! We estimated that the cheating began as early as 1971 (during the last years of the draft) and continued with ups and downs all through the 1970s. At its worst, in 1974, we estimated that about 25 percent of all Marine Corps recruits were cheating on the enlistment test.

Now we understood part of the paradox. We continued working at fixing this problem for many years. CNA developed tools for detecting cheating and made policy suggestions.

By late 1979 the anti-cheating campaign had been successful. We estimated that cheating was now a negligible problem that was confined to less than 1 percent of recruits.

The Marine Corps enthusiastically supported our work and, in addition, supported the development of a Computerized Adaptive Test (CAT) by the Naval Personnel Research and Development Center (NPRDC). CAT draws on large item pools and different recruits get different questions, making it very difficult to coach on the test. CAT is now used for many (but not all) enlistments.

Now let's move to the other part of the paradox: the ASVAB misnorming.

In an effort to minimize cheating on the test, new forms are produced every few years. Maintaining the continuity of enlistment standards requires that the meaning of an AFQT score on the new forms remain the same in terms of expected ability as that same

score on the old form. Therefore, each new form is “normalized,” or scaled, before it is introduced.

In the early 1970s the Assistant Secretary, Bill Brehm, decided that a new test should be developed and that it would be used by all services. The Joint Service ASVAB Working Group (AWG) was tasked with development of the new test. This new test was repeatedly delayed by lack of commitment and interservice bickering. Ultimately Mr. Brehm directed that the new test would be implemented by 1 January 1976 without fail. The new test was implemented as scheduled. Unfortunately the introduction was a classic example of the axiom “If you want it bad, you will get it bad.”

Soon after the new ASVAB 6/7 was implemented, the AWG became suspicious of its normalization. The operational test results showed an unusual number of high-scoring recruits. In September 1976 the services implemented a fix.

In 1978 CNA published a report indicating that the supposedly fixed ASVAB 6/7 was still in error. However, our results were generally ignored. We had little standing in the DOD aptitude-testing community, and in retrospect our data, although the best available, were not fully adequate to address the issue.

That same year, CNA joined the AWG at the request of the Marine Corps. As part of our technical support we collected new data and reexamined the normalization of ASVAB 6/7. We concluded that the normalization was much worse than we had first reported and that the test was too easy by about 15 percentile points in the low end of the scale.

The score inflation of 15 percentile points made a huge difference at the boundary between AFQT Cat III and Cat IV. Congress had been told that only about 5 percent of all DOD recruits were in Cat IV. Our results indicated that the true number was about 30 percent. The situation was even worse in the Army, with the true number of Cat IV recruits being about 50 percent. The effect of cheating and

misnorming were additive, hence the total score inflation was even greater than these numbers.

OSD took our new results seriously but followed President Reagan's philosophy of "trust but verify," even before the President espoused it. They commissioned two independent studies to check our results. The two studies, one by OSD and the Army Research Institute (ARI) and the other by the Educational Testing Service (ETS), closely agreed with our findings. Consequently, a new normalization table based on the OSD/ARI results was approved by the Defense Advisory Committee on Military Personnel Testing (DACMPT), a blue-ribbon panel of academic testing experts.

Although it was embarrassing for DOD to admit to the misnorming, the recognition and fixing of the problem ultimately paid handsome dividends. During the 1970s, military pay had become inadequate to attract high-quality personnel, but the true situation was obscured by the misnormed scores (and cheating). The recognition of the misnorming allowed Congress and the public to see the deplorable state of DOD manpower quality and helped provide a rationale for the extensive pay raises of the early 1980s. These pay raises, coupled with a correctly normed ASVAB (and low levels of cheating), allowed DOD to recruit the high-quality personnel who subsequently performed so well in Operation Desert Storm.

From a policy standpoint we need to ask ourselves a serious question. Do we have policies and procedures in place that are sufficient to prevent another misnorming or cheating problem in the future? And if that policy should fail, do we have policies and procedures that would catch and quickly fix any such problems, as opposed to taking 10 years in the case of the cheating problem and five years in the case of the misnorming problem, like it took the last time?

Lastly, I would like to add that considerable credit accrues to the Marine Corps. Their concern for manpower quality led them to

enthusiastically support our research. Without that support we could not have done the work that we have discussed today.

Curt Gilroy:

Thank you, Bill. It took the Department a while to recover. In 1984, some of the services had not reached the quality benchmarks established by DoD later on under Dr. Sellman's guidance. The Army recruited only 54 percent AFQT I–IIIs in 1984 (with a benchmark of 60%) and still enlisted 13 percent AFQT IVs (with a benchmark of 4%). In 1985 things changed. Since then, all services together have exceeded those benchmarks of 90 percent high school diploma graduates (or Tier 1) and 60 percent I–IIIs. Quality does matter, and I hope that we'll talk a little bit about that during our discussion period.

It wasn't until 20 years after the inception of the all-volunteer force that we actually could declare it a success. Even at the conference held at the Naval Academy after 10 years of a volunteer military, there was a great deal of uncertainty about whether the AVF would succeed. Was there a commitment among senior military officers and civilian leaders to a volunteer military?

At the 20th anniversary conference held at the Naval Academy again, in 1993, Dr. Steve Sellman, who was director of accession policy at the time, and I, together with some Naval Academy staff, put two heroes of the all-volunteer force on the very first panel: Professor Walter Oi and Army four-star General Max Thurman, whose name has been mentioned on several occasions this morning. They did not know each other, but they knew *of* each other. Thurman knew that Walter's work had convinced the nation that a volunteer military was viable, and Walter knew that Max had saved the Army in the late 1970s and early 1980s. They were different people with different backgrounds and career paths, yet they came together at last at this conference for the first time.

It was a joy to see that interaction. General Thurman died about a year after the conference at age 64. Walter continued to write and

speak about the successes of the volunteer force and looked for ways to improve it. People always listened to Walter—whether he was estimating equations in his head (and he did that), writing the next article, or making a significant public policy statement in Congressional testimony or in speeches.

I now call on Christopher Jehn to take us up to date in terms of our volunteer military. Chris spent 15 years with the Center for Naval Analyses earlier in his career. After that, he held senior positions with the Institute for Defense Analysis, the Congressional Budget Office, and Cray Incorporated. I worked for Chris when he was Assistant Secretary of Defense. It's now an under secretary position of course, and he was responsible for bringing me to Office of the Secretary. He holds a master's degree from University of Chicago and is published in the AVF literature. Please welcome another good friend, colleague, and former boss, Chris Jehn.

Chris Jehn: Thanks, Curt. Before I pick up the story we've been listening to, I'd like to remind everyone of Walter Oi's importance to the story. This is implied in the statements from Stephen Herbits and Alan Greenspan, which have been included in your symposium materials.

There are many heroes in this story: the Gates Commission members, Mel Laird, Marine Corps Generals Wilson and Barrow, Army General Max Thurman, and many economists and other analysts. But among the analysts and economists, none was more important than Walter Oi.

It's tempting to cite instead the economists on the Gates Commission: Milton Friedman, Allen Wallis, and Alan Greenspan. They were essential. But they were advocates, cheerleaders. Walter made the first empirical, data-based argument for voluntarism. And that case helped convince President Nixon and, later, other Gates Commission members. It's possible that without Walter's early work—which, as the Hogan-Warner paper notes, stood the

test of time and subsequent analyses—conscription would have ended much later, if at all. There were, after all, other politically plausible proposals to “fix” the draft and end the controversy surrounding it, not just a force of all volunteers. I urge you to read the Herbits and Greenspan comments with that in mind.

I was sworn in as the Assistant Secretary of Defense for Force Management and Personnel in November 1989. (Coincidentally, my first interview for that position was with Steve Herbits, who was helping Dick Cheney, the new Secretary of Defense, assemble his staff.) At the end of 1989 there was no question the AVF was working. The problems of the late 1970s and early 1980s had been solved; the debate was over. There was little doubt that voluntarism was working.

Challenges remained, however. For example, issues like the combat restrictions on women and the ban on gays in the military became widely publicized during my tenure. These were not issues that threatened the AVF or, really, even affected it much, though some claimed these issues did. But now 20 years later, it’s instructive to reflect how they were resolved—with little fanfare after the fact and none of the dire consequences many predicted would follow. I think their ultimate resolution demonstrates the resilience and strength of a volunteer military.

But clearly the biggest challenge we faced was the Persian Gulf War, Operations Desert Shield and Desert Storm. This would be the first major use of military force since the end of the draft, and that presented many challenges. Maintaining enlistments and retention was a crucial test, but the biggest and most immediate challenge was the first large-scale mobilization of reserve forces since the end of conscription. The total force—active and reserve forces, civilian employees of DoD, and contractors—was described and emphasized by Secretary Melvin Laird as the substitute for conscription. But it had never been used until now.

The use of reserve forces raised questions about which forces were most suitable for mobilization and about the readiness of reserve combat units. And the call-up process had never been tested. Neither I nor any of my predecessors had thought to write the rules and regulations necessary to implement the law's authority. Writing and approving a federal rule, an interagency process managed by the Office of Management and Budget, ordinarily takes about twelve months. Thanks to some heroic staff work, we managed to get it done in five days. (A few years later I met Jack Grayson, founder and head of the American Quality and Productivity Center. In 1971, Jack was appointed chairman of President Nixon's Price Commission to administer wage and price controls. When price controls are announced, it's of course imperative to release rules for implementing the controls as quickly as possible, so Jack faced the same challenge we did. We had a friendly argument about who had developed and implemented a new rule faster. By the way, Jack's an interesting guy—look him up.)

We also had to answer a number of questions like

- What's a "unit"? (The law specified calling up reserve "units" without any further details.)
- How do we access the IRR (Individual Ready Reserve)?, and
- Isn't "stop-loss" just like a draft? (This question from supporters of voluntarism.)

while answering the occasional call for resumption of a draft and accusations that blacks were being "targeted" for enlistment or would die in disproportionate numbers in the event of combat. Again, 20 years later I can say it all worked fine, except for that last issue. General Colin Powell, as Chairman of the Joint Chiefs, and I were the principal DoD spokesmen here. Despite several long conversations about how to answer the questions about black representation (all groundless concerns based on erroneous information), we evidently did not answer those questions to the

satisfaction of the African-American community. Among black youths, recruiting suffered from an almost immediate 50 percent decline in propensity to enlist. That propensity is only now beginning to return to pre-1990 levels.

Ten years later many of the same challenges arose, but for much longer duration. And recruiting, retaining, and sustaining a force of volunteers weathered those challenges again.

Our second big challenge was the major force reduction at the end of the Cold War. The Defense Department's plan was to reduce the number of women and men on active duty by 100,000 per year (from a total of 2.1 million) for five years. We needed to achieve those reductions without damaging the future force or reducing the attractiveness of military service to current and prospective service members. We used a combination of directed recruiting and retention policies and the development and implementation of new special incentives to encourage voluntary separation from the services. This program was successful and maintained a robust force through the 1990s.

But to conclude the way I began, the debate was over. Two examples best illustrate this. First, when I joined the Department in 1989 it had been customary to hold a monthly news conference to announce the services' recruiting results. This had become an uninteresting event—not newsworthy—as the services made recruiting goals month after month. So we ended the monthly press conferences. Second, in the 1970s almost all senior military leaders favored a resumption of conscription and believed ending the draft was a policy failure. Fifteen years later, it was hard to find a single military leader who believed resuming the draft would be good for the military or the country. They were now fully convinced voluntarism was the most sensible way to build a military.

Curt Gilroy:

Thank you, Chris. We have some time for questions and comments.

Audience member: Thank you. We've gathered to honor Walter Oi and also it seems we gathered to praise, as we so often do, the AVF itself. I often get the feeling when we gather as defense economists that we're in a little echo chamber studying our own little portion of the economy without really thinking too much about the wider economy and how it influences our portion of it. I'm struck by the thought that everyone is so surprised how well the AVF was done on quality. I would submit that, in fact, if we think about what has been going on with the wider economy for a minute, the AVF perhaps got lucky.

That the seventies could have continued. What is the military, essentially, but a very large employer of male, blue-collar high school graduates? Since 1980, the labor market prospects for that group of workers have gone extremely badly. Most economists believe that's because of some combination of technological change and the integration of formally closed economies and the integration of formally closed economies in the global trading system.

Whatever the reason, that group has not done well in the wider economy, and the military now stands as perhaps the only large employer of that very large group of the population that still offers high pay, good benefits, and job security. That was not true in the seventies, and I would submit that the AVF has in fact succeeded, like so many of us in life, largely through luck. I'd be interested on the panel's comments on that.

Bernie Rostker: I'll take it any way I can get it. Nothing wrong with good luck, obviously. But we still had opportunities to screw it up, and the fact that the overall demographics had changed is quite fortunate, but that's just the way it is. Whether it would have survived in a different environment, who knows?

Curt Gilroy: I think that's an insightful comment and Bernie is right, we could very well screw this up, because we screwed it up in the past. There is no question about it. When the economy turns around and

unemployment falls, then I think the services have to question whether they are poised enough to deal with that economic recovery—particularly in the recruiting area. I worry a lot. First of all I worry about the Army, but let me tell you about recruiting in general. Because so many of our recruiters today, and our recruiting commanders, have not seen challenging recruiting times, they don't know what it is like really to recruit in a tough market.

Challenges lie ahead, clearly, whether they come next year or two years from now. However, the labor market is still relatively weak. Unemployment may be 6.1 percent officially right now, but we know that the “real” unemployment rate is closer to 10 percent, just because of the number of discouraged workers (who are not counted in the unemployment rate) as well as those in the labor market working part-time but looking for full-time work. This could help recruiting.

Audience member: I am not a labor economist and I don't follow these things closely, but I think there's another trend that goes in the opposite direction for recruiting young personnel. I remember from my RAND colleagues—and Jim Hosek can stop me if I'm wrong—that the proportion of high school graduates continuing their education, particularly in junior colleges, has risen fairly steadily. I don't know the precise figures, but the long-term trends have not been favorable for an all-volunteer force. Am I right, Jim?

Jim Hosek: In fact there's a countertrend. Half of the Army recruits do not come from high school, and that's been growing over time. While people do go to college, they don't always succeed. The military has a very important social function and that is, it gives large numbers of people a second chance. We tend to think of the volunteer force in terms of a high school cohort. It's often quoted, “How many of this cohort do we have to recruit?” Just because you didn't join out of high school doesn't mean that you can't join later. As I said, half of the Army recruits join later.

Bernie Rostker A more disturbing trend is that it's becoming a family business, so that the probability of someone joining the military is very much related to having an uncle, an aunt, a father, or mother having served. The proportion of Army recruits who have mothers who have served in the Army is eight times greater than in the economy as a whole. The issue of representation is not so much an issue of racial representation. It's increasingly becoming an issue of regional representation and this issue of penetrating the population that does not have a strong military tradition.

Audience member: If I may, I think the best answer to your question would have come from Walter Oi himself. The question becomes, Would the estimates that he made 40 years ago be different under different labor market conditions? I venture this having participated in that project; it's hard to imagine the range of supply elasticities both at the initial recruitment stage and at the reenlistment stage. That would make a case that we were lucky and that somehow under alternative economic conditions, the draft would have turned out better than the all-volunteer force.

John Warner: Amazingly, Walter's supply-elasticity estimates were based on nine census division observations from 1964. I found the table that was in the *Congressional Record* and it was in Bernie's book.

The estimates of initial supply elasticity have been hovering in the range of 0.8 to 1. Walter's estimates were pretty good.

Let me add another point. It is very important to DOD to maintain the right level of real pay for military members. We lose sight of that and we lose sight of the fact that DOD does have enough bullets in their arsenal to handle proper recruiting and retention problems when they show up.

A great example of that was the Army in the 2004–2007 period, where Army recruiting was just decimated by mid-2004. Partly, it was self-inflicted because they had cut the recruiter force significantly.

In the broader term, I think DOD has to develop the right communication with Congress and retell the story as often as needs to be told about how important pay is to the overall mission. My last point is the high cost of military manpower because pay is at the 80th percentile. That's really expensive, and the military cannot afford this in the long run.

Bernie Rostker: Curt, if I might, we're here all celebrating Walter. I'd like to change that just a little bit. I'd like to celebrate all of you because I can look around this room and see the "soldiers" of the all-volunteer force. John Warner was kind enough to mention the book I wrote; let me just read the first sentence or two because I think it's important. "This is a story that needs to be told, one about how the American military has transformed itself over the past 30 years from a force of mostly conscripts and draft-motivated 'volunteers' held in low esteem by the American public to a force of professionals sustained in peacetime, tested in battle, and respected throughout the world. It is a story of how a determined group of public servants used analysis to bring about one of the most fundamental changes in American society." We all can be very proud of what we all have accomplished over the last 40 years.

Dave Armor: My name's Dave Armor and I am currently professor emeritus at George Mason University. I did not know Professor Oi. I wish I'd had, but I knew a lot of other economists who were working in the same area. My anecdote is when I went to RAND in 1973, I was the token sociologist. I joined the manpower group there that had Bernie Rostker, David Chu, and Rick Cooper on staff.

Rick was working on a masterpiece on the AVF and its success. This is now about the mid-1970s, and it led me to think that at least the manpower economists did not necessarily believe very much in aptitude tests, or thought that they were not very important. The reason I say this—because at the time no one knew about the misnorming of the ASVAB—was there was a very large increase of black recruits, and Cooper was telling me, "They're very high

quality.” I had just come from working on the Coleman Report a few years earlier. I had analyzed extensively the relationship between achievement tests, race/ethnicity, and social class. When I saw those numbers, I said, “This is not statistically possible that this group could have such a high aptitude score on the AFQT.” About two years later, the misnorming was announced.

I think if you forget history and the mistakes of history, you might tend to repeat them. We needed to validate the ASVAB because of changes in training and other things, such as supervisors’ ratings. The misnorming crisis showed how critical validation was, and it led to the job-performance measurement project that Bill Sims knows very well.

Validation was very controversial and very hard to get the services to do, but the critical person here is somebody whose name hasn’t been mentioned yet—and that’s Steve Sellman. Steve was the guru, and he was one of the few people in the Pentagon when I went back there who actually believed that aptitude was important. There were calls for managing the ASVAB at that time. Some leaders at that time thought the way to deal with the declining ASVAB scores was just to do away with the ASVAB test and not have that requirement.

That job-performance project was very difficult to undertake and to maintain in terms of data collection and analyses. It’s now dated, as it was done years ago. That remains the basis of these quality standards that people talk about—60 percent of recruits scoring in the top half of the AFQT. You don’t automatically validate and defend these AFQT scores without special data.

I heard recently at an Army recruiting conference that hard times are coming. There are going to be calls, I believe, to abandon those standards, and we must guard against those calls.

Curt Gilroy:

Thank you, Dave. That’s an insightful comment. Dr. Sellman, would you like to comment?

Steve Sellman: I think the only thing that I would say is that there's been a lot of work done on recruiting for the all-volunteer force. While this room is populated pretty much by economists, the psychologists also were very interested in this issue. There's been a lot of work looking at the relationship between the resources that are available for recruiting and recruit quality and job performance.

The study that Dave Armor spoke about took over 10 years to do and cost about \$40 million. The chances of that being repeated are probably not very good, but the recruit-quality benchmarks were last validated in 2000 and they need to be revalidated yet again. I hope that the services are sensitive to the notion that there is this relationship between the level of education and aptitude and how people perform on the job.

Curt Gilroy: Thank you, Steve. Steve was Director of Accession Policy for a number of years, and I was very fortunate enough to follow in his footsteps. Jane Arabian, a member of my staff at Accession Policy, always would remind me about how important aptitude testing is. She is absolutely right. Recruit quality matters because what we recruit remains in the force. There's no lateral entry, as the military is a hierarchical organization. In fact, recruit quality was General Thurman's first recruiting principle. Let us all never forget that.

How you measure quality then becomes an issue. Whether it's AFQT score plus an education credential as well as some collection of noncognitive attributes such as leadership, drive, and motivation is an empirical question. The challenge for the psychology community is how to measure these noncognitive attributes. We know the relationship between AFQT and performance, and the relationship between education and attrition. We know less empirically about the relationship between noncognitive measures and performance. This is something that the research community must determine unequivocally.

Chris Jehn:

I just wanted to add a comment on the concern Bernie expressed about the military becoming a family affair. I noticed there were a few nods in the audience as if this mattered. I don't think it does, Bernie, and here's why. It's not surprising that somebody whose parents had been in the military is a little more inclined to be military servicemembers than those whose parents were not. It's a testimony to the positive nature and the positive elements of the experience.

The question of representation and how it's defined—in terms of racial characteristics or socioeconomic characteristics—has come up repeatedly throughout the 40 years we're talking about. Alan Greenspan emphasized to me that this was a big issue with a number of members of the Gates Commission. It always struck me as a fundamentally erroneous notion, that somehow the military ought to be representative of something, and you can define it as people who aren't family members when somebody else will define it in racial terms, and somebody else will define it in terms of the socioeconomic characteristics.

The point is you're trying to recruit people who find the military attractive work. You want people in the military who want to be there. If it turns out that more of them are one race than you like or somebody else likes, so be it. Which members are you going to tell they can't join who want to join? Nobody ever talks about that. How are you going to decide who is not accepted in the military from a nonpreferred category.

I think this has been a horse that we've beaten to death. I don't think it's one that's particularly relevant in any dimension. The issue to me has always been very simple. How can any large organization be better when a huge fraction of the population doesn't want to be there? That's what we had before 1973, and that's not what we've got today. That's what makes the military a strong and effective organization—people who want to be there.

Curt Gilroy:

Thank you, Chris. I would like to thank the panel for insightful remarks and also thank all of you for participating today in honor of Walter, Marjorie and family, Eleanor and Jessica. I would like to thank all those in the room for all of the work that each of you has done in support of our military. It's something that Walter would certainly be proud of and he would thank you for it.