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ORAL HISTORY—

Barbara Everitt Bryant

This is an interview conducted on January 19, 1993, with former Census Bureau director Barbara Everitt Bryant [Nov. 1989-Jan. 1993]. The interviewers are Frederick G. Bohme and David Pemberton of the Census History Staff.

Pemberton: I'd like to start by asking you a little bit about your background. Could you summarize your education, areas of study, and previous employment?

Bryant: Well, I have an undergraduate degree from Cornell University in physics, which makes everybody immediately say, "Why did the director of the Census Bureau study physics?" I went into physics with the idea of being a science writer, and I was. So, after Cornell University, I went to McGraw Hill Publishing Company in New York and worked on an engineering magazine, where I was first an editorial assistant and then became an editor.

In a sense, the one thread that goes through my whole career is being a writer who explains technical things to a lay person. Clearly, I am no longer in physics and I would be a very rusty physicist. In the next phase of my life, I did go on and do science writing for the University of Illinois after I got married and my husband was finished doing graduate work there. Then I took the mother/housewife route and was out of the labor force for 11 years, while three children were preschoolers. I can't say that I was completely out, because I did freelance writing and did do a lot of volunteer work. In my volunteer work, I was always the editor—the editor of the church newspaper, the editor of the Michigan League of Women Voters' newsletter. So again, this sort of technical-writing thread stays through.

The day my youngest child went to kindergarten, I had a call from a branch of Michigan State University, known as Michigan State University at Oakland. A representative there said, “Are you ready to go back to work?” and I said, “Oh boy, am I!” I went up there really to do public affairs for them and then became science course coordinator for the Continuing Education Division. As that university grew rapidly and became free-standing, it was called Oakland University in Rochester, Michigan. Well, after a couple of years back in the labor force and at a university, I realized that you don’t go anywhere in a university with just an undergraduate degree. So I went off to Michigan State University, the home university, with the idea of just getting a quick “Brownie point” in what I was already doing, which was journalism. I did get a quick master’s [degree] within the year in journalism, but by then had become totally hooked on communications research.

Communications research then took me into survey research, which is one of the tools of communications research; you do attitudinal research, opinion research. So I got all the methodology and techniques of survey research, which led me eventually to the Census Bureau, but only about 25 years after that.

When I came out with a Ph.D. in communications research, I was offered a job with Market Opinion Research, which was then a small regional survey research company headquartered in Detroit, Michigan.

Pemberton: **Could I interrupt you to ask you put a date or two on some of these things? We do deal in chronology a little bit.**

Bryant: Certainly. My degree from Cornell was in 1947, and I was at McGraw-Hill in 1947 and the University of Illinois in 1948-49. My children were born between 1950 and 1955. I went back to work in the fall of 1969, when the first went to kindergarten. I then got my master’s degree in 1967 and my Ph.D in 1970. I joined Market Opinion Research (MOR), overlapping the final few weeks of the Ph.D, where I was defending my dissertation and already onto a very large survey research program for MOR. I hit Market Opinion at the time that it was ready to take off, but I think I also helped it to take off. In the very first study I did for them, I said, “I don’t want to come to work until fall. I’ve ignored my three children all through graduate school and I’d like to spend the summer with them.” Their answer was, “But, we already have this big survey of Ohio high school students in the field and we’ve got to have someone to write it.” Well, therefore I went to work in June, not September, and by October had actually published a book called *High School Students*

Look at Their World It was funded by the Department of Education of Ohio and distributed to all of the libraries in the State and to all the principals of all the schools. So, my first project at Market Opinion Research was a big hit.

Then I went on, and the company grew to become a nationally recognized company. I developed a clientele of educational organizations, media organizations, and nonprofit institutions. I wasn't in commercial market research, such as "What kind of toothpaste do you use?" nor was I in the political research, which was a big part of the company's work. The company was really divided half and half: about 50 percent was political research and the other 50 percent was what we called consumer media/social. I ran the social research part and worked heavily in the media part.

How did I get to the Census Bureau? Meanwhile, I became nationally active in the American Marketing Association (AMA) and served two terms on the national board, one as the midwestern regional vice president and one as the vice president for market research. That led to the AMA suggesting my name to the director of the Census Bureau as a member of the Census Advisory Committee. So, Vincent Barabba, who was then the director of the Bureau, asked the Secretary of Commerce to appoint me to that Committee in 1980. I served two terms, until 1986, and was chairman in 1983. When President Bush ran for office in 1988, the president of Market Opinion Research, Robert M. Teeter, left the company in 1987 to direct Bush's campaign polling and then became head of Bush's transition team. I throw his name in because it's rather clear to me who suggested to the transition team that I be the director of the Census Bureau. Even though I had not worked on the political research Bob Teeter directed, I had worked on the other side of the company. (Most recently, Bob was campaign director for Bush's 1992 campaign. But he had known me, worked with me 19 years at Market Opinion Research and so I know who put my name in the hat.)

What happened to it from then, I don't know, except that in March of 1989 I was contacted by Under Secretary of Commerce for Economic Affairs Michael Darby, and told that there were three finalists for the job of Census director. Was I interested and would I come in for an interview? I met the under secretary and Secretary [Robert] Mosbacher, and eventually it was the secretary who I think made the actual choice.

Pemberton: At what point did you actually—physically—arrive at the Bureau?

Bryant: There was a lot of delay in deciding who would be the director. I finally was put on as a “consultant” on July 31, 1989. I came down to the Commerce Department for briefings and people from the Census Bureau came out to give me briefings and then in September, I came over to the Census Bureau and was actually nominated on September 7.

Pemberton: I believe you were confirmed in November?

Bryant: Well, I never was confirmed at that point. The Senate Committee on Governmental Affairs did not get around to having a confirmation hearing. At the time they recessed for Thanksgiving, there was a lot of concern because the Census Bureau was heading into 1990—the 21st Decennial Census—without a director, so President Bush gave me a recess appointment on December 7, 1989. Which meant that I really did “parachute” into the 1990 census. I became director so that I could fully be open and acting and spokesperson for the census less than a month before the decennial year started.

Pemberton: Baptism by fire there!

Bryant: Yes, and I think I then got a great deal of visibility as the Census director, maybe more visibility than other directors have had, but you can be the judge of that. I got a lot of visibility for several reasons. First, the 1990 census was already controversial before I came. The city of New York and a number of other plaintiffs had filed a lawsuit against the Department of Commerce in 1988, prospective to the 1990 census, to require statistical adjustments for any undercount. The Department of Commerce and the plaintiffs had settled, and the court had handed down a stipulation and order in the summer of 1989 that allowed the census to be taken, required a post-enumeration survey to be evaluated, and then a decision on statistical adjustment by July 15, 1991.

That stipulation and order came down before I finally said I would be Census director. I was debating on whether to be or not, but I felt very strongly that there should be an openness to evaluate and then make a decision on adjustment, so that the stipulation and order’s coming was what tipped me over the border of whether I was going to take the job or not. As a result of this lawsuit, I think there really has been more orchestrated bashing of the census. I would never be able to totally prove that, but there are plenty of others who agree with me, including some who are in the media. So, I really came into what was already viewed as sort of a controversial “hot seat.”

There were several other things about the 1990 census. Here at the Census Bureau, we had a very aggressive census promotion office that was doing everything to make the census visible and had really felt a lack of a spokesperson, so they started throwing me into all of these things. Another thing that probably had some effect on visibility is that after 200 years of census taking and 30 census directors, I was the 31st director and the first woman, so that heightened my visibility a little. In promoting the census [on television], I was on the “Today Show,” I was on C-SPAN, I was on “MacNeil/Lehrer News Hour,” I was on “Good Morning America”; and on radio talk shows up and down the West Coast that our Los Angeles regional office had set up. I was on Black radio and local, small-area radio.

After the census got started, the mail return (around 63 percent) wasn’t what had been projected; we had budgeted for 70 percent. By that time I had been on television and radio enough that the Commerce Department’s public affairs staff felt very comfortable to put me on again because every 1 percent we could get the response rate up was worth \$10 million because that’s what it would cost us to follow up with all the people. So, I had sort of a second round of publicity for the census as a result of that.

Another thing was that we had a very active [House of Representatives] Subcommittee on Census and Population that held frequent hearings all through the census on the progress of the census. I was the first director to come in since C-SPAN [televised congressional sessions and activities] where C-SPAN covered all those things. As you know, if you’re on a hearing on C-SPAN, it’s carried “live” and then it plays again about 6:00, and again at 8:00, and again at 10:00, and at 2:00 in the morning. I had never realized what an audience C-SPAN has until I was on it so much.

Pemberton: Could you tell us a little bit about the confirmation hearing?

Bryant: Well, the Senate Committee on Governmental Affairs finally got around to my confirmation hearing on July 12, 1990. At that point, most of the census-taking was over. Now the Committee on Governmental Affairs also has oversight of the census and had not had any hearings on the Senate side (but we had had many on the House side), so they decided to make my confirmation hearing also their oversight hearing on the census. Therefore, it was like running as an incumbent, because it was a 4-hour hearing, 3 hours of which were on the conduct of the census and 1 hour was my actual confirmation hearing. The Senate then voted unanimously for

me, somewhere between 2 and 3 o'clock on a morning in early August. Our congressional affairs director, A. Mark Neumann, called me at 3 o'clock in the morning; he knew I'd want to be awakened to tell me that I really, finally, was a Senate-confirmed Census director.

Pemberton: This must have been just before Congress recessed?

Bryant: Yes, it was. As a matter of fact again, just before they recessed.

Pemberton: You mentioned in our discussion earlier that you had kind of six goals to which you then added a seventh. Could you list the six and perhaps talk a little bit about each?

Bryant: Yes. I came in with an agenda of things I wanted to do. The period when I had that recess appointment allowed me to fine-tune that agenda, so that I really set out those six goals for my tenure. Three of them I think any Census director might have had. The first was to finish the 1990 census accurately; the second, to improve the quality of economic statistics, that's one of those ongoing things that I think we always support; and thirdly, to make certain that Census automated data processing (ADP) computers are continually upgraded and modernized.

The other three goals, I think, were specifically my own. One, the fourth, was because of the situation I found the Census Bureau in: Our statistical standards and methods directorate (we later renamed it "Statistical Design, Methodology, and Standards") was just "floating." It had had no associate director for 2 years. As I interviewed people here in the summer of 1989, I had the feeling that the Census Bureau had really lost a little faith in its ability to attract someone of national stature. So I started working, before I was even nominated in the summer of 1989, on Robert M. Groves of the Survey Research Center at the University of Michigan, an associate professor of sociology, to come with me to the Census Bureau and take a hand in early planning for 2000 and to recruit and rebuild the statistical methods directorate. He agreed to come on what's call an IPA [Intergovernmental Personnel Act] with the University of Michigan, whereby he would come down for a few years, but not stay permanently. I felt that in those few years he could do some of the things that I saw needed doing. So, rebuilding that directorate was my fourth goal.

My fifth goal was to lead the Census Bureau much more heavily into computer-assisted interviewing. I was very surprised that my medium-sized company, where we had been running 3 phone rooms and 150 computer-assisted telephone interview (CATI) lines, had a much bigger and much more

sophisticated facility than what I found at the Census Bureau, where they had been experimenting with CATI for 10 years and really had not built up much of anything. And CATI was only over on the demographic side—not being used throughout the Bureau. So, I did set that as a goal. It’s one of the ones I think that we have moved on most magnificently, partly because after the census was over. I appointed Stanley Matchett, who had been doing the field directing for the census, to be what we jokingly called the CASIC (computer-assisted survey information collection) “czar.” His official title, of course, is “division chief,” but I still think of him as the czar. With the help of some outside experts he brought in on methodology and software panels to “benchmark” and make recommendations, they really expanded this computer- assisted interviewing “vision” way beyond what I had in mind, and to the long-run great benefit of the Census Bureau, I believe. As I leave here in 1993, I know that by 1996 all of our interviewing is going to be computer assisted—either telephone, laptop computer (called CAPI—computer assisted personal interviewing), and on the economic side going into things like touchtone data entry, voice recognition, and computer-assisted data entry for mail surveys. I’m very pleased with how this has come along. We now have a CASIC staff. We are adopting software that is used in other places as well—other statistical agencies in governments and the academic side, so that we don’t go it alone. We will let the marketplace do some of the updating of the software for us.

Finally, my sixth goal was that I was very aware that the 1970, 1980, and 1990 census were basically of the same design. In the meantime, society has changed dramatically. I thought there now was the need to really take a whole new look at census taking, sort of start from zero base and see how you would build up a census-taking operation that fits what we expect the society to be like in 2000. Of course, the society will always surprise us. We were able to first set up a task force [the Task Force for Planning the Year 2000 Census and Census-Related Activities for 2000-2009] with a technical committee of mostly Census Bureau people, a policy committee with a chairman at the Commerce Department to work with the other Federal agencies, and an outside advisory committee of all sorts of organizations that are stakeholders in census data. We set up the task force in 1991 and were able to get funding for early research in fiscal 1991, which was 3 years ahead of the 1990 cycle. The reason we needed to move out ahead is that because of procurement in Government and the size of the census operation, you really have to have your design locked up by the middle of the decade—by the

end of 1995. If you're going to really explore different methodologies and ways, you've got to do the experiments on that in 1992, 1993, and 1994.

Bob Groves led the technical committee originally, which was one of the reasons I brought him into the statistical methods directorate. He recruited Robert Tortora from the National Agricultural Statistics Service (NASS) to become a division chief in his directorate. Then, when Bob Groves did finally leave after 2-1/2 years to go back to the University of Michigan, Bob Tortora stepped up to head the 2000 census research efforts. We also set up in that directorate a 2000 Research and Development Staff to carry out the experimental work.

Now, when I say the 1970, 1980, and 1990 censuses all had the same design, I don't mean to imply that the Census Bureau didn't make enormous improvements, particularly in automation. The data capture is much, much faster than it was in 1970. The great breakthrough for 1990 was the development of the TIGER (Topologically Integrated Geographic Encoding and Referencing) system, which is a digital data base from which you can extract and print maps in every kind of size and configuration—small area, large area. Also, the 1990 census was the most automated in history in terms of a management information system with daily reporting on where every housing unit was that needed to be followed up on or whether a questionnaire had been returned for it.

So, I am not downgrading at all the great progress here at the Census Bureau. But I question the idea of taking a decennial census by essentially building the best mailing list that you can and every decade building it again from scratch. Then, you mail out to all the housing units on that list and wait for them to return the mail. That's not the way you can do the entire population. Then, of course, the census has always gone out and called in person on either the small percentage of the households for which no mailable addresses are possible and those who don't return the questionnaires.

Looking ahead to 2000, I think we'll still use mail for a big part of it; after all, over 70 percent of those who get counted responded by mail in 1990. Their returns did come in by mail, but the effort of getting the rest of them was enormous. Our methods were not reflective of the different lifestyles, the different ways that people live—the huge growth in nontraditional households and things like that, and households not headed by a married couple. There is much more “out of homeness”: people are no longer at home to answer census questionnaires or be there when you follow up on them. I think for 2000, we'll be

looking at a lot more varieties of ways to get response and we'll have a lot more recognition of the diversity of our population. Already, 25 percent of us—according to the 1990 census—are American Indians, Hispanics, Blacks, or Asians and Pacific Islanders. Twenty-nine percent of our households are nonfamily households; only 55 to 56 percent are married-couple households where one or the other sort of takes responsibility for getting the family paperwork done. So we've changed a lot.

Pemberton: Indeed. Now you mentioned that there was a seventh goal.

Bryant: Well, about midway in my tenure of 3-1/2 years (I go out tomorrow, January 20, when the Bush Administration ends), we got into “total quality management” [TQM]. This really sort of came to the Census Bureau, I think, from “on high.” The whole Federal Government was getting into it somewhat at the time. Once we got into TQM and changed it around to become “Census quality management” [CQM], I think the Bureau has taken this and run with it further and faster than any other Federal agency that I have been able to identify. I can tell that by the fact that I've been asked to speak at a number of Federal conferences, one run by 3M [3M Corporation, formerly Minnesota Mining & Manufacturing Corporation], which is our consultant, and one at the Federal Forecasters Conference. Calling it “CQM” was one of the first employee empowerment things we did. One of our employees thought it might last longer if it didn't sound just like another “buzz word” like “management by objective” and “zero-based planning,” and so on, and suggested “Census quality management” rather than “total quality management” for us. Once we got going on it, we did get all of our employees trained. About 11 percent were trained by outside consultants (the 3M Corporation and McManis Associates), but one of the better decisions we made was to bring training in-house. That had several benefits. The first obvious one, of course, was that it cost less. It would have been impossible to budget to train nearly 10,000 employees, especially when about 3,000 or 3,500 are field representatives (interviewers) spread all over the country. The second reason it was better was that we were then able to tailor the curriculum a little more to being relevant to Census work. The third, and perhaps greatest, benefit was that we developed a core of trainers. Of course, you can't teach something if you don't believe in it. Converts make the best teachers. They gave us a core group that really moved out on it. At this point we've set up somewhere between 150 to 200 employee process action teams (PAT's) who have taken on sort of bite-size quality-improvement projects that they design and execute.

Pemberton: Perhaps we can go back and I can ask you a few questions about some of these.

Bryant: Continuing with CQM, I guess one thing I would say is that, except for the Data User Services Division, this Bureau—when I saw it—was not a terribly customer-oriented place. It was much more process oriented, and to a great extent we still are: “Get the survey out! Get the project out!” I think the biggest thing that’s happened with the CQM is to make everybody recognize that they have customers. If you’re a computer programmer, your customer is the analyst who’s going to use your work; or if you’re a secretary, it’s the person who is going to use the material you’ve word-processed. Everybody now recognizes that they have customers. They may not think that “the customer is always right,” but they know that pleasing customers is sort of the name of quality.

Bohme: I don’t want to take you “down the garden path,” but have you read Eric Larson’s book called *The Naked Consumer*?

Bryant: No, I haven’t.

Bohme: Oh, I think you should; it has a whole chapter which deals with the Census Bureau and he calls it the “cement elephant.”

Bryant: Oh! That I’ve got to get my hands on! Maybe it’s too late for me to chip the cement off the elephant, but we had been very process-oriented. I think CQM could take root here, however, because we are production oriented. We know that we have users; we know that we have products. Also, statistical sampling was invented at the Census Bureau, so that the idea of statistical quality control is kind of a natural [thing] here.

Bohme: One of Larson’s main themes is how easy it is now to match local data with census small-area data and have far more information about individuals and individual households than the Census Bureau ever intended that people have. I wonder whether you would comment on that.

Bryant: Well, one of our biggest problems at the Census Bureau is to really convince respondents that we do protect the confidentiality of their answers. I think the ability now to merge data bases makes it much harder for a person to understand that the data did not come from the Census Bureau. The fact is that a data house can link consumer lists—magazine subscription lists, those little cards that you send in when you buy a microwave oven and get the warranty on it—and then link them to the census tract or block group and have average incomes for the neighborhood. It

doesn't really matter that the census did not give out your income. If others have the average income of the neighborhood, they know what sort of socioeconomic level it has. But I think it's very hard for people to believe that we did not give out their income because the data suppliers will advertise "Latest 1990 census data! We can find your market niche!" Having been on the consumer-research, private-sector side, I know very well exactly how it's done. I was involved with a company that did it, but we never suggested that individual data had come from the census.

Bohme: **Has this issue of confidentiality come up in any of your conversations with the [House of Representatives] oversight committee?**

Bryant: I think it comes up all the time, but more often it came up [with the public]. I told you I was on a lot of radio call-in and talk shows. I never was on one of those shows but what the subject came up—"I don't want to respond," or "Why should I respond?" or "How can I be sure that the Census Bureau hasn't been telling everything about me?" So, it is in the head of the respondent out there, I'll tell you that. There is also a lack of understanding that we don't share the information back with the Internal Revenue Service or the local tax authorities or the zoning commission. The Census Bureau has an absolutely pure reputation, but the perception now is that there's one great data base in the sky which everybody can plug into.

Pemberton: **How did it feel to arrive here after virtually all of the census planning had been done, but you were going to be the titular head of it and have to defend and explain it to all comers?**

Bryant: This was very difficult. First of all, I was very fortunate that when I came in, I found the census was very well planned and everything was on schedule. If I had found that it was a mess here, it would have been too late to really straighten it out. I found a few minor glitches which I was able to do something to move along—get the promotional products out in the field a little faster, and stuff like that, but basically the career staff here had done a very, very thorough planning job and all the ducks were in line. However, it was hard for me to defend a census that had two elements of design that I would not have stood for if I could have had any say in the design. The first of these was the design of the questionnaire itself. I came from the academic and private sectors, where we always made questionnaires look easy even if they were hard. I came here and found an easy questionnaire that had been made to look difficult. First of all, there was the fold on the questionnaire, and then when you opened the envelope, all sorts of instructional materials fell out for what was basically the short form—seven individual questions and four or five housing

questions. I will roll over in—I hope not my grave, but, wherever I am, I will go up like a mushroom cloud if this happens again in 2000. I think it won't, because one of the things we have put into this 2000 planning, early, is experimenting with a “user friendly” (to use that overworked term) questionnaire.

The other thing that I was very unhappy about—actually, I asked, assuming it would happen—was when I said, “And what's the date of the second mailing of the questionnaire?” When I found that there was no second mailing, I was terribly distressed. There is plenty of literature in the field and I've done enough mail surveys in my time to know that you can always bump up the response rate another very significant increment with a second mailing. This would have been particularly true for the 1990 census. The whole promotional campaign and all the television and focus right around April 1 carried well into the next several weeks. This would have served to heighten awareness that somebody who has already thrown away the first mail questionnaire had a second chance at it. So, it was hard for me to defend that. I never vocally came out saying these two things were wrong until after the census was over. I wasn't here, and I felt that I had to take what was here. In general, I was 95 percent satisfied, but I have been vocal since on the 5 percent that I felt was poorly done.

Pemberton: **One of the things that a Census Bureau director has to handle, particularly at the time of the decennial census, is crisis management. Were there any crises that you dealt with over the course of the 18 months just prior to data collection to handing out the State numbers to the President, etc.?**

Bryant: Well, quite frankly, I'd say it was one long crisis. Again, this does not reflect poor planning; it's just that there are so many parts of the operation and also such enormous media and congressional scrutiny that you felt as though you were constantly fighting off the critics. The tendency, partly “orchestrated” because of the lawsuit, I think, was for everybody to come in and be a critic.

A minor crisis: As of January 1 [1990], I realized that the Census Promotion Office had had an overly ambitious number of promotional materials designed for the census. Well, that was well and good, but they hadn't gotten out to the field offices to be distributed, or only a portion of them had. So I had to jump in and say, “O.K., what's produced? What's ready? Let's ship it out; forget those last 17 different beautiful brochures you were going to do in 32 languages. Let's get the outreach program materials out through the regional offices and data user

services. The field had done a fantastic job of recruiting 56,000 community organizations to work with us, and these organizations, of course, were just screaming for materials to distribute. Many of them were designing their own, which also gave a less focused kind of a theme, where we had the slogan, “Answer the census, it counts for more than you think.” In the absence of materials, many of these helping organizations had developed all of their own themes and their art work.

The biggest crisis of all was when the response rate didn’t come in on the mail questionnaire. The Census Bureau recognized in their planning that the 75-percent mail-return rate of 1980 would probably not be achieved. They recognized that people are being much more surveyed nowadays. We are getting much more direct mail. Household structures were changing; obviously the Current Population Survey shows us that. So staff had estimated a 5- percent dropoff, but instead, we had a 12-percent dropoff! The mailout to all housing—and that includes, of course, households that are vacant as well as occupied—went from a 75-percent return in 1980 to 63 percent. Well, we had budgeted for 70 percent, and that meant that, first of all, we had to hire additional interviewers/enumerators. People today will not believe it, but at the start of the 1990 census, unemployment was only 5.2 percent. That’s almost the irreducible level on unemployment, and that varied a great deal by market. There were some markets with only 2 or 3 percent, and all of a sudden to be faced with 7 million extra households to call on! That was a recruiting crisis, a timing crisis. It also was a budget crisis. Of course, we did not have the money to do it and so I had to go for a supplemental appropriation. By then I was learning that in government, things like that are very cumbersome and difficult. I couldn’t just start screaming out loud, “Hey, we need 110 more million for that!” We’d already had some budget cuts that had taken more out that had been in the original budget. There was all sorts of going through budget offices, the Department of Commerce, and then contacting Congress and all of that. I got into taking some shortcuts that almost got my throat slit at certain levels of the bureaucracy for heading out directly for this money. But we were fortunate, and we did get it, and the critical thing was getting it in time, because to have shut down the census operation would have lost the momentum, so that time was absolutely of essence. Some “guardian angel” was watching over the Census Bureau that the money came through in time. This was an area where our congressional oversight committee was very supportive and very helpful. Even though this was an appropriations

matter, they really came in, held a hearing and everything, to make it very clear that it was not a case that we had squandered money; it was a case that the population was not behaving the way they had been anticipated to behave.

Pemberton: **One census-related question, which actually touches another area, deals with your key role in the development of CASIC here. One of the things one hears about is that people are getting more and more junk phone calls, which is somewhat similar to perhaps 10 years ago of people getting more and more junk mail. How has the Census Bureau begun to take that negative reaction on the part of respondents to the 2000 census, for example, or to one our surveys, into consideration in planning?**

Bryant: The Census Bureau gets absolutely outstanding response rates on surveys compared to anything that happens in the academic sector and certainly anything that happens in the private sector. The fact that an enumerator says, “I’m here on behalf of the Census Bureau,” has a lot of credibility, even though on a voluntary response, people were lazy about sending back a questionnaire. When they’re called on at the door with a very professional enumerator (we call them field representatives), they tend to cooperate.

The other advantage the Census Bureau has in surveys is the fact that we do have the addresses from the census itself, so we can send advance letters directly to a housing unit. I think on all of our surveys, we do send one, explaining the purpose of the survey and explaining confidentiality. The “officialness” of the letter certainly helps open doors. Now the question is, “Will people pick up the telephone or stay on the telephone?” So far, the Bureau does very well on response rates on computer-assisted telephone interviewing (CATI). Again, of course, the person has often been pre-prepared by a letter. The other thing is that most of the CATI we’re doing is for the second, third, or fourth interview with the same respondent. In surveys where they stay in the sample for a year or a year and a half, we largely do the initial interview in person and then subsequent followup interviews by telephone. That improves response rate if you’ve established rapport with the person initially and interested them in the reasons or purposes of the survey.

The credibility of the Census Bureau is an absolutely priceless asset, but it’s not one you can ever take for granted; you’ve got to keep working on it all the time.

Pemberton: **Would you anticipate that the response on the census side when 2000 comes around would be similar? We won't be able to do the same kind of preparation of everyone with a mailing piece, but we will be able, I assume, to do the same kind of a nationwide promotion campaign with an individual segmented campaign towards particular markets.**

Bryant: I think that society is changing enough that we cannot count on having the same response rates for 2000 that we had even for 1990 even if we do a lot of different ways of approaching the households. One of the things our 2000 research is showing us is that we have to stratify the samples.

Eleven percent of households in the Nation fall in what we call low-response areas, according to the response of that neighborhood to the 1990 census. Eighty-nine percent of the housing units fall in normal-response areas. Even in our tests, we are getting about a 20-percent difference in response on testing mail questionnaires between the low- and high-response areas. Therefore, as part of the research, the 2000 Research and Development Staff are now looking at what they call the "barriers design" of how you get to those kinds of low-response neighborhoods. I don't think that it's going to be just by sending out a questionnaire in the mail. I think we may well find that we must do those the way we do Alaska villages—start in mid-February and go out and call on those in person with enumerators who are available to speak many languages, because some of those are undoubtedly non-English-speaking areas. They also are areas where there are concentrations of illegal immigrants, areas with nonfamily households. Not all of the low-response areas have low-income or different racial or ethnic groups. Some of them may look very middle class on the surface but not have the traditional family kind of household. We're also designing the questionnaire to better suit a nonfamily situation; it has individual blocks for person 1 or person 2 to fill out, so that it can be passed around within a household where unrelated people are living together.

Pemberton: **Can you foresee a time when telephone data collection will take over, perhaps even a majority of the data-collection activity?**

Bryant: Not if the interviews stay as long as they are. I came from a company that did a quarter of a million telephone interviews a year. One thing we learned is that 20 minutes is about as long as you can stretch the telephone interview. There are instances where you could go further if the person is terribly interested in the subject matter or completely convinced of the value of the survey, or has been inter-

viewed in person at some prior time. The kind of rule-of-thumb out in the industry, if not in the Census Bureau, is that a telephone interview has to be of fairly limited duration. So I don't think CATI is going to take over some of these health interview surveys or things we do.

Phone interviews are useful for followup in the Current Population Survey or the Survey of Income and Program Participation (SIPP). Once we have a great deal of information on you as a respondent, the subsequent interview is really limited to whether you are working in the same place you were and if anything has changed in your sources of income. Those kinds of interviews are ideally suited for telephone and much more efficient, usually, for both the interviewer and the respondents. Respondents would rather be telephoned than have to make a date with an interviewer. I keep using the word "interviewer," which comes from my past life. We call them "field representatives" at the Census Bureau, and I think it does reflect the great professionalism of the people who do our data collection.

Even on the personal visits, now, we're shifting over to using laptop computers. The advantage of these is that you can program the computer so it starts cleaning the data as you enter it, but also do much more complicated questionnaires. For example, in a health interview, if you have one health condition, there's one battery of questions; if you have another health condition, there's another battery. The computer, of course, just skips over and presents the next question that should be asked on the screen to the field representative.

Pemberton: **One of the other areas that you indicated was an important area for you to devote attention and consideration was economic statistics. Obviously, a couple of questions that arise here are—One, what sorts of applications are there of this technology to data collection on the economic side? Secondly, how would these relate to the Boskin initiative, which was overall geared toward improving the quality of economic data?**

Bryant: I had it on my agenda to help improve economic statistics, and I was sort of grateful that the Boskin initiative just "fell in my lap." However, it did not turn out to be as large an initiative—the technical term is the "President's initiative"—for improvement of economic statistics. It got Michael Boskin's (the Council of Economic Advisers'] name attached to it. It was a look at the whole statistical system—not only the Census Bureau, but the Bureau of Labor Statistics, Bureau of Economic Analysis, NASS in Agriculture—to see what the holes are that should be plugged and put some money into those holes. In actual fact, I think, in the first 3 years, we were

getting about 42 cents on the dollar requested for the initiative, and then this year got none of the initiative. So it has really dropped to about 20 cents on the dollar that was supposed to be the Boskin initiative. But that 20 cents (or the dollars that came with it) has allowed us to do some very specific improvements in adding survey activities that hadn't been here before.

Then simultaneously with that, the economic programs area already had gone after a huge increase in the 1992 Economic Censuses, so that whereas in 1987 they covered 78 percent of gross domestic product (GDP), in 1992 they are covering somewhere between 96 and 98 percent. Well, that is an enormous jump and it's almost entirely in the service sector. Agriculture and manufacturing we've been measuring very well for over 100 years. The service sector, which is where 70 percent of the jobs now are, has been the big gap. Even learning how to measure the service sector, of course, has been a major research for us here. So, those two things together are a great help—the Boskin initiative and this great expansion of the economic censuses which the Census Bureau had already gotten the congressional appropriators to agree to for 1992. As I leave here, I can say that economic statistics are improving.

You asked about computer-assisted interviewing. I think most of the economic censuses and surveys are done by mail because they really require somebody in the financial office of a company to fill out a form. But there are several ways in which we are putting CASIC in. For example, many retailers only have to report one or two numbers a month—what their sales were for the month. We're now doing that with touchtone data entry for some. We're doing direct electronic data interchange from their computers to our computers for some of the big retailers in the economic census. The economic area is experimenting with voice recognition: if you have only a few questions to answer, a tape recorder comes on and asks you the questions and you fill in the answers. The computer can actually recognize that you said certain numbers and do a direct data entry. All of the computer assistance also puts these into the data base so that there is no longer the need for data-entry in between, because the interviewer is also entering the data. The economic side also does followup of nonrespondents and brings up on a telephoner's computer screen the actual form that was sent out. They can interview the nonrespondents, particularly if they have that form in front of them. They can look at it. Some of the things we're experimenting with have to do with

advancing software. CATI software hasn't been as well advanced for forms as it is for successive-question interviewing.

I'd like to talk a minute about budgeting. I think one of the most difficult things in Federal government is the number of times we have to defend the budget. Literally, the Census Bureau budget, from the time we develop it here, goes through six different approval review levels. When I came, I felt very much the need for honesty in government—be realistic, do realistic budgets, and then not move off them. Well, what you soon learn is, if you're going to get hit at six levels, you've got to go in with a fairly generous request in the first place. Our budget in the Census Bureau is first reviewed at the Economic and Statistics Administration (ESA) in the Commerce Department. Then it's packaged through them but I (the director) am still involved in the defense process; it's a separate line from the ESA budget. The Census budget then has to go to the Department of Commerce. Usually, the Department of Commerce makes some cuts and then we have another round—and I'm not even counting that in the six—of going back in appeal; and I feel we've been fairly successful on those appeals. The third level, at the Office of Management and Budget (OMB) is a major review and a major defense of just why/how we're doing and spending everything. Then it goes from there to the House Appropriations Committee, where again we do a defense. I say "we"—I mean the director of the Census Bureau personally—does all this for the Census. And then, finally, the budget goes to the Senate, which does not hold separate hearings on it, and then to the Conference Committee. At each of these places along the line, we can appeal. But, the fact is that only once in the whole time have I ever had somebody say, "There should have been more in the budget," and actually got \$5 million extra from OMB for the year 2000 planning because OMB didn't think the Commerce Department had been generous enough with us. In all the times I've defended the budget, now for 3 or 4 years, that's the only time that anything was ever given to us. Everything else is to cut and pare, and that's just too many layers to go through. It becomes ridiculous, and it really bothers me the amount of time our staff spends defending the budget. At each of these levels of review, a whole lot of written questions come back and have to be answered. So our technical people—our associate directors, our division chiefs, our budget officers—are putting in an inordinate number of hours defending the budget once they've made it.

Pemberton: Having identified what might be called the weaknesses in this process, do you have any suggestions?

Bryant: Well, take out some of those layers; easier said than done, but it's too many layers. It makes getting the budget a yearlong process. The first year I was here, it was so hard to recognize that I was operating on one budget, defending the second, and developing the third. My head really got spinning at times about which number I was talking about. However, in the 3 years that I've been here, the Census Bureau has done fairly well on budgets; I can't really complain. I do feel that the 1990 Decennial Census was adequately funded and we were, as I said earlier, fortunate to get the critical thing, which was the supplemental appropriation. It wasn't until this year, with the 1993 budget, that we did get some fairly severe cuts in that we didn't get any of the Boskin initiative and had to cut back somewhat on decennial products and 2000 research. There was about a \$38-million cut over what was proposed in the President's budget. You have to understand that those first three layers of going through ESA, the Commerce Department, and OMB are the three before it becomes the President's budget.

Pemberton: Was this about an 11- or 12-percent cut off the request?

Bryant: Yes, but the economic censuses are fully funded. The Commerce Department did transfer some money back in to preserve what we thought we might have had to cut out for the Puerto Rico economic census, but we don't. So, I feel the censuses have done quite well.

Pemberton: When you came, you indicated that you had found no associate director for statistical standards and that even before you did, you started discussing the possibility with at least one person, Robert Groves.

Bryant: Yes. The reason I found no one here is that—and this relates to the whole issue of adjustment, which I'm sure we're going to get to in a few minutes—under a prior secretary of Commerce and under secretary for economic affairs, there had been an announcement that the 1990 census would not be adjusted. That had caused sufficient problems that the previous associate director [Barbara Bailar] had retired. I think that left sort of a cloud that couldn't quite be taken off until this court order that reinstated the possibility of adjustments. So, the fact that the post had been empty related to that. But at the time I came in, the stipulation had been handed down. There was no longer a "you-can't-do-this" sort of thing, so it did make it possible then to go out and recruit somebody. The Census Bureau had been inter-

viewing and had a list of candidates, but I thought, gee, there would be a chance of getting Robert Groves, who has a very outstanding record in survey research. I knew him personally. I had hired a number of his students who had just been outstanding analysts. So I proposed to him that wouldn't he like to come down and make a real effect on the statistical system by having some say in the planning of 2000? I think that was the carrot I probably dangled that was too tempting to miss.

Pemberton: **Aha! That may get to something I wanted to talk about, which is that there have been roughly two administrative reorganizations at Census, one of those perhaps a little less extensive, involving the shift of the 2000 research and planning group from the director's staff, more less, to the new associate director's staff.**

Bryant: Well, that was something I told Bob Groves I was going to do if he came, because I felt that the 2000 staff (it had been called the 21st Century Staff) was formed as sort of a think-tank of what society was going to be like. I felt that once the 1990 census was over, we would go much more into the mode of research and experimenting. Statistical design, methodology, and standards is literally the research and development (R&D) place at the Census Bureau. R&D was required more than anything else in those early years.

Pemberton: **A second reorganization is one that is perhaps ongoing, perhaps more or less completed.**

Bryant: It's completed and I'm sort of tearful that it's completed after my time, because it's something we've been working on for over a year, and that is to divide our associate directorships. The one for management services has just got too big a plateful. It has all of the computer automatic data processing and all of the normal things you think of as management—administration, personnel, budget, labor relations, EEO [equal employment opportunity], all of those things. It's not really logical to think that the type of person who would be wonderful in one of those was also going to be wonderful in the other. Computerization is just too big a thing at the Census Bureau. It's sort of an interesting and crazy tale in the sense that we proposed this, and at that point when we put it through for approval at the Department of Commerce, the inspector general had decided that he didn't like some of the things that were happening in our automated data processing (ADP) and computers, and therefore sort of laid on that nothing could happen until they did a complete investigation and

proposed improvements. Well, one of the improvements they proposed was that ADP should have the attention of its own associate director.

Bohme: **When was this proposal?**

Bryant: Oh, at least a year ago, I think. And now I think it's going into effect, is it January 26? I know it's after my time, but it's something that I feel very strongly we should do and the present associate director for management services [Bryant Benton] does too. (He's "acting director"; he's now associate director for field operations.) He's been very much behind this, so this was no reflection on people, but just his own belief that this had become too large. Instead of calling it "automated data processing," we're calling it "information technology."

I brought CASIC up into the director's office; someday perhaps it will go over to information technology or field operations after it falls into place. Obviously, it is information technology. I brought it into my office just because it was clear it needed to be a Bureauwide function. The previous CATI had been developed in demographic surveys and then made part of the field data-collection operation. If we were ever going to bring the economic side on board, we had to have a bureauwide focus, and so I put it in the director's office just to (1) show how important I thought it was, and (2) really look at it bureauwide. Then, once it's operational, I can imagine it not necessarily staying in the director's office; a few years down the line, it probably will go on someplace else. That may have been the way the previous director [John G. Keane] felt about the 21st Century Staff, that he wanted to give it some sort of attention to the effect that we were thinking ahead early. I think sometimes a director will put something there just to say, "I think it's important and I think it will affect the whole Bureau," but that may not be the permanent home of the particular unit.

Pemberton: **This is interesting. The Bureau is divided in a number of different ways, one of which the economic side versus the demographic side. It was clearly your feeling that an effort should be made to apply the CASIC technology to both halves of the agency.**

Bryant: Well, I have a funny story on that. When I was being toured around originally, when I first came, I got this glowing report about how we had the CATI operation in Hagerstown, Maryland, and I went out and I didn't glow quite as big about it as they did because it looked like a pretty small operation to me, but it was a good one. And then I was down at Jeffersonville, our data processing facility. I was just walking around. I saw somebody with a screen who was doing followup interviews

on nonrespondents for (I think) the retail survey, and I said, "I thought the only CATI facility we had was in Hagerstown." They said, "Oh that's not CATI; that's ISPN [integrated surveys processing network]. I said, "That's CATI; you're sitting there with a telephone and a computer screen!" So here were the economic people developing their software, the demographic side doing theirs, and neither of these computer systems or software would have spoken to each other. Neither side has the resources to start developing these kinds of things that cost big bucks in the end, so that was the other reason to see if there were "umbrella" tools that can be used by everybody. Stan Matchett, the chief of the CASIC office, refers to CASIC as being a "toolbox," with various kind of data-collection modules, data-capture modules and so forth. You select for any survey the "mix" of tools you need for that. That concept is what I think will make this thing "sing" in the long run. The economic side is coming on very fast on using some of the most advanced tools in the box.

Pemberton: We wouldn't want to let this interview go without discussing the topic that has dogged you from the time you got here, which is adjustment of the 1990 census and, for that matter, postcensal estimates. Where would you like to start?

Bryant: Well, adjustment has certainly overhung my entire tenure. I sort of feel like I came in a cloud of smoke and only 10 days ago made the last decision, so I'll go out in a cloud of smoke too. First of all, the potential for adjustment had been determined by the court order and stipulation in the New York case, so that, coming in, I knew that I was going to be faced with adjustment decisions. I regretted, frankly, that in the court order and agreement, the decision had been taken away from the Census director and given to the secretary of commerce, who I knew was not a technical person, though a very good and honest person. What I didn't know, I guess, is that I had signed up for a nearly 4-year graduate program in statistics, because I quickly realized that there was no way I could follow this adjustment research without sitting in on meetings of the Undercount Steering Committee (which was what it was called for adjustment of the census) and then the Committee on the Adjustment of Postcensal Estimates. So, I have probably spent 2 to 3 hours in the equivalent of a graduate seminar on statistics for the whole time I've been here, up until 2 months ago. The latest techniques, like loss-function analysis and smoothing of variances, are not really what I had in statistics 25 years ago in graduate school. I can't do them, but I understand them by having asked for a lot of one-on-one tutoring with our technical staff here; they have taught me a lot.

Then, of course, things became very controversial when the Undercount Steering Committee voted 9 to 2 in favor of adjustment of the 1990 census. At that point—and we were facing this deadline of July 15, 1991—our estimate of the undercount was 2.1 percent. Of course, 2 percent wouldn't be controversial if it were spread evenly like the butter on your morning toast. It's controversial only because it goes up and down, and is much higher among Blacks and Hispanics than among non-Hispanic Whites. It's also higher among men than women.

The research had to be done in such a crunched hurry. This was research in the last decade for which they finally published the report only in 1985, and here a decision had to be made in July 1991. From April to July 1991, the Undercount Steering Committee met several times a week. All of this was always sort of trying to improve on something that's 98 percent good. It would be very easy to make an adjustment decision if you had a lousy census. The fact that the census was really quite good made it much more difficult.

After listening in on the research, I agreed with the majority of the Undercount Steering Committee; this became very controversial, of course, because I did recommend adjustment to the secretary. Under the court order and stipulation, he had a panel of eight advisers—four named by the plaintiff and four named by the Department of Commerce. Actually, the secretary of commerce had to appoint all of them, four from the plaintiffs' lists and the rest from his own. The panelists never switched sides, but they came in pro- and anti-adjustment, so that was a 4-4 split. The under secretary for economic affairs, to whom the Census reports through to the Secretary, came down against adjustment, so that meant the secretary officially had 10 advisers, 5 pro-adjustment, and 5 against, which put him in a very difficult situation too. The fact that we did not have unanimity out of our Undercount Steering Committee was probably instrumental, considering that the two who were against adjustment were both the associate director and the assistant director for the decennial census, who supposedly were the ones who knew the most about the census. That, I'm sure, was taken into account.

I do think the secretary had a very difficult decision to make. I've often said it was like being on the fence, but you're forced to step off the fence one way or another. He jumped one way and I jumped the other, but down at the bottom of the fence we weren't that far apart. There never was any question whether you could improve the national estimates. The problem was the 40,000 local units of government. The adjustment model works in such a way that you'd think on

average would come out right, but it doesn't mean it would come out right at every block level. I think one of the things that probably drove [the secretary] is that when in doubt, you don't change 200 years of history.

The secretary then gave me what I didn't realize at the time was another overwhelming job. When he made the decision not to adjust, he did it at a press conference. He also was very open and gave me and the under secretary an opportunity to speak, so that he did not mask my recommendation. Some secretaries would have said, "We're a team and once we do it you will shut up." He did not do that. As a matter of fact, he had been sending me messages all through the whole process that I was to make an independent decision. I think the fact that when my decision was different from his, he actually gave me a platform in front of a great deal of media on which to say this, though, speaks well of the man. Robert Mosbacher [the secretary] was open in his decision-making. Although he was accused of politics, I really do think he agonized over it and that he wasn't playing politics. If he had been, he clearly could have said to a census director who's at the level of an assistant secretary, "Now, I've taken your viewpoint into consideration, but my judgment is...", but he didn't.

We had congressional hearings the next day, both at the House and the Senate committees. Again, of course, we were both asked to speak. In this sense, I had to answer to the Congress, also, whether or not the secretary had invited me. [The secretary] was concerned enough about the fact that those who were undercounted were Blacks and Hispanics, and to a lesser extent Asians and also American Indians. He said that the research isn't good enough now, although we felt we had spent much [time and effort] on it.

At the hearing, he then suggested we continue the research, because he knew we hadn't had time to do all of it, with the possibility of adjusting the intercensal estimates. That turned out to be a bigger job than we realized then. The other factor that undoubtedly went into his decision was the disruption that an adjustment decision would have caused in reapportioning the Congress. Under the law [Public Law 94-171], the Census Bureau had delivered the tapes for redistricting to the States by April 1. Many States were already well along on their reapportionment process. Had we adjusted, it would have shifted two seats in the Congress. Of course, everything within the States, everything would change too. I'm sure he considered that. He also said that he considered the effect on

cooperation with the 2000 census if people felt that the data could be adjusted later.

My decision was much more statistically driven, but we really felt that it had been a good census. We were getting a lot of media bashing about missing 5 million people, but never any attention to the fact that no survey research organization in the country ever gets a 98-percent response rate, except the Census Bureau. But, good as it was, we felt it could be improved and so my decision was based on that. You don't negate the opportunity to improve for a goal of perfection; you can't make it perfect, but you can improve it.

After the congressional hearing, we came back to the Census Bureau and started thinking about intercensal population estimates, which are dated July 1 but not released until December 31. Within a few weeks of looking at what needed to be done to answer all the secretary's concerns about the adjustment research, it was clear to the CAPE [Committee on Adjusting Postcensal Estimates] (as we then called it) that we could not do the research in time to affect the 1991 population estimates, so we set a goal of 1992. The CAPE felt that the nine-person undercount steering committee should be disbanded and a new committee formed that included more input from demographers and from Dr. John Long, who was in charge of the population estimates, so the undercount steering committee had 13 people, of whom 7 were on the original Undercount Steering Committee.

To make a long story short, the research proved to be much, much more complex than we thought it would be. In January 1992, CAPE researchers discovered a computer error that had been made in matching names between the post-enumeration survey [PES] and the census that, when corrected, reduced the undercount estimate by 0.4 percent. What they had been doing, when they discovered that, was rematching the 108 of the 5,000 blocks that had the most impact on "upping" the undercount to look for errors in them. Correcting those made a difference of about 0.1 percent. So it brought the undercount estimate down to 1.6 percent, which now makes it much dicier to decide how to adjust. Originally, we thought, "Well, it's not as important because you don't have to adjust down as far for intercensal population estimates. After all, you're not doing blocks and block groups or census tracts; you're only going down to the place level." However, it turns out there are 44,000 places or combinations of places—like metropolitan areas—for which we make intercensal adjustments.

The CAPE research showed that we could clearly improve the count at the national level, and in doing that, of course, improve the undercount of Blacks, Hispanics, American Indians, and persons in rental housing. And then, on average, we could improve the count at the State level (when I say “on average,” that doesn’t mean that it would be necessarily perfectly so for every State). But the CAPE committee was unable to measure what would happen down at the local level, even though the adjustment model actually put the weight on every person according to their demographic composition so that, technically, they could do the adjusting. It was just that there would be no way to prove to a local community that you had done theirs correctly. I still chose to make a decision pro-adjustment, but before I finished my report—after I’d written a draft of it, I did meet with the lawyers who were defending the secretary’s decision in the New York lawsuit.

Persons from the general counsel’s office of the Commerce Department and the Department of Justice felt that there was no way the Census could win lawsuits filed against us for adjusting the intercensal estimates. The reason is that there is a challenge process on intercensal estimates. Normally, this has just been a limited number of communities making the Census Bureau show how they figured the growth, migration, and death figures. However, there was nothing in the law that said that they couldn’t look at the adjustment figure as well, which would have been added to (or subtracted from) the census count. Since there was no way we could measure how accurate that was, we might be subject to thousands of lawsuits from all these local communities which we would lose, and which would tie up all our good statistical people in the defense process. That could really tie our hands for 2000. So, for legal and policy reasons more than statistical reasons, I made the decision not to adjust the intercensal population estimates.

Pemberton: So that decision was in the director’s office rather than...?

Bryant: That one was delegated back to the director’s office.

Bohme: Isn’t that the one that you had public hearings on?

Bryant: We had a public hearing on it. We had two *Federal Register* notices about the options that were open to me; we had 1,118 responses. Almost all of them were non-technical, only 15 or 20 of them were technical. The rest all sounded like fund-raising appeals as to why my city would be hurt or why my city won’t be helped, or “Why my State?” There was a very orchestrated letter-writing campaign from Flor-

ida. I think of the 1,100, somewhere between 400 and 500 of the letters came from Florida—from every municipality, State agency, and correctional institution—and I was about expecting them from every inmate of every correctional institution.

Adjustment would have made the most difference to California and Texas; it would have hurt Pennsylvania and, to a lesser extent, New Jersey, Ohio, and Michigan. But I am talking about changes of very small fractions or way less than 1 percent in their census base counts: +0.14 percent for California, +0.08 percent for Texas, -0.06 percent for Pennsylvania, and -0.03 percent for New Jersey, Ohio, and Michigan.

What we now know is that we should never again do a two-number census—a census and then an adjusted number—because, first of all, people change sides between. Many of those in the New York lawsuit are from States that would not have benefited from adjustment. There was the assumption going in, in 1988, that this undercount was entirely a problem of big, old, no-growth urban centers. What the research showed was that the undercount was greatest in high-growth places that have had a lot of immigration from outside the country. This meant that the two States with one-quarter Hispanic population [California and Texas] were the two that had the largest undercount.

If, statistically, California were cut off—which you can't really do with 12 percent of the population—you would almost be unable to measure undercount in the 49 States plus the District of Columbia. That doesn't mean that you still would not have some big cities with undercounts, but California is such a big contributor to the undercount, which, in the end, we're saying was 4 million people.

We are making available the undercount estimates, so that any place with 100,000 and over can see what we think their population really is. We also have told the statistical agencies that sponsor demographic surveys that they may have their survey calibrated to the adjusted figure if they wish, and if the survey is not used for distribution of Federal funds. Federal funding programs are required to use the “official” population estimates, which remain unadjusted. That last [proviso] becomes the “hooker” in it, because a lot of survey sponsors don't even know how their data gets used after it gets out there; there are so many thousands of uses of it. Right now, OMB is coordinating efforts by the Bureau of Labor Statistics, the National Center for Health Statistics, and the Bureau of Justice Statistics to look at whether their surveys can be calibrated to adjusted numbers.

Those are the three that sponsor major population surveys with the Census Bureau. Unemployment data are used in a couple of the funding formulas that use population estimates. The lawyers at Commerce don't think that should interfere with using a survey calibrated to the adjusted figures, but other lawyers may think differently. So as I leave, this is a decision that has been turned back at some of the other players in the statistical system: Whether to calibrate surveys like the Current Population Survey to the adjusted figures.

Pemberton: You said that an error had been found in approximately January 1992.

Bryant: Yes, January 1992; this was research after the first decision in July 1991, and it was in the process of rematching 108 blocks. CAPE researchers looked at how many blocks really were heavily driving the undercount. A limited number looked as though they should be redone. I'm talking about matching names in the post-enumeration survey with names in the census, because that is how the undercount was determined—by who was counted and who was not. It was while checking matches in these blocks that the researchers discovered a computer error: one group that should have been matched hadn't been, or vice versa. I've forgotten the details.

Pemberton: I mention that because you already supported adjustment of the census itself prior to the determination of this error. After having found this error and fixed it, would you have been even more in favor of adjusting the census had that information been available at the time?

Bryant: Well, no, not necessarily, because that reduced the undercount, meaning the problem wasn't as big as we thought it was. As I say, the lower the undercount, the harder it is to be sure you're doing the right thing on adjustment. At least one member of our Undercount Steering Committee switched his vote and testified in court in the New York case that he would have gone with the original count.

Pemberton: We have a question or two from Marshall Turner [chief, Data User Services Division, and formerly head of the 1990 Census Redistricting Office]. He had an adjustment-related question; had you considered in your recommendation the disruption it would have caused to the redistricting process if we had released unreliable block data?

Bryant: I did consider the disruption it would cause in the process. First of all, I would not have recommended adjustment if I thought there would be unreliable block data. I do realize that when you go down to 4 million occupied blocks, you're at a point where you're doing some things in averages; you may be putting one person in this

block who should have been in the next-over block. I think the one thing overriding in my pro-adjustment position was the feeling that for 50 years, for five censuses, the Census Bureau had measured an undercount of certain segments of our population, and that it's time to right this. I did consider the disruption to the re-apportionment process and didn't like to recommend adjustment for that reason.

What I do think now, going into 2000, is first of all, we can never do it this way again; having two numbers out there is just impossible. States became pitted against States, mayors became pitted against their own Governors—that sort of thing. We've got to find some way to build adjustment into the census-taking process, and I think we can improve accuracy by doing it. For one thing, everybody thinks that this block data is so sacred, but the last couple of percents' shakedown that's done—the last-resort followup—is not accurate at all. To sample for nonresponse and build statistical estimation in is probably the way we've got to do it, and it also would save a lot of time and money. The last 4 or 5 percent that you get in the census is very, very expensive and often are not interviews; they often end up being the estimates of the postman or the landlord or the next door neighbor who hasn't even seen the people in the apartment.

Pemberton: **Those are the difficulties of doing the census— closeout and bringing all of those unfilled forms to closure.**

Bryant: Yes. Well, I think that in closeout we introduce errors necessarily. We have no other option, and therefore this may be a case where sampling at that closeout level may be more accurate—where you really count everyone you can reach and then estimate the rest. I guess I'm not with Marshall [Turner] in thinking that every block is perfect. The problem blocks are the ones that have the closeout problem. There are communities in Wisconsin with high mail returns and all that; yes, their blocks are accurate, but those aren't the ones that you would end up adjusting.

Pemberton: **Finally, do you have any regrets about being a one- term director?**

Bryant: Oh, I would have very much liked to have had at least another 2 years following through with CASIC and CQM and Year 2000. Those three things I'm very much involved with, enjoying very much, and very committed to. I'm sorry that I couldn't have 2 years without adjustment. So, in a sense, the 2000 research would lead you into an adjustment decision. Had President Bush been reelected, I would have liked to stayed on to follow through on those.

Bohme: I think the suggestion has been made in the past, speaking from history now, that the tenure of the director of the Census Bureau be made similar to that of the commissioner for labor statistics and have terms that overlap Presidential administrations.

Bryant: I do think there should be a fixed term for the director of the Bureau of the Census. Unlike all other terms that are multiples of four, I think that there should be a 5-year term beginning in the years ending in 6 and 1. That way a director would go into a decennial having had some hands on, not in the early planning, but at least through all the final stages of planning. Had I been here in 1986, believe me, you would have done a second mailing of that questionnaire!

Pemberton: This is interesting. You may not have had much of a chance to have a significant impact on the way the 1990 census was taken, but the way it has worked out, what you have had is a significant chance to set up a structure that will explore the way the 2000 census is going to be taken.

Bryant: Well, that of course, is something I realized when I came: I couldn't change the 1990 census. I was fortunate to find it moving along very well and on target and on schedule and on budget. I did feel that I would have some early impact on 2000. Society is changing; it's time to change census taking.