

DEMOGRAPHIC DESTINIES

Interviews with Presidents of the Population Association of America

Interviews Referencing Dorothy S. Thomas PAA President in 1958-59



This series of interviews with Past PAA Presidents was initiated by Anders Lunde
(PAA Historian, 1973 to 1982)

And continued by Jean van der Tak (PAA Historian, 1982 to 1994)

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DOROTHY S. THOMAS

We do not have an interview with Dorothy Thomas, who was the 22nd PAA President (1958-59). However, as Andy Lunde and Jean van der Tak (VDT) were interviewing other past presidents, they regularly asked questions about those early presidents whom they had been unable to interview. Below are the excerpted comments about Dorothy Thomas.

CAREER HIGHLIGHTS

Dorothy Swaine Thomas was born in Baltimore, Maryland in 1899. She received her B.A. from Barnard College in 1922, and her Ph.D. from the London School of Economics in 1924. She returned to the United States to conduct research at the Federal Reserve Bank of New York and the Social Science Research Council before taking up an academic position at Columbia University from 1927-30, then Yale (1931-39), University of California, Berkeley (1940-1948), and the University of Pennsylvania (1948-1970). When she arrived at the University of Pennsylvania, she was the first female professor at the Wharton School. In 1952 she became the first female president of the American Sociological Association. Subsequently, she became research director of the Population Studies Center at the University of Pennsylvania from 1959 to 1970, and co-director of Population Studies Center from 1964 to 1970. Upon her retirement in 1970, the University of Pennsylvania awarded her an honorary doctorate in demography. Even in retirement, she taught at Georgetown University from 1973-76. She died in Bethesda, Maryland in 1977.

From Andy Lunde's interview with Conrad Taeuber in 1973:

TAEUBER: My attention was first drawn to the Center for Population Research at Georgetown when I was asked by the Ford Foundation to take part in a review of the work being done at the Center. Although the work being done was rather limited, it represented an important breakthrough for a Catholic institution. On the recommendation of that review, the Foundation made a grant as had been proposed.

Some weeks after my retirement from the Bureau of the Census, I received a phone call from Andre Hellegers and we met. Further discussions led to an offer. I always felt that Dorothy Thomas and Jeanne Clare Ridley [then on the staff of the CPR] were the moving forces behind Hellegers. He offered full-time appointments for Irene and myself, with full freedom to carry on research work. I was to take over as Director of the Center. Irene died before she could take on any duties at GU. Hellegers, who was the moving spirit behind what is now the Kennedy Institute of Ethics, envisioned a relationship under which the Center for Population Research would provide the facts for the world in which the ethicists would explore matters of policy and ethics.

From Andy Lunde's interview with Clyde Kiser in 1973:

LUNDE: The Association met two or three times in Chapel Hill [1940 and 1951]. What brought them to Chapel Hill, of all places?

KISER: Rupert Vance was in Chapel Hill [University of North Carolina]. Howard Odum was in Chapel Hill; he was not a member but he had Vance on his staff. And T.J. Woofter [PAA president 1940-41] had close connections with Chapel Hill.

There are some interesting things about meeting in Chapel Hill. We met down there in 1940, when Truesdell was President. The next time we met there was when Philip Hauser was president; that was in 1950-51. There was one well-known Negro who was a member of the Association who attended the meeting [of 1951]. And Odum, who was head of sociology and certainly no one could

accuse him of being anti-Negro--he devoted his life to a study of the Negroes--but he was also a person who didn't want to defy convention too much, particularly if he thought it would hurt his cause. Now, he said, "We have one well-known man there; I won't mention his name unless you want me to," and they canceled the dinner. Daniel Price had arranged the dinner, but Odum told Price he better cancel the dinner. He said, "We'd lose more than we gain." Some people got pretty sore about that. Dorothy Thomas got sore; she would never go to the South again for a meeting until or unless they made suitable arrangements for the nonwhite members.

From Jean van der Tak's interview with Philip Hauser in 1988:

VDT: But you admit that you were called a "wunderkind"?

HAUSER: Well, no one ever called me that to my face. But let me tell you something that is relevant. Dorothy Thomas was a consultant to the President's Committee on Economic Security, of which Professor Witte of the University was Chairman. When I joined the FERA IN 1934, as my first assignment I was detailed to become a staff member of that committee and got to know Dorothy Thomas. I was somewhat taken aback by a letter she wrote to the Secretary of Commerce after I had accepted the position of Assistant Chief Statistician of Population in the Bureau of the Census in 1938. In accordance with bureaucratic routine, the letter landed on my desk for response over the signature of the Secretary of Commerce. What the letter said, in effect, was it was a great pity that such a terrible mistake had been made in appointing to this position a young person still wet behind the ears instead of a qualified professional. So you see, Dorothy did not regard me as a "wunderkind."

From Jean van der Tak's interview with Henry Shryock in 1988:

VDT: You mentioned your year in India and you spent some time in Korea. What took you to those places and can you tell a bit about them?

SHRYOCK: Start with India. I went there for the UN, but it was largely financed by the Population Council; they put in a lot of money and recruited me. I got leave of absence from the Census Bureau, this was in 1957-58. We went just for seven months, which was all I could get away for.

Dorothy Thomas, who was a good friend of mine--we had family ties back in Baltimore--had gone over there and set up this research and teaching program, which was to take students both from India and from the other ECAFE countries. They got funding from the government of India [and the UN] and had an Indian advisory board. It was located outside Bombay, in Chembur; then they changed the post office address to something else.

VDT: Can you tell me about the early women stars in PAA--Irene Taeuber, Margaret Hagood, whom you mentioned as an inspiration for Methods and Materials of Demography and who was PAA president the year before you, and Dorothy Thomas, whom you also mentioned?

SHRYOCK: I'll start with Dorothy Thomas. I knew her longest because she grew up in Baltimore. She went off to Barnard and then to the London School of Economics. Her aunt and uncle lived across the street from my Shryock grandparents in Baltimore and she used to visit them and I used to visit my grandparents. Now, I never met her on those occasions, but I used to play with her cousins. So I heard a lot about her and her career through the family.

I didn't actually meet her until I went to American Sociological Association and PAA meetings. Then she came east again from Berkeley to Philadelphia after the war and I saw her quite often. I was a consultant on some studies they were doing at the University of Pennsylvania and used to go up there

several times a year. She in turn was on our advisory committee at the Bureau of the Census for several terms. And I was briefed by her before I went out to India.

One of her chief interests, of course, was migration. She'd worked with the Swedish population register and was strongly in favor of having a population register in the U.S., which I'm much in favor of in theory, although many people think we'd be bogged down in administration and it would be extremely expensive in a country this size. I remember once talking about a population register at a meeting and advancing some of these objections, which were concurred in by Forrest Linder and others. Dorothy was a discussant to my paper and got up and said I was obviously suffering from "census fatigue."

Incidentally, when I was at the institute in India, they had the inaugural conference for which they brought in a lot of prominent people. Dr. Tachi from Japan was there and Gunnar Myrdal. He and Alva were good friends of Dorothy Thomas; they had worked together in Sweden. So I renewed my association with him on that occasion. I remember talking with him during an interminable bus ride from Bombay up to Poona.

VDT: Alva Myrdal was Swedish ambassador to India then and he was working on Asian Drama.

SHRYOCK: That's right. He was working with Ester and Mogens Boserup, the Danish economists.

VDT: Was Dorothy Thomas there at that time?

SHRYOCK: No, she was ahead of us. She had laid out the program for the most part and then several of us were recruited to do the implementing and the first teaching and research supervision--Parker Mauldin, Margaret Bright, and myself, as well as the Indians I mentioned.

VDT: Margaret Bright and Dorothy Thomas were very good friends.

SHRYOCK: Yes, she'd been a student of Dorothy's. She has spent most of her subsequent years at Johns Hopkins in the School of Hygiene and Public Health.

VDT: I knew Dr. Thomas when she was at Georgetown at the end of her career. I recall she invited students to her home; a wonderful woman. What was she like as a person--or as a demographer, of course?

SHRYOCK: She was a wonderful demographer. She was not a statistician in the modern sense, and I guess I'm not either. But she had a good practical control of quantitative data and made some noteworthy studies.

She was a marvelous person with her students. She gave herself completely to her students. She entertained them and kept up with them. She was a real mother figure for her students, including K.C. Zachariah, who became her executor.

She was a very good hostess. She could lose her temper very frequently and she had some long-term feuds with some other demographers whom I won't mention, which was rather unfortunate because I was friends with both parties. She held her last seminars in her home up in Linden Hill, Bethesda. I was entertained there a great many times along with her students, and you were too.

VDT: Yes, when I was a research associate at Georgetown, where she went at the end.

From Jean van der Tak's interview with Dudley Kirk in 1989:

KIRK: Yes, it was about 1955. Now it's independent and, as I said, the Indians have taken over the Bombay center.

VDT: Did you ever go out to teach in any of these places?

KIRK: No, we got good people to go. Dorothy Thomas was one; she went to Bombay. I remember she had a pet mongoose, because there was brush around the center and snakes. Mongooses eat snakes, so she had this pet mongoose to protect her.

From Jean van der Tak's interview with Ronald Freedman in 1989:

VDT: Now on PAA. You covered some of your PAA recollections in your 1979 interview with Andy Lunde: for example, on your first PAA meeting and the people you met at the early meetings.

FREEDMAN [from the 1979 interview]: I think I joined the PAA in either 1947 or 1948. Amos Hawley suggested that I join. I can't remember if I went to the meeting in the spring of 1946 or the spring of 1947. It had to be at least that early because I got involved in research and was reporting research to the Pop Association at a fairly early point.

At the time, the Association was very small but wonderful. I went to my first meeting and the great giants were there: Warren Thompson, P.K. Whelpton, Clyde Kiser, Lowell Reed, Frank Notestein. And the thing that was so marvelous was these were not only the intellectual giants in the field, but they talked to me and became my friends while I was an instructor.

The thing that thrilled me apart from the fact that the giants spoke to us young ones was that there was a continuity from one meeting to the next, that is, an argument that had been taken up at the 1948 meeting continued in 1949. And if Dorothy Thomas was speaking, I knew the assumptions she was making. If I had any doubts on that score--and there were times in my teaching career when I had taken different research and teaching routes--they were erased by the enthusiasm. That Association was extremely important to me and I think all the other young people who were coming into the field at that time. There weren't very many people to talk to and those meetings were important for stimulation.

VDT: You obviously still enjoy PAA meetings; you come and you participate. You have a core group of people whom you know and see every year at PAA. Do you think PAA meetings are getting a little out of hand? We've just had a record turnout of close to 1,200 [1,193] at our Baltimore meeting [1989], 84 sessions, eight overlapping at a time, many spinoffs.

FREEDMAN: It's not as cozy as it was when there were three or four hundred of us, but I think that's inevitable. When I went to my first PAA meeting, I got on a first-name basis with all the leading figures by the time of the second meeting. I knew Warren Thompson, Frank Notestein, Frank Lorimer, Irene Taeuber, Dorothy Thomas, people like this, and that was very nice. Now those days are past; that can't be anymore. I still think that the PAA is much more manageable than the sociological or economics or statistical meetings. But it can't be as cozy as it was.

VDT: You made an interesting remark about Nathan Keyfitz, who is now in Jakarta, Indonesia.

FREEDMAN: I simply said that I think Nathan has the capacity of taking almost any subject that he's involved with, demography or other aspects of social science, and putting a new light on things by

looking at them from a different angle of vision than most people have. I shared that view most recently with my friend Leslie Kish, who had just been reading something of Nathan's, and other people, I think, have this same kind of view. He's a remarkable man.

I have to say also that a large number of the people you are interviewing, present company excepted, are very interesting people. We've had some really outstanding people in our population community, extraordinary people. Quite different. Dorothy Thomas is one kind and Irene Taeuber is another and Norm Ryder has got a different personality and a different set of interests. A lot of creative, dedicated, hardworking, interesting people.

From Abbott Ferris's interview with Everett Lee in 1979:

FERRISS: Everett, we'd like for you to tell us some of your early experiences in demography. When did you first become interested in demography?

LEE: I first became interested in demography at the University of Pennsylvania [as a graduate student in sociology, beginning about 1947]. I took one course in demography in sociology. Then when Dorothy Thomas came to the University of Pennsylvania the next year, in 1948, I took a course in demography with her and after that I knew that demography was what I wanted to work in.

FERRISS: What first struck you about it, interested you?

LEE: I had come out of biology and had not really found sociology particularly interesting. When I came across demography, I found that indeed there was a subject [in sociology] in which you could get data which could be used to arrive at some sort of conclusion. I also found that demographers wrote clearly and well, so I decided that within the social sciences, this was the field that was the most interesting.

FERRISS: You were an undergraduate then?

LEE: I was a strange combination. I was an undergraduate and graduate student at the same time at Pennsylvania. I had left Emory University without taking a degree there, but I'd come to Pennsylvania and had entered the graduate school and was completing my undergraduate work at the same time. Up until that time, I'd had practically no work in the social sciences.

FERRISS: Who else was on the faculty at Pennsylvania then?

LEE: Particularly Thorsten Sellin, the criminologist. Most of the work I took was with Thorsten Sellin or Dorothy Thomas.

FERRISS: **Could you recall some incidents associated with some of the early PAA presidents?**

LEE: I just looked over the list of past presidents and I have known, or at least I have met, every president up until now [1979], except the first one, Henry Pratt Fairchild [president 1951-35] and his successor Louis Dublin [1935-36] and just one other, Lowell Reed [1942-45]. I read a great deal of Lowell Reed's work and I was on the National Committee for Health Statistics at one time, which still honored Lowell Reed as the founder of that particular group. All of the other presidents of the Association I have had some acquaintance with and, actually, most of them I have known very well. It is by and large a very able and distinguished group. I also looked at the present Board of Directors and I find that I not only know everyone on it, but I happen to be married to one of them.

Incidentally, one of the nice things about the Population Association in the past has been the ability to know so many of the husband-and-wife teams which were in population. I've known a good number of these, beginning with the Taeubers, both of whom were president of the Population Association [Conrad in 1948-49; Irene in 1953-54]. As far as I know, they are the only husband and wife who have both been president of the Association [Kingsley Davis and Judith Blake were husband and wife when he was president, 1962-63, but no longer when she was president in 1981]. And I must say, they both [the Taeubers] richly deserved to be president of the Association.

The Population Association has certainly always been one in which women have played an important part. So far as I know, there was never in this association any form of discrimination against women.

FERRISS: Even in the early days?

LEE: Oh my goodness, how could you discriminate against Dorothy Thomas and Irene Taeuber and Margaret Hagood and Hope Tisdale Eldridge? Those people would have run completely over you had you had the nerve! They were extremely competent people and with people of this ilk, it was quite immaterial from the intellectual point of view what sex they were. Although I must say that they were all quite feminine and charming people as women. That had nothing to do, one way or the other, with their intellectual qualities. They were just bright--and, I must say, much brighter than the great body of men. They made their own way. Had they been male or female, they still would have done a great deal.

FERRISS: So, when the Women's Caucus was first organized [1970], they had a good deal going for them already?

LEE: They certainly did, but within the Population Association, there was not the same need to fight for recognition which I think was found in some other associations. In fact, most of the people that I mentioned earlier were by and large indignant at the idea that women had not had a fair deal, at least within the Population Association.

They did not assume that women had had a fair deal within universities; certainly, women had not. I recall at the University of Pennsylvania, Dorothy Thomas was the first woman professor and I am told that before she came, there was a saying that you could not have women professors in the Wharton School of Business at the University of Pennsylvania because the toilets there were marked "Ladies" and "Faculty" and it would be confusing to have a woman professor. Also, at the University of Pennsylvania, a woman could not belong to what at one time passed as the faculty club, the so-called Lenape Club, named after the early Indians who had inhabited the area around the university. Dorothy Thomas was the first to break the stranglehold that men had had on the faculty of the Wharton School at the University of Pennsylvania.

From Jean van der Tak's interview with Norman Ryder in 1988:

VDT: Do you remember your first PAA meeting? It obviously must have been at Princeton.

RYDER: It was at Princeton; it was in the spring of 1948.

VDT: Actually, 1948 was in Philadelphia.

RYDER: Yes, that's true. I was a graduate student at Princeton and we did go down to Philadelphia. I think that was probably where I first met Westoff, who was a graduate student under Dorothy Thomas.

From Jean van der Tak's interview with Charles Westoff in 1988:

VDT: What led to your interest in demography and particularly in fertility?

WESTOFF: When I finished graduate school [at Pennsylvania], I worked for two years at the Milbank Memorial Fund in New York, before I came to Princeton. It was Clyde Kiser who was responsible for getting me interested in fertility research.

VDT: How did Clyde Kiser know about and find you?

WESTOFF: It was through Dorothy Thomas. Dorothy Thomas had been my major professor at Penn and I guess Clyde had been in contact with Dorothy, looking for some graduate students who would be interested in developing a thesis around the as-yet-not-completed Indianapolis Study. That was the first large-scale survey of fertility ever done.

VDT: And the data sat there unanalyzed.

WESTOFF: The war interrupted it. There were lots of loose ends to that project. He was looking for graduate students, and graduate students are always looking for a thesis topic. So it was a nice marriage of common interests.

[Adding to the interviewer's sketchy biographical introduction]: I was an associate professor of sociology at New York University for four years, 1958-62. I was at the Milbank Memorial Fund from 1952 or 53 to 1955. I came to Princeton in 1955. Then while still on the research staff here, I went on a part-time basis here and took the faculty position at NYU in Greenwich Village. I taught there for four years and came back to Princeton full-time in 1962. With the exception of that stint in Washington with the Commission on Population Growth and the American Future, I have been here uninterruptedly.

VDT: How did you get into demography?

WESTOFF: I guess it was when I was an undergraduate at Syracuse. I read some of these scare books about how population was beginning to explode. There was a book by Guy Irving Burch and Elmer Pendell [Population Roads to Peace or War, 1945]. I became fascinated with the power of exponential growth. I think that's what first got me started, first turned me on intellectually to the issue of population.

Then I took a couple of undergraduate courses and then did a master's thesis on social mobility and fertility. Then I got an offer of a teaching assistantship at the University of Pennsylvania, in which I could earn some money and have free tuition and go to graduate school at the same time. It was a department of sociology that had a strong population contingent.

VDT: Dorothy Thomas was your professor there. Were you doing migration?

WESTOFF: I was sort of the maverick of the crowd. Everybody else was. Not everybody, but I don't remember anyone else being interested in fertility. Two of my colleagues at the time were Sid Goldstein and Dick Easterlin, though I didn't see much of Dick; he was in the economics department. I think that was before he was interested in fertility. It was a department that concentrated a lot on

migration. And it was only, I think, because of the chance contact with Clyde Kiser that I was sort of rescued from the department specialty. I think fertility is a lot more interesting than migration.

VDT: What was Dorothy Thomas like?

WESTOFF: She was--one of the adjectives that quickly comes to mind--a tremendous bundle of enthusiastic energy. Enthusiasm is a big key to her personality. And she would kind of adopt graduate students and push them hard. I was one of her favorites at the time, as were Everett Lee and Sid and others who were closer to her own interests. She was an extremely supportive person, who was always motivated to get the students finished with all their requirements and get down to the serious business of doing their research.

VDT: She must have felt you deserted her if you went off to the Milbank Memorial Fund.

WESTOFF: She may have.

VDT: You did the requirements for the Ph.D. with her?

WESTOFF: Not only with her; she was the main person. Ed Hutchinson was also on the faculty and I studied with him. His interests were quite different too; he was interested in immigration. He had a very keen mind and I learnt a good deal of what might be called--or I got a good taste of the logic of scientific inquiry, methodology in its logical sense, working with Ed.

From Jean van der Tak's interview with Sidney Goldstein in 1989:

VDT: Tell me a bit about it. I've heard a lot about Dorothy Thomas in particular. Did you work directly with her, or who was your professor-mentor?

GOLDSTEIN: I worked most closely with Dorothy. Pennsylvania was a wonderful experience again. I don't know "who" was looking after me, but I was very fortunate in arriving at Penn just as they had received a grant from the Ford Foundation under a program which--again by coincidence--was initiated by Barney [Bernard] Berelson when he was at the Ford Foundation, not in his role as a population expert but rather as a social science expert. He had developed the idea that what was needed in graduate training was more interdisciplinary interaction. So grants were given to Pennsylvania, Michigan, and a third institution, which slips my mind for the moment, to encourage graduate programs to develop interdisciplinary training.

VDT: Not necessarily in population?

GOLDSTEIN: No, it had nothing to do with population--in the behavioral sciences. At Penn, it involved sociology, in which demography was housed, and anthropology, economics, and history were also brought in.

Penn, as its effort in using the Ford grant, had developed an interdisciplinary seminar, which brought faculty members together from these different fields. And the idea was also to select graduate students from these different fields and have them concentrate a good part of their studies in this seminar, which was called the Interdisciplinary Seminar on Technological Change and Social Adjustment. When I arrived, I was invited to be one of the sociologists that participated in that seminar. What it meant was that one forewent a number of the traditional courses in one's field. One still took a limited number of them, such as sociological methods and theory.

VDT: Did everybody participate--people like Easterlin, who was actually in economics?

GOLDSTEIN: Neither Westoff nor Easterlin was involved in this. Easterlin was in economics and worked most closely with Simon Kuznets and some with Dorothy Thomas. Westoff went the traditional route in sociology, because he had arrived there earlier than I had.

VDT: You are well known for that kind of material that you use, which is not what some demographers would consider hard, solid data. What do you think about that?

GOLDSTEIN: Well, again, that grows out of my Norristown experience. While I have the highest regard for hard data, I feel they need to be supplemented by qualitative material in order to gain insight into what the data mean. I have my personal biases and one is that too heavy reliance on just quantitative statistics is dangerous. Again, you can see Dorothy Thomas's influence operating here. Although Dorothy was known by many as a staunch empiricist, the fact is that she relied not just on quantitative statistics but on a vast array of qualitative work, both in the early work she did on children and in the extensive work she did on Japanese-Americans who were displaced during the war. Her books on the Salvage and the Spoilage [Japanese American Evacuation and Resettlement: The Spoilage, 1946, and The Salvage, 1952] and a third volume that was put together on cast histories bring together, I think, in a very effective way both quantitative and qualitative data. So I was very much influenced by that.

VDT: Do you think demography in particular has gotten away from that kind of study?

GOLDSTEIN: I think we've gotten away from it too much. And for that reason, I'm very pleased that Jack Caldwell, among others, has been trying to restore the balance. I'm very sympathetic to what he has been doing by stressing the qualitative aspect of demographic research.

VDT: That's great. On influences, well, the leading influences on your career have come out as you've talked along. Dorothy Thomas's name has come up time and again, and the Norristown study. Would you rate her as the leading influence on your career--Dorothy Thomas? Any others?

GOLDSTEIN: As I said, it really started with Bob Burnright, who was himself influenced by Dorothy Thomas. Bob was originally my teacher, but eventually he came here to Brown as a faculty member so we had the opportunity later on to work as colleagues. He didn't compile a very long publications list, so from that point of view his contribution maybe was more limited, but like Dorothy, he was a great person as a teacher and a man with ideas. I learned very much from working with him, both as a student and as a colleague.

I mentioned also in connection with the Norristown seminar not only Dorothy but also Tom Cochran, who as a historian had great impact in making me recognize the importance of seeing things in historical perspective, which has had great use in my work in Thailand and China and on the Jewish population. And here at Brown, I've been fortunate in having good colleagues with whom I've enjoyed working and from whom I learned much.

From Jean van der Tak's interview with Thomas Merrick (PAA Secretary-Treasurer in 1978-81) in 1989:

VDT: I wanted to ask how you got into your interest in Third World demography. But first, tell me a bit more about Dorothy Thomas. She's been described often in these interviews, but I'd like to hear

from you.

MERRICK: Dorothy is a wonderful person to have had in one's life experience.

VDT: You had long experience with her, because you were also at Georgetown together?

MERRICK: We didn't overlap at Georgetown. Dorothy passed away in 1977, and when I came to Georgetown in 1976 she'd already left. I think she left Penn in 1973 or 74, came to Georgetown, so her two years at Georgetown were actually the two years that I was at Penn. I inherited her office when she left Georgetown. I have a vivid memory of that, because when I moved into the office, there was the wastebasket with a fire extinguisher right next to it. I said, "What's this?", and they told me Dorothy had set the wastebasket on fire about three times by throwing her cigarettes in it.

VDT: She was a heavy smoker?

MERRICK: Very heavy.

VDT: You mentioned her seminar room at Penn.

MERRICK: Yes. And, of course, when Irene Taeuber would come up for a seminar, it was a regular volcano of smoke.

VDT: Did Dorothy mother you like she seemed to have done with others?

MERRICK: No, she was more motherly with the foreign students; she would really take the foreign students under her wing. She had been a visiting professor at the UN population center in Bombay, so there was K.C. Zachariah, who was a kind of son to her. I think Zachariah was finishing his dissertation at Penn about the time I came. Dorothy also looked after other Indians.

She was tough on the American students. She expected them to set an example and help make up for some of the language difficulties that foreign students experienced. Some of the Koreans and Taiwanese initially had language problems.

It was very much a family affair. I remember a time when one of the students fell victim to an ordinance in Philadelphia about leaving trash out. His trash had somehow fallen out of the trash container and they'd opened it up and found a letter addressed to him and arrested him for littering. The poor fellow was in absolute consternation and, indeed, the Philadelphia court system was not exactly what you would call honorable--this was the time of Rizzo. So, Dorothy got us all out. At that time, I was still in the seminary and had my Roman collar. I hardly ever wore it, but she knew I had it, so she said, "I want you to wear your Roman collar when we go to court." So, we all trot down to this justice of the peace in South Philadelphia, supporting our fellow student, and got him acquitted. I'm sure the justice of the peace was much more intimidated by Dorothy than by my collar. [Laughter]

From Jean van der Tak's interview with Richard Easterlin in 1989:

VDR: Now, to begin at the beginning, how did you become interested in demography? You were a forerunner as a population economist, sort of in the tradition of Malthus and Spengler. They are still fairly rare in the field of demography.

EASTERLIN: I was recruited really by Simon Kuznets. He and Dorothy Thomas at the University of Pennsylvania had gotten funds from the Rockefeller Foundation for a project on population

redistribution and economic growth in the United States, which aimed to mobilize economic and demographic data from census volumes, by state, since 1870. For workers on that project, they enlisted myself, Everett Lee, Ann Miller, and Carol Brainerd. That was 1953; right at the time I got my Ph.D.

VDT: Your Ph.D. was not yet in the direction of demography?

EASTERLIN: No, it was not. And actually, it was only in Kuznets's course that I got any exposure to population as a graduate student, and even then it was not very formal demography. So my real training in demography, such as it is, was as a worker on that project, and very largely the result of Dorothy Thomas's tutelage.

VDT: Had you had courses from her as a student?

EASTERLIN: No. She really didn't teach courses particularly in demography; she mainly ran a research seminar. Dorothy's forte was always the sort of one-on-one situation. She had a regular social setup, so a lot of what I learned about the field of demography came out of the course of conversations around coffee tables.

VDT: I've always heard that Dorothy Thomas mothered her students, the graduate students that were around. So in the course of conversation at these coffee klatches, she got you interested in demography?

EASTERLIN: Right. She guided me to the classics in the field and the great names. She got me to go to the meetings of the Population Association and attend the sessions and get acquainted with people, which I probably would not have done had it not been for her support and encouragement, because at the time there were hardly any economists at all in the Population Association. So, aside from the problem of my being a very junior person in the field, there was this additional problem of being in a different discipline and talking almost a different language. But as a result of her encouragement, I got to know people. I do the same now with my students. I make sure they go to the PAA meetings, try to give papers, and so on.

VDT: So, you and Everett Lee and Ann Miller and others were taken on for this project with Simon Kuznets and Dorothy Thomas, funded by the Rockefeller Foundation, which came out eventually in two volumes, 1957 and 1960, on Population Redistribution and Economic Growth in the United States: 1870 to 1950. You wrote the chapters on manufacturing?

EASTERLIN: And income; I did the income estimates for the states of the United States.

VDT: You began working on that from 1953?

EASTERLIN: That's right. Ultimately, there were three volumes. The final volume [1964] was by Dorothy and Hope Eldridge, on migration in the United States.

VDT: Let's talk about some of the people who were at Penn at that time. You've mentioned Dorothy Thomas, who obviously was a great influence on you. You dedicated your 1978 PAA presidential address to her; she had died not long before then. And you've mentioned Simon Kuznets. What about John Durand; where does he come in?

VDT: Let's go back to PAA. Your first meeting, probably, was at Providence in 1959, and just 19 years later, you had risen up the ranks to become president. Were there any issues along the way to 1978 that you were particularly struck by? For instance, were you caught up in the Concerned Demographers issues of the late 1960s and early 1970s--what some people felt were efforts to politicize the Association, to get it to speak out on policy issues--and the Women's Caucus?

EASTERLIN: I wasn't particularly caught up in them. I guess I didn't hold views as strongly as Otis Dudley Duncan. And it had been Dorothy Thomas's view that the organization was primarily an organization of scholars, whose concern was research, and should not be involved in the promotion of any particular policy view.

But Dorothy's attitude was a product very largely of the early days of the PAA, when there was a struggle about whether it was going to be an organization to promote family planning or an organization devoted to scholarly research. She'd always been dedicated to fundamental research, and that's why she and Kuznets were connected, also. They were both students of Wesley Mitchell, who was the one that started the National Bureau of Economic Research, so it went back to Columbia University, naturally. I was part of that heritage and although I didn't become very active in the debates in the Population Association, my sympathies continued--continued then and continue now--to lie in the view that this should be an organization devoted to scholarship and it's not primarily promoting any particular policy position.



Dorothy Swaine Thomas (1899–1977)

Author(s): Sidney Goldstein

Source: *Population Index*, Jul., 1977, Vol. 43, No. 3 (Jul., 1977), pp. 447–450

Published by: Office of Population Research

Stable URL: <http://www.jstor.com/stable/2735007>

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Abortion Surveillance, Demography, and the Law: The Impact of Court Decisions on Abortion Reporting

L. Lynn Hogue, University of Detroit Law School; Carol J. Hogue, Department of Biostatistics, School of Public Health, University of North Carolina, Chapel Hill, NC 27514; and Jack C. Smith, Center for Disease Control.

While legislative changes can be planned and coordinated with reporting mechanisms in order to measure the demographic effects of the law, legal changes from case law are by nature uncoordinated and do not take into consideration such measurement problems.

Several states do not collect abortion information while others have passed abortion-reporting laws aimed at punishing the woman seeking an abortion, e.g., requiring the name of the aborted fetus's father. What is needed is a model abortion-reporting law which will suggest a way for states to gather legally appropriate, epidemiologically and demographically sound information. This will enable them to assess the impact of abortion and its long-term effects on maternal and child health. This paper includes a proposed model abortion-reporting form and an analysis of its probable impact on demographic measurement.

PRESIDENTIAL ADDRESS

On Mortality

President: Evelyn M. Kitagawa
University of Chicago

Master of Ceremonies: Philip M. Hauser
University of Chicago

THE IRENE B. TAEUBER AWARD

Louis Henry, scientific advisor to the Institut National d'Etudes Démographiques, was named as the first recipient of the Irene B. Taeuber Award for Excellence in Demographic Research. The announcement was made at the 1977 Annual Meeting of the Population Association of America. In making the presentation, Dudley Kirk, chairperson of the selection committee, noted the important and original contributions of Dr. Henry to the study of mathematical demography, historical demography, and fertility and nuptiality.

DOROTHY SWAINE THOMAS

1899-1977

The death of Dorothy Swaine Thomas on May 1, 1977 at the age of 77, following several years of poor health, marks the loss of a scholar whose impact on social science and on demography in particular, as well as on scores of individuals, has been profound. The combination of attributes that led to her significant professional contributions and to the broad range and warmth of her personal relations occurs all too rarely; it helps to explain why the loss will continue to be felt worldwide, both in professional circles

and among the many persons from all walks of life whom she befriended and who regarded her with deepest affection and highest respect.

Dorothy stressed in one of her "autobiographies" that she was most fortunate in having been "greatly influenced by contacts with 'great men'". There are many who can say the same of her influence on them. Much of her own greatness undoubtedly lay in the excitement about research, the ability to identify major issues of scientific concern, and the capacity to develop innovative and productive methods for dealing with them that she herself displayed and that she also inculcated in others. Above all, Dorothy was a great teacher--not as a formal lecturer, for she felt uncomfortable speaking formally to a large audience, but as one who shared with individuals or small groups her own enthusiasm, skills, insights, and criticisms and, indeed, made them contagious. Thus a significant part of her influence resulted from informal contacts with senior and junior colleagues as well as with the students enrolled in her seminars.

Dorothy felt that her career had its origin in her undergraduate days at Barnard College, where she had the good fortune to study with William F. Ogburn. Her first publications were coauthored as an undergraduate with Ogburn in 1922 ("Are Inventions Inevitable? A Note on Social Evolution" and "The Influence of the Business Cycle on Certain Social Conditions").

Frustrated by the deficiencies in historical social statistics in the United States, Dorothy turned to overseas sources for better data, and to teachers and colleagues who were to help her develop new perspectives and new "tools" for analyzing social change. Working under Arthur L. Bowley at the London School of Economics, Dorothy became interested in migration, and her work on the relations between immigration and business cycles in the United Kingdom and United States constituted her Ph.D. dissertation. The resulting publication, Social Aspects of the Business Cycle, became a classic in time-series analysis.

Data limitations, however, continued to frustrate Dorothy, as did the limitations in her behavioral science training. These frustrations had the happy consequence of bringing her into association with W. I. Thomas, first as research assistant, then as colleague and wife. Although the evaluation of child development (their common area of research) seems far removed from the fields in which she initially and later did research, working with this leading sociologist impressed upon Dorothy the importance of the "behavior document" in social research and of the "situational" approach to the study of behavior. Characteristically, she modified what she learned, in this case by combining the situational and the statistical approaches; and it was perhaps this combination, more than anything else, that distinguished her later significant contributions to demography and sociology and placed her among the leaders in social demography. From this early period she was guided by a credo which was first expressed in "Statistics and Social Research" (1929); it reemphasized what she had learned from E. B. Wilson, that "in the long run it is clear thinking, experienced feeling, and a patient poise, not automatic systems and methods, that win the strongholds of science."

Dorothy's career included university appointments at Columbia (1927-1930), Yale (1931-1939), California at Berkeley (1940-1948), Pennsylvania (1948-1970), and Georgetown (1972-1977). During her appointment at Yale Dorothy undertook research based on Swedish population statistics. Her integrated analysis of rich series of historical, demographic, and economic data resulted in the publication in 1941 of Social and Economic Aspects of Swedish Population Movements, 1750-1933, a milestone contribution to the research literature in demography.

Concurrently with this research, Dorothy chaired the Social Science Research Council's Committee on Migration Differentials. Her work with this committee culminated in the publication in 1938 of Research Memorandum on Migration Differentials, which remains among the most frequently cited publications in the field.

With her appointment in 1940 at the University of California at Berkeley, Dorothy was able to become more active in training students in demography. This appointment had another important consequence: as a resident of California she was quick to recognize the need for research on the forced mass movement in 1942 of all persons of Japanese ancestry. For nearly a decade, she gave the Evacuation and Resettlement Study highest research priority; it resulted in two books, The Spoilage and The Salvage. Her work

on the Japanese relocation is an excellent example of Dorothy's determination to be a scientist, but one whose research focused on socially significant problems. Its later use in Supreme Court hearings was especially satisfying to her.

Dorothy returned to the East Coast in 1948 when she joined the faculty of the University of Pennsylvania, becoming a mainstay of its Population Studies Center. This move also marked the beginning of research collaboration with Simon Kuznets. Their jointly directed project on "Population Redistribution and Economic Growth, 1870-1950" was for Dorothy the culmination of efforts to link economic and demographic change. The research and the major publications that resulted from this comprehensive venture represented the crowning product of a half century of research endeavors which were characterized by the quest for more perfect data, by the search for better concepts, by efforts to link the perspectives of the various social sciences, and by the frequent involvement of junior personnel who could benefit from the kind of association with senior colleagues that Dorothy had enjoyed during her own professional development.

Dorothy's last major contribution to the research literature in her field is the United Nations Manual IV, Methods of Measuring Internal Migration, a collaborative project which she directed as chairperson of the Committee on Internal Migration of the International Union for the Scientific Study of Population. It is significant because it reflects her growing awareness of the need to study population redistribution in less-developed regions, and recognition that progress in demography depends on developing precise concepts and the best possible data, and making explicit the limitations of both.

Dorothy's contributions to social science were recognized early in her career when the excellence of her Ph.D. dissertation earned her the Hutchinson Research Medal in 1924. The distinction she achieved in her varied fields of endeavor and the interdisciplinary character of her work were reflected in her election to leadership positions in three professional associations. In 1946, she served as Vice-President of the American Statistical Association; in 1952, as President of the American Sociological Society; and in 1958-1959, as President of the Population Association of America. The breadth and quality of her scientific contributions were also recognized by her election in 1948 to the American Philosophical Society, by the award to her, upon retirement from the University of Pennsylvania in 1970, of the honorary degree of Doctor of Science in Economics, and by the many consultancies and visiting teaching appointments she held.

Her love of teaching and her desire to remain professionally active led Dorothy to accept a post-retirement appointment at Georgetown University. Even after her illness, when she was confined to a wheelchair, she lamented above all that she had not been able to return to teaching and hoped that "next semester" she could at least renew holding seminars in her home.

Dorothy believed that the best way to learn to do research was to participate actively in it and to do so as far as possible within an interdisciplinary framework. These views were manifested most clearly in her contribution to the development of the University of Pennsylvania's Interdisciplinary Seminar on Technological Change and Social Adjustment, better known as the Norristown Study, but they were apparent in all her teaching and research training projects. Her respect for hard data and for appropriate techniques was matched by a concern for both the importance of the subjective elements and the relation of findings to underlying theory. Her own career set a model for both disciplinary and interdisciplinary research, for objective study and for humanitarian concern for current issues, for removing artificial barriers between students and teacher, and between research scholar and practitioner. She was willing to give students time and encouragement, criticism and understanding, and the warmth and hospitality of her home. One could share with her both professional interests and personal problems. She took pride in her students' professional achievements and shared in their personal milestones. For all of this, the many students and colleagues whose personal and scholarly lives she so strongly influenced will be forever grateful. For these reasons, too, it is most appropriate that the Population Association of America has decided to honor Dorothy's contribution to demography and to memorialize her name by creating a fund whose income will be used to support an advanced graduate

student pursuing research and training in demography. Although Dorothy's own works stand by themselves as a memorial to her significant and substantial contribution to research on population, this fund will symbolize the more intangible contribution she made through her influence on so many aspiring scholars throughout the world.

Sidney Goldstein

Dorothy Thomas gave her PAA Presidential Address at the 1959 annual meeting in Providence, Rhode Island. It is summarized below starting on page 209.

The 1959 Meeting of the Population Association

Source: *Population Index*, Jul., 1959, Vol. 25, No. 3 (Jul., 1959), pp. 191-211

Published by: Office of Population Research

Stable URL: <http://www.jstor.com/stable/2731572>

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C U R R E N T I T E M S

THE 1959 MEETING
OF THE
POPULATION ASSOCIATION

On April 25 and 26 the Association met in Providence, Rhode Island, at the Sheridan-Biltmore Hotel and Pembroke College, as guests of Brown University. The program included eight sessions of papers, a luncheon session, two meetings of the Board of Directors, a business meeting of the Association, and a dinner meeting. The program of the sessions and the dinner meeting, with the authors' abstracts of papers, follows.

The Demographic Situation in Selected Countries
Chairman: Norman Lawrence, Bureau of the Census

The Future Population and Labor Force of Mexico and
Central America: Some Implications for Economic Development

This paper focuses primarily on some implications for economic development of projected population and labor force growth to 1980 for Mexico and Central America. It presents some of the findings from a larger study made by the author for the United Nations. [United Nations. Technical Assistance Administration. Human Resources of Central America, Panama and Mexico, 1950-1980 in Relation to Some Aspects of Economic Development. (In process of publication.)]

The current and future demographic situation and labor force trends are briefly summarized for each of the countries involved, and the projected labor force is shown separately for the agricultural and nonagricultural sectors of these countries. Mexico may shift from the 1950 situation with 58 per cent of the labor force engaged in agriculture to one where, in 1980, only 38 per cent may be so engaged. Costa Rica, El Salvador, and Panama are assumed to reach a level where about 40 to 45 per cent of their economically active population would be engaged in agriculture, as compared with the 1950 situation of 50 to 63 per cent. For Guatemala and Honduras the 1980 proportions that may be engaged in agriculture are 58 and 75 per cent, respectively, compared with 68 and 83 per cent in 1950. These projections are interpreted not as forecasts but as goals to be reached by 1980 under a determined policy of progressive acceleration of the level of industrialization and economic diversification in each country.

The implications of future population and labor force growth for economic development are approached through an analysis of recent trends in real gross national product for Mexico and Central American countries. The paper then poses and seeks to answer two questions: (1) What is the level and rate of economic growth necessary merely to assure no deterioration over the long run in the average level of living for the population and labor force projected for 1980 on the conservative (medium assumption) basis? (2) What is the level and rate of economic growth necessary to provide a doubling of the average level of living by 1980 for the agricultural and nonagricultural sectors respectively? — Louis J. Ducoff, U. S. Department of Agriculture.

The Population of India: Policy, Action, and Research

This paper summarizes the formal steps taken by the Government of India in developing a population policy designed to reduce the rate of population growth. Information is given regarding the administrative structure, budgetary provisions, service, training, education, and research programs in the field of family planning. The numbers of clinics, by type, established to date and scheduled during the Second Five-Year Plan are cited. Of particular interest to demographers is the establishment of four demographic centers in India: (1) the Demographic Training and Research Centre, Bombay, sponsored jointly by the United Nations, the Government of India, and the Sir Dorabji Trust; (2) the Demographic Research Centre, University of Delhi; (3) the Demographic Research Centre, Indian Statistical Institute and the All India Institute of Hygiene and Public Health, Calcutta; (4) the Demographic Research Unit, Department of Statistics, State of Kerala, Trivandrum.

The paper also gives a short discussion of vital statistics, including the 1958 field study of the National Sample Survey designed to estimate current rates of population growth. This study gave a preliminary estimate of 1.94 per cent as the current rate of population growth. — W. Parker Mauldin, The Population Council, Inc.

Role of Land Reform in the Economic and Demographic Development of India

Coale and Hoover in their book, Population Growth and Economic Development in Low Income Countries, have demonstrated that the rate of growth in agriculture limits industrial growth in underdeveloped countries. They argued further that in the case of the Indian Second Five-Year Plan the assumed doubling of agricultural output in 19 years was overly optimistic, and that a growth rate which would result in doubling the agricultural output in 25 years was more realistic.

The recent performance of agriculture in India raises grave doubt as to whether even the moderate target set by Coale and Hoover will be realized. The available statistics show that while industrial output has been increasing steadily, agricultural output has been stagnating. The imbalance of the growth rates of these two important sectors is sure to create serious difficulties for the Indian Plan.

The failure of agriculture to respond adequately must be attributed, to a large extent, to the existing land system and to the system of usury, rack-renting, and speculation in food that originates from it. The land system as it operates today, in spite of the partial reforms that have been carried out recently, prevents investment in agricultural improvement and diverts capital and savings into unproductive channels.

The realization of the dangers created by the failure of agriculture has led to the suggestion of organizing cooperative farms, setting a ceiling for the ownership of agricultural land, and nationalizing the wholesale trade in food. Under the inspiration of Nehru, these reforms have become the official policy of the ruling Congress Party in India, and, if carried through effectively, efficiently, and with speed, they may add to the momentum of agricultural growth.

To the demographers these measures are of profound interest because of the intimate relationship between land reform and the trend in fertility. A decline in fertility is generally associated with land re-

form, subject to a lag which seems to depend on how sweeping the changes are. In the case of land reform which creates peasant-proprietorship, the lag seems to be longer than in the case of cooperative farms.

In agricultural societies, social values, including values which determine fertility behavior, are naturally conditioned by the agricultural needs and the land system. Once the land system is altered, the old social values cannot but undergo a change and re-integration with the new system. How long this process of re-integration will take depends on the type of new socio-economic system that is established and the extent to which conscious efforts are made to shape the new values.
— N. K. Sarkar, United Nations.

The 1960 United States Census — A Progress Report
Chairman: Robert W. Burgess, Bureau of the Census

Progress Report on the 1960 Census

The major procedure to be used in the 1960 Census of Population involves five different steps:

1. Late in March mail carriers will deliver to each of the 61 million households a questionnaire on which the householder will be asked to list all members of the household and give their age, sex, color, relationship to head, and marital status. He will be asked to fill this in and have it for the enumerator when he calls. The questionnaire also includes the housing items to be asked of all households.

2. Beginning April 1, 160,000 enumerators will call on all households and will enter the information on FOSDIC schedules.

3. At one in four households, selected in accordance with the sampling plan, a questionnaire will be left with the request that the information be entered for each member of the household and the questionnaire be mailed to the Census Office.

4. Approximately one-third of the enumerators from the first stage will receive additional training and will be responsible for filling FOSDIC schedules for sample households by transcription from the household questionnaire, supplemented by telephone calls or personal interview as necessary.

5. Special attention will have been given in the first stage enumeration to visitors. There will also be a special enumeration of transients in hotels and motels and of "homeless" persons in missions, flophouses, and the like.

In areas where population density is low, or certain other special conditions exist, the enumerators will collect the 100 per cent and the sample information at one visit.

New questions in 1960 include place of work and means of transportation, whether the school being attended is public or private, how long the individual has lived at his present address, and mother tongue of the foreign born. The migration question will be on a 5-year basis; the farm residence question, to be asked only in rural areas, will use criteria similar to those used in the Census of Agriculture. A number of new questions on household facilities have been added, replacing those used in 1950 on facilities that are now nearly universal.

There is again to be a Post Enumeration Survey. Work has been started in cooperation with the Social Science Research Council in planning a series of monographs. The American Public Health Association also has a committee planning monographs. — Conrad Taeuber, Bureau of the Census.

The Demographic Transition in Japan
Chairman: Frank Lorimer, American University

Prefectural Migration in Japan for the Intercensal Periods
1920-1925, 1925-1930, 1930-1935

In modern Japan, as elsewhere, migration proved to be at once a stimulus and a response to industrial development. However, selectivities involved in the "push and pull" of migrants among different areas of the country were far more diversified than can be generalized in broad terms of economic determinism. Intertwined with economic factors were elements of Japan's cultural legacy and its institutional manifestations which acted, paradoxically, both as means of adjustment and as hindrances to the compulsive forces of population movement.

Examination of estimated net migration by age and sex for the 47 prefectures in Japan Proper over the fifteen years under study reveals that the patterns of population change due to migration differed widely by age, by sex, and by locality as well as over time. For all the local variations, there was a fairly close correlation between the stage of economic development in a given area and its rate of population growth or decline due to migration. Age-sex selectivity in migration was also a function of the type of labor demand and supply. Economic determinants of population movement, however, did not operate independently of diverse other factors.

The ancient familial traditions served as a paramount expulsive force to channel the redundant manpower in the villages into manufacturing and urban services, while the traditions deeply entrenched in the business class as a carry-over from the "feudal" past provided means for smooth absorption of peasant boys and girls into urban occupations. Elements of the old social structure thus facilitated the process of large-scale population redistribution to strengthen the dynamics of a new economic order, yet at the same time tended to impede the development of such correlates of modern urbanism as were needed for the molding of a full-fledged industrial economy. — Yoshiko Kasahara, Dominion Bureau of Statistics.

The Control of Fertility in Contemporary Japan

A summary of what has been accomplished by a series of field studies, known as the test studies of family planning, is presented. The purpose was to demonstrate what could be done by an intensive education in family planning and to offer the results to the Government for guidance in promoting family-planning practices throughout the country. Three groups were selected for the studies: a group of three rural communities; coal-mine workers; and people on public relief.

The approaches, used to introduce the ideals of family planning and to promote the actual practices, were adapted to three levels of ed-

ucation: general, group, and individual. The response was very encouraging. Acceptability of various methods of contraception was investigated, and mechanical devices for males were usually most popular. Relatively great cooperation of husbands in the practice of contraception was revealed, and the role of midwives was found significant. A considerable success was obtained in the reduction of births of unwanted children, though some difficulties were met in reducing induced abortions. Female sterilization increased steadily as the program went on. The fact that family planning ideals could be introduced into rural areas as well as among the low socio-economic groups elsewhere was demonstrated.

From other field studies of induced abortion and sterilization it appears that induced abortion, sterilization, and contraception constitute alternatives for the purpose of a voluntary spacing and regulation of childbirths.

The most significant aspect in Japan is the strong motivation of the general public toward family limitation. Although the stated wishes for smaller families were not consistent, the people, using the means available, actually had smaller families. It is believed that basic education in family planning is more important than the execution of a program designed to facilitate its easy practice. — Minoru Muramatsu, M. D., Institute of Public Health, Tokyo.

The Trend of Mortality in Japan

If official statistics can be believed, the crude death rates of the Japanese were around 20 in the late nineteenth and early twentieth centuries. Comparisons with the levels of mortality in European countries at the period and internal analyses of chronological and age relationships alike suggest that analysis of levels and trends in mortality must be limited to the census period.

The outstanding event in the course of mortality after 1920 was the extraordinary drop in 1948. The expectation of life at birth was extended more than five years for both sexes during this single year. Throughout the period of declining mortality from 1920 to 1955 there were peculiarities in the sex differentials and the age patterns that distinguished Japanese mortality from that characteristic of other countries or of the United Nations model schedules at comparable levels of general mortality. These peculiarities have been reduced over time, but they persist today to some degree.

Life tables have been constructed for the prefectures for 1921-25, 1926-30, 1935-36, 1947, 1948-49, and 1950, and tables for 1955 are in process. Over this period there were major contractions in the range of variation among the prefectures and there were major changes in the sex differentials. The patterns of change and the relative positions of the northeastern, central-northern, Kyushu, and metropolitan regions are examined over-all and for type prefectures on the basis of the expectation of life at birth, the probability of death at age 0, and three age ratios for survivors. The most striking declines in mortality occurred in the metropolitan and the central-northern regions where mortality had been highest in 1920.

There were inequalities in change, and some differences persisted among the prefectures and the regions in 1950. The major factor,

however, was the movement toward the equalization of longevity. — Haruo Mizushima, University of Kyushu, Fukuoka, Japan.

Statistical Method in Demographic Research
Chairman: Frederick F. Stephan, Princeton University

Statistical Measures in the Marital Life Cycles
of Men and Women

A common error in demographic analysis is to obtain the estimated average length of widowhood by subtracting the expectation of life of the husband at the time of marriage from the corresponding figure for the wife. The fallacy in such procedure as it applies to this particular statistic (and also to related ones) is demonstrated, and the correct methodology is discussed. The proper procedure is applied to data for the United States of America for 1890, 1940, and 1950, and certain analyses are made of the trends indicated.

Attention was attracted to this matter by Paul C. Glick's article "The Life Cycle of the Family" (Marriage and Family Living, Feb. 1955). This paper did not itself commit this error, except in a graphic presentation that could easily be misunderstood. Figure I thereof contains a line labeled "Death of Husband" that is really the median age of wife at termination of marriage by death of either spouse. The difference between this line and the higher one, termed "Death of Wife," could be interpreted (incorrectly) as average length of widowhood.

When the incorrect method indicated above is used for 1950 data for first marriages and divorce and remarriage disregarded, the result would seem to be that women have an average period of widowhood of 7.3 years and are widowed on the average at age 66.5. The correct summarization is that 65.3 per cent of the brides become widows, at a mean age of 61.2, and that such widows have a mean period of widowhood of 18.7 years. — Robert J. Myers, Social Security Administration.

Statistical Inferences from Small Area Data

The problems of inference from quantitative observations on areas depend upon the types of data collected and the theoretical interpretation employed in a study. Three general types of data are: (1) aggregate data; (2) sub-unit data cumulated to aggregates, but with sub-units lost; (3) sub-unit data cumulated to aggregates, but with sub-units retained. These data may be interpreted either in aggregate or in sub-unit terms. Focusing our attention primarily on aggregate interpretations, we introduce the structure concept to refer to regularities in variables observed and in their spatial distributions. Four problems of statistical inference arise in the structural analysis of area data: (1) choice of areas or evaluation of areas; (2) choice of variables; (3) choice of constructs derived from variables; (4) analysis of spatial distribution. In problem (1) the widely accepted homogeneity criterion is seriously open to question. In problem (2) the need to choose variables with clear theoretical meaning is aided by some generalizations of Guttman's concepts of internal validity and reproducibility. In problem (3) the difficulties of interpreting constructs derived from several variables

are partially reduced by inspecting the matrix of correlations among variables with criteria similar to the Guttman simplex procedures. Problem (4), the analysis of spatial distribution, may be handled with rigorous statistical procedures due to the contributions of R. C. Geary, especially the contiguity ratio. Hypotheses specifying patterns of spatial distribution and hypotheses explaining these patterns may be appropriately tested by these procedures. — James M. Beshers, Purdue University.

Variance Components of the Distribution of Population Characteristics

A "hierarchical" (or "nested") model is used for studying the distribution of characteristics in a population. This is based on a subdivision of the population into successive stages, where the units of one stage subdivide into sub-units of the next stage. These subdivisions arise in, or are imposed on, large populations and a geographical basis is a common — but not the only — type. Empirical data are presented from two Detroit Area Studies where the successive units were tracts, blocks, dwellings, and persons.

The variation is measured in terms of the components of the total variance "assignable" to the units of each stage of subdivision. The value of some variable for a specific element of the population may be given in terms of the "effects" of successive stages. The "effect" is the deviation of the mean value of the unit to which a specific member belongs from the mean value of all units at that stage:

$$Y_{ijkl} = M + A_i + B_{ij} + C_{ijk} + D_{ijkl}$$

The total variance of individual elements can be expressed as the sum of the components attributable to the variances of the "effects" of the units at each stage:

$$S^2 = S_a^2 + S_b^2 + S_c^2 + S_d^2$$

The proportions of the total variance "attributable" to the various stages are the terms in:

$$1.00 = \frac{S^2}{S^2} = \frac{S_a^2}{S^2} + \frac{S_b^2}{S^2} + \frac{S_c^2}{S^2} + \frac{S_d^2}{S^2}$$

These appear, respectively, in the first set of four columns below. They appear cumulated in the second set of four columns; these represent measures of homogeneity for the units comprising each stage; the measure is the ratio of "between" to the "total" variance components, often called "the coefficient of intraclass correlation."

The data show marked differences among the variables: very high homogeneity (segregation) for proportion of nonwhites; less for income and for proportion of Catholics; very little for the foreign born and for age classes.

Variance Components of Selected Characteristics
(Detroit Area Study, 1956)

Characteristic	Proportion of variance				Cumulated: homogeneity			
	Tracts	Blks.	Homes	Per- sons	Tracts	Blks.	Homes	Per- sons
Nonwhite households	.63	.08	.29	-	.63	.71	1.00	-
Income of primary families	.20	.12	.68	-	.20	.32	1.00	-
Catholics (couples only)	.12	.03	.65	.20	.12	.15	.80	1.00
Foreign-born (couples only)	.06	.01	.42	.51	.06	.07	.49	1.00
Young (21-29) (all adults)	.02	.00	.37	.61	.02	.02	.39	1.00

- Leslie Kish, University of Michigan

Ecological Patterns in American Population Change
Chairman: Donald J. Bogue, University of Chicago and The Scripps
Foundation for Research in Population Problems

A Comparative Study of the Age Distributions of the Populations of Major Cities in the United States

Calculations were made to determine the extent to which in 1950 each of the 113 largest cities in the United States contained more or less than its pro rata share of all age groups 0-4 to 75-over. Then a chart for each city was prepared so that one could see at a glance the principal ways in which the age profile of its population differed from that of the United States as a whole. With these charts as a basis, age distributions of 108 of the cities were grouped into seven types, as follows: (1) those, of which Indianapolis is a good representative, in which the age distributions correspond most closely to the national pattern; (2) those, typified by Washington, D. C., with heavy concentrations of persons in the productive ages and low proportions of the very young and the old; (3) those, such as Madison, Wisconsin, and Norfolk, Virginia, in which the city's role as the seat of a great university or as a defense center results in its having an inordinately high proportion of persons 18-30 and, consequently, low proportions of those in the other age groups; (4) those which are true retirement centers, such as St. Petersburg, Florida, and Pasadena, California, in which the high proportions of old people overshadow all other aspects of the age distribution; (5) those whose growth has been in two spurts, such as Camden, New Jersey, and Boston, Massachusetts, in which the concentrations in the ages 25-34 and 50-64 are the dominating features of the distributions; (6) those, typified by Albuquerque, New Mexico, and Salt Lake City, Utah, in which high proportions of young children and of young adults set them apart from all other cities; and (7) those, represented by Paterson, New Jersey, characterized by relatively high proportions of persons in all of the ages above 40. It was necessary to leave five of the cities unclassified.

- T. Lynn Smith, University of Florida.

The Pattern of Daily Population Movement in an Urban Community

Changes in transportation and communication technologies have been paralleled by continued urbanization of the society and growth of urban areas. On the assumption that the central areas of a community become increasingly less accessible to the more peripheral populations, it was hypothesized that as distance of residence from the central areas of the city increases, the fulfillment of daily requirements of households tends to take place in either the areas proximate to the household or in areas which can be reached with greater ease than the distant and congested central areas of the community. It was hypothesized, in addition, that the socio-economic level of the household is directly related to the amount of activity in the more central areas and that the stage in family life cycle of the household further determines the degree to which travel to noncentral areas is substituted for travel toward the center.

Two measures used in evaluation of the hypotheses in one large metropolitan area were (1) the proportion of daily trips to non-home destinations oriented toward the city center, and (2) the average airline distance to destinations of trips oriented toward the center. The higher the proportions and the greater the distance, the higher would be the degree of centripetal or inward orientation of travel.

The findings, in part unanticipated, were: (1) distance of residence from the city center and socio-economic level were directly related to the degree of central concentration of travel; (2) distance of residence from the city center and stage of household in the family life cycle appeared to account for the larger part of the variation in the degree of centrality of travel; (3) socio-economic and family life cycle differentials in central concentration of travel may become more pronounced when the distribution of trips over purposes of travel are controlled; (4) increases in degree of centripetal orientation are not accompanied by increases in the proportion of travel to the central business district.

It was tentatively concluded that the central areas to which considerable traffic is oriented have diffused well beyond the bounds of the central business district and that the community structure and the household organization combine to determine not only the location of residence in the urban community, but the distribution of residence-to-nonresidence linkages as well. — Gordon F. Sutton, National Office of Vital Statistics.

Changes in the Rural-Nonfarm Population, 1930-1950

The aggregate tendency toward an increasing concentration of the American population in urban areas and particularly in SMA's is accompanied by an increasing concentration of rural-nonfarm people immediately adjacent to such urban places. Here, too, the rate of rural-nonfarm growth is most rapid.

These tendencies are demonstrated by census data for 1930, 1940, and 1950 for each county in the United States. When all counties are grouped into nine categories by size of largest center in 1940, the rural-nonfarm population is shown (1) to be primarily concentrated in the vicinity of urban places, (2) to be increasingly concentrated near such places over the period studied, and (3) to be growing most rapidly

in counties which contain parts of SMA's or are first-tier to such counties. In general, the rate of rural-nonfarm growth declined irregularly from 1930 to 1950 with declines in the size of the nearest center.

In this analysis, the old definition of "urban" was used in 1950 to permit observation of trends. The results justify Census Bureau action in redefining "urban" to include a substantial group of rural-nonfarm persons who are urban-oriented. There appears to be need for further modification in the definitions of "urban" and "rural." — Vincent Heath Whitney, Brown University.

Demographic Transition Re-examined
Chairman: Dudley Kirk, The Population Council, Inc.

Japan's Demographic Transition Re-examined

There were cultural and temporal specificities to the Japanese demographic transition between 1868 and 1958. There were also relations to the premodern population-economic situation, the technologies available for adaptation, the course of historical events, and the reactions of the people to those events. There were alternations of periods of sharp and gradual change in mortality and in fertility.

The record was scanned to explore some of the questions of wider relevance and the general predictability. The transition in the first 45 years was classic in the regularities of the changes and the interrelations of the components. In the second 45 years there was a period of regular change from 1920 or 1925 to 1937, a disturbed period from 1937 to 1947, and then a decade of extraordinary decline in mortality and in fertility. The patterns of the declines in age-specific fertility as they occurred between 1925 and 1947, 1947 and 1955, and 1925 to 1955 were summarized for the prefectures. Declines in age-specific total births to all women and legitimate births to married women were presented for the period from 1925 to 1955 for industrial groups of prefectures. In total and in legitimate fertility, declines proceeded in accord with the values of Japanese culture and in the pattern of past relationships rather than in conflict with them.

Theories of recapitulation have been applicable in Japan only in the broad sense of the definition of the transition itself as change from high to low fertility and mortality. Perhaps the greatest contribution of the analysis of Japan's experience to the assessment of future experience elsewhere in the Pacific region is the indication that the occurrence of the unpredictable may be not unlikely. The precipitant decline in marital fertility in the rural areas in recent years makes one question assumptions as to the stability of reproductive mores among peoples in situations of revolutionary ferment such as those that exist to varying degrees in most areas of contemporary East Asia. — Irene B. Taeuber, Office of Population Research, Princeton University.

Western Demographic History and the Problems of the Currently Less Developed Countries

There is a sharp difference between the pre-industrial West and the currently less developed peoples. Usually, Western birth and death rates, especially the latter, were well below those of most contemporary

peoples, at least before the introduction of controls over disease. Western marriage was later and less frequent than in contemporary populations, and conscious family limitation was practiced in the West. The controls over fertility seem to have been motivated by the desire to maintain a given standard of living. Although the practice of family limitation is insignificant in the less developed peoples of today, their age-specific marital fertility rates are far below those of the pre-industrial West, especially French Canada. The low marital fertility of the currently less developed peoples presumably results, like their high mortality of the early twentieth century, from low levels of living, diet, and environment, all of which are less favorable than those of the pre-industrial West.

Existing official statistics do not show a Western instance of sharply rising fertility. However, fertility was possibly the major variable in the emergence of the demographic gap in England between 1700 and 1850. In the period 1700-1750 death rates may have been under 25 per 1,000 and birth rates less than 30, and some evidence suggests that the age of women at first marriage was about 27 years. After 1750 birth rates rose gradually, reaching about 42 per 1,000 in the 1810's, and then fell to 35 in the 1840's. Much of the change probably resulted from variations in nuptiality, but illegitimacy and possibly marital fertility were also variables.

Thus, rapid demographic growth in the West may have resulted from a relaxation of controls over fertility. But when conditions were no longer propitious for the larger family, as after 1880, the controls were reinstated. On the other hand, the slight conscious controls over fertility in most currently less developed countries have resulted in high death rates and low fecundity. The control of epidemic disease has already led to increased birth rates in some areas. As nutritional levels rise, fecundity may increase sharply. Given the levels of nuptiality in these countries, the resulting rates of natural increase may well cancel out increases of per capita income, unless determined efforts are made to promote family limitation. — John T. Krause, Ohio State University.

Types of Population Trends in the World

In a model used by the United Nations for its report on The Future Growth of World Population (ST/SOA/Series A, No. 28, 1958), a typology of population trends was attempted, in which mortality declines, at rates recently observed, were accepted as a function of time.

In two-thirds of the world's population, the gross reproduction rate is typically 3, while expectations of life now range from 30 to 60 years; annual increases, now from 1.4 to 3.6 per cent, will accelerate further unless fertility declines. But even if fertility now decreases at rates observed previously in other populations, annual rates of growth will not slow down in the next 25 years.

Populations of other areas now have gross reproduction rates of about 1 to 1.5. Mortality being low, death rates have become mostly a function of age structure; hence populations of recent fertility decline still grow more rapidly than those of earlier decline. With time, these differences tend to disappear.

Now nearly 3 billion, the total world population may reach 5 to 7 billion by the year 2000, with high-fertility populations taking an increasing share. If fertility everywhere remains at present levels, the

total one hundred years from now will be 40 billion. If fertility everywhere declines at once at rates previously observed until gross reproduction falls to 1, the total one hundred years from now is 9 billion, with 10 billion the eventual maximum. Either of these possible developments appears quite improbable.

The typology, then, applies only to a limited time-span, since its long-run implications seem implausible. Perhaps a crisis of hitherto unknown type is being approached. A population model of more enduring validity might be conceived by the philosophers of history, but is outside the more limited compass of conventional science. — J. V. Grauman, United Nations.

Internal Migration in the United States
Chairman: Henry S. Shryock, Jr., Bureau of the Census

Inter-regional Migration in the United States, 1953-58

This paper uses average annual rates to analyze inter-regional migration in the United States between 1953 and 1958. The basic data are estimates obtained from the annual mobility supplement of the Current Population Survey of the Bureau of the Census.

The analysis yields the following results. (1) An average of 10.5 million persons, 1 year old and over, moved across county lines annually, but a relatively small proportion of these were migrants who crossed regional lines. (2) The South continued to be the great exporter of population, but, unexpectedly, was also the recipient of the largest number of migrants. (3) When annual average rates of migration based on the number of migrants in the region are used, the streams originating in the South provide the highest rates of in-migration in all regions, and the streams terminating in the West account for the highest rates of out-migration in all regions. The lowest rate was for streams originating and terminating in the Northeast. (4) The number of migrants per 1,000 population, 1 year old and over, for all streams was highest for the West and lowest for the Northeast. (5) The apparently perfect rank relationship among migration rates indicates that when a region is the recipient of migrants at a high rate, it will have correspondingly high rates of internal and out-migration. (6) The West was the only region that showed a consistent annual rate gain, whereas the South had the heaviest rate of loss. (7) The most significant change in the pattern of movement between regions was found in the interchange between the South and the North Central. In the first three years of the period, the South lost migrants to the North Central but gained migrants from the North Central in the last two years. (8) The Northeast was attractive to Southerners and Westerners; the North Central attractive to Northeasterners and Westerners; and the South highly attractive to Westerners. — James J. Maslowski, Bureau of the Census.

Residence Histories of Deceased Persons

In mortality statistics, deaths are allocated on a de jure basis to the usual place of residence shown on the deceased person's death certificate. In view of migration considerations, the question is posed, How completely does the terminal place of residence cover the residence history of the deceased person? The results reported in this paper are

based on lifetime residence histories collected from family informants for a sample of about 400 deaths allocated to urban and rural-nonfarm places in Standard Metropolitan Areas in Pennsylvania.

A primary objective of the study was to test and develop methodology for collecting and measuring lifetime residence histories of deceased persons. For example, the survey of family informants demonstrated the feasibility of this method of collecting lifetime residence histories. Also of methodological interest is the fact that different criteria from the residence histories were investigated for purposes of interpreting mortality statistics based on deaths allocated to the terminal place of residence, and these results may be useful in a modest way when viewed as preliminary findings.

About 75 per cent of the decedents had not lived their entire lives in the usual place of residence at death, and almost 10 per cent had lived there for periods of less than 10 years. The length of continuous stay in the terminal place of residence was longest for deaths allocated to the largest cities, Philadelphia and Pittsburgh, and as would be expected on the basis of the rapid growth of urban fringe areas, length of stay was shortest for deaths allocated to rural-nonfarm places in metropolitan counties. The combination of the circumstances that females outlive males and that death of the spouse apparently increases the probability of migration by the surviving mate helps to explain the finding that at ages 65 and over the length of stay in the terminal place was substantially longer for females than for males. The finding that lifetime stay in the terminal residence place was twice as prevalent for the younger as for the older decedents may be due in part to the age factor, but also important is the fact that a smaller proportion of the older cohort was born in this country. — Monroe G. Sirken and James W. Pifer, National Office of Vital Statistics, and William M. Haenszel, National Institutes of Health.

A Mathematical Model for Migration

This paper describes a methodological study attempting to improve the quantitative analysis of migration data by controlling for seven important spatial variables. The primary objective is not to predict, but rather to compare migration rates, somewhat as standardization of vital rates permits us to compare fertility or mortality by allowing for the age-sex structure. The seven variables are: (1) size of area of origin, (2) size of area of destination, (3) shape of area of origin, (4) shape of area of destination, (5) distribution of population within area of origin, (6) distribution of population within area of destination, and (7) distance moved. The model is designed to compute the proportion of migrants attributable to these factors. By estimating the effects of spatial variables, the model allows demographers to concentrate their attention on the remaining sociological, economic, and political variables.

Construction of the model involves a number of series of equidistant concentric circles used to approximate a double-integral formula for the probability of migration between any two areas. A set of simultaneous equations expresses the total pattern of migration for distances r_1, r_2, r_3, \dots between places a_1, a_2, a_3, \dots and places b_1, b_2, b_3, \dots . By dividing each area into sub-areas and calculating theoretical frequencies for all possible moves between sub-areas, this total migration pattern may be obtained. Computed frequencies thus generated may be compared with the corresponding observed frequencies through six indexes. Three indexes may be combined to form the "force of attrac-

tion," which measures the importance of non-spatial factors in relation to spatial ones.

This gravitational-type model was applied, taking the United States as the universe, regions as areas, and states as sub-areas, and using 1935-40 census data. From a base map, templates, and population data, a 49-by-49 table was prepared, showing all interstate moves. Computed migration figures for nine Census Divisions, four Census Regions, and six sociological regions were then contrasted with observed migration figures. Simple and net migration indexes apply to each move. For each region, the model yields indexes of in-, out-, local, and net migration as well as a "force of attraction." Additional research is required, including an application to international migration. — Ralph Thomlinson, Denison University.

Fertility Studies

Chairman: Robert M. Dinkel, Greensboro, N. C.

The Stability and Reliability of Expected Family Size Data

This paper represents an attempt at an assessment of the probable stability and accuracy of family expectations held by married women in the childbearing ages. The data reported are based on: (1) a 1955 cross-sectional survey of married Detroit-area women aged 18 to 40; and (2) a telephone reinterview with as many of these women (56 per cent of the original sample) as could be contacted three years after the 1955 survey. Data are presented which allow a comparison of the characteristics of the original and the reinterviewed sample. A net error of virtually zero is found between expectations and performance over the time span. There are, however, a series of upward and downward revisions in number of children expected by the individual women. After three years 30 per cent of the women have changed their total expectations. In general, the data suggest that although socio-economic changes produce some revisions of fertility estimates, the basic determinants of the accuracy of fertility predictions lie in the family life cycle characteristics (e.g., duration of marriage and number of children already born). There is no evidence that the current recession has appreciably altered the family size expectations of Detroiters. Since the reinterview data show practically no net change in expected number of children, we may expect that cohort projections will be relatively accurate, to the extent that the cohorts upon which the expectations are based contribute the major share of the births in any given period. Although expectations cannot be used as a substitute for completed family size at the individual level, their accuracy on an aggregate basis holds considerable promise for more accurate cohort predictions by fertility studies of the future. — David Goldberg, Harry Sharp, and Ronald Freedman, University of Michigan.

Class Fertility Differentials in Great Britain

The 1911 and 1946 family censuses provide more information on the trend of class fertility differences in England and Wales than is available for any other modern industrial nation. The 1951 census of Great Britain provides additional data which, although somewhat less adaptable to the estimation of trends, nevertheless confirm and extend our previous knowledge. [For citation see Title 3505, this issue.]

Cumulative birth rates by age at marriage and duration of marriage for once-married women under the age of 50 who were enumerated with their husbands are shown. The women are grouped into the five social-class categories that have long been used by the British registrars-general, and also into twelve socio-economic groups.

Class fertility differences increase with marriage duration, and the inverse relation between fertility and class is more marked at the longer durations. Analysis of the data in conjunction with the findings of Glass and Grebenik in their report on the 1946 family census suggests that there has been a genuine narrowing of class differentials in completed fertility at the shorter marriage durations. At the very shortest durations—less than four years—however, the 1951 census shows a larger manual-nonmanual differential than the 1946 census at the same durations.

In general, the data suggest that the inverse fertility-class relationship has been replaced by an oblique J-curve pattern, in which family size decreases with rising status only up to the nonmanual groups of intermediate status and then rises again slightly but unmistakably.

Analysis of the rates for socio-economic groups shows clerical workers and other nonmanual groups of low status to be the most infertile segment of the British population. Within the nonmanual middle class the inverse relationship between fertility and socio-economic status has all but disappeared, especially at lower marriage durations. Among nonagricultural manual occupations, however, fertility is still inversely correlated with socio-economic status. And nonagricultural unskilled workers are more fertile than either farmers or agricultural workers. — Dennis H. Wrong, Brown University.

Marriage and Fertility of College Graduates

For eleven years, from 1946 to 1956, the Population Reference Bureau conducted annual surveys of 10-year and 25-year college graduates to measure changes in marriage and fertility. On the average, about 145 colleges and 30,000 graduates participated in the mail survey each year. The response rate was over 50 per cent for every year. The data reveal two important trends: (1) for both the older and younger graduates, male fertility was consistently higher than female fertility; and (2) the younger women, 10 years after graduation, showed a higher average number of children than the older graduates, 25 years after graduation. The increase in fertility among male graduates was greater than that among female graduates for both the older and younger groups. However, for both sexes, the fertility of the younger graduates increased more than that of the older.

Detailed data from a subsample of 9,343 questionnaires from the 1955 survey were presented. These data related to the graduates of 1930 and 1945, and the analysis was limited to the experience during the 10 years immediately succeeding their graduation from college. The date-of-marriage data showed that, for both men and women, the older graduates married at a slower rate than the younger graduates during the comparable time period. The older men married at a faster rate than the older women, but among the younger graduates the rates for women were greater than those for the men. The fertility data indicate that the higher fertility of the younger graduates compared to that of the older within 10 years after graduation is due to more graduates marrying and having a first child as well as to first-parity and second-parity grad-

uates going on to have second and third births. This may reflect a real increase in the size of completed families of college graduates.
 — Patience Lauriat, Bureau of the Census.

Studies in Historical Demography
 Chairman: Margaret Jarman Hagood, U. S. Department of Agriculture

Demographic Characteristics of College Graduates —
 An Historical View

This research explores the usefulness of alumni records of the older American colleges for the study of changes in the demographic characteristics of college graduates during the last one hundred years. The records examined were those of an "Ivy League" college in northern New England, for classes graduating between 1850 and 1925. The number of graduates studied were 1,497 distributed as follows by decade of graduation: 1850's, 168; 1860's, 114; 1870's, 117; 1880's, 128; 1890's, 137; 1900's, 265; 1910's, 261; and 1920's, 307. The records indicate that reliable information is available regarding the occupational, marital, and mortality experiences of the graduates, but that the fertility materials are of poor quality. It is improbable that the fertility data relate to number of children ever born rather than the number surviving into childhood and adolescence.

Several results of the analysis of the records seem worthy of further study in larger samples. The proportion of graduates entering the professions exceeded the percentage entering business occupations for every decade until the 1920's. The proportion of men who became proprietors and owners of businesses remained the same throughout the period under study. Significant declines took place in the proportion of professional men who became lawyers, physicians, and ministers. The data indicate a steady increase in the proportion of graduates who marry. There also was an increase in the expectation of life between 1850 and 1925, but this increase does not "explain away" the rise in the number who marry. No significant changes occurred in the mean age of marriage until the classes graduating in the 1920's, for whom the age of marriage declined sharply. There were no unambiguous shifts in the percentage of successive classes who married more than once. True, when all the graduates of the decades between 1900 and 1920 have died, they may turn out to have remarried to a greater degree than previous groups of alumni, but this trend is not apparent from the records now available. A larger proportion of the first marriages, of those who married a second or third time, were dissolved by divorce in the case of recent classes than for the classes before 1900. — Robert Gutman, Rutgers University.

Macrogeographic Evidence of Demographic Unity and a
 Primary Continuing Pattern of Population Distribution
 in the United States, 1790-1950

Two distinctly different points of view now exist in geography concerning the study of spatial distributions of human populations. The microgeographic, characterizing the approach of most older geographers, considers populations as comprised of discrete individuals, having assignable locations. The macrogeographic approach presented here recognizes this, but also considers spatial variation of aggregate meas-

ures of the population of the United States viewed as an integrated functional whole.

Building upon earlier leads of John Q. Stewart of Princeton University, various demographic-geographic measures are employed. Especially important is the series of maps, prepared recently at the American Geographical Society, showing potential of population, aggregate travel distance, and second moment of population for each decennial census, 1790-1950. Relations to spatial patterns of economic and sociological phenomena are briefly suggested. Major emphasis, however, is upon internal regularity and the equilibrium tendencies exhibited by various geographic-demographic measures.

One example concerns rural density of population which at each census varied as the square of the potential of population. The factor of proportionality, though geographically constant at any one census, declined systematically through time. When related to the declining rural fraction, a pure number constant is evidenced.

The westward movement of the popularly conceived center of population is reconsidered in light of a constant eastward "skewness." Definition and movement of the frontier, the impact of "unfavorable" physical environment, and measurement of effectively occupied territory are discussed.

Additional evidence supports the idea that, when viewed macrogeographically, a primary and continuing spatial pattern with remarkable quasi-equilibrium tendencies is observable for the population of the United States and that within this framework, the following three historical periods are discernible: (1) 1790-1840 — establishing the pattern; (2) 1840-1890 — westward migration; and (3) 1890-1950 — increased relative importance of the eastern seaboard and appearance of the west coast mode. — William Warntz, American Geographical Society and Princeton University.

Some Remarks on the Population Statistics of Ancient China and the Outlines of Chinese Population History

Demographers have not paid enough attention to the historical statistics of China's population and their implications for population theory. These statistics, stretching back over a period of two thousand years, are subject to considerable error and their definitions are uncertain; but no more so than the sources of information on European populations before the nineteenth century, and the Chinese provide a much more comprehensive view of long-term trends. These data deserve more careful study, especially because their trends do not agree well with some common generalizations about historical relationships between population growth and economic development, which have been derived mainly from European experience and from largely undocumented assumptions. A proper appraisal of the statistics calls for cooperation between demographers and specialists in Chinese history.

An outstanding feature shown by the Chinese statistics is the enormous population increase beginning sometime around 1700 and continuing until about 1850. This is roughly parallel in time with the great acceleration of population growth in early modern Europe, but the increase indicated by the statistics in China is larger. The usual explanations of accelerating population growth in Europe at this time, including the opening up of the New World and beginnings of the Industrial Revolution, are

not applicable to China. It is worthwhile to look for common factors which might explain the coincident accelerating growth in both areas. Available information suggests that non-economic factors may have played a leading role in China.

This increase of China's population in early modern times also raises questions about the assumption that China was previously populated to capacity, as limited by the natural resources and the traditional technology. The thesis of repetitive cycles in China's population history, developed by Ta Chen, Owen Lattimore, and others, finds little support in the statistical record. — John D. Durand, United Nations.

Dinner Meeting
Rupert B. Vance, University of North Carolina, presiding

The Inevitable Enlargement of the Field of Demography

Not so long ago business wanted to know where its markets were, what it was going to have to sell, and a host of other questions relating to its profits or losses. The census tried to oblige, and for fifty years we have known more about the things and animals at our disposal than about the people who are going to dispose of them.

Today modern industry demands a subdivision of labor and needs to know about particular skills. Further, we must know something about people's emotional stability, their persistence, their power to innovate, the quality of their intelligence, how they get along with other people. The psychologist can measure these qualities, but the demographer will have to count and classify them for the country as a whole and for different areas. The demographer also has the job of predicting numbers, and he is trying now to find out something about the attitudes of child-bearing people towards size of family, and what factors determine these attitudes. Here he has to call in the sociologist and the social anthropologist, and perhaps the psychiatrist, either for himself or for the people he is studying.

In the near future the demographer will certainly be called on to predict the qualities of the next generation as well as their number. Sociologists, economists, and others will tell the demographer about the environment in which the next generation will be brought up. The geneticist will tell him how the children of various parents will benefit from that environment. The demographer will have to get to be something of a geneticist himself to sort the leads out for his purposes.

Soon people will probably decide that they want more or fewer people in the country in the next generation, or more of a particular kind and fewer of another kind. Doctors are already asking for fewer defectives. So the planners will turn to the demographer and ask him just how to get certain people to have more children and others to have fewer children, all on a strictly voluntary basis without hurting their feelings and without hurting their morals or their taste for Coca-Cola, cigarettes, and high-power automobiles.

Before long public-health authorities will want to know the distribution of blood groups in different areas, and the differences in mating habits; the public-health authorities will also want to know the distribution of constitutional defects, who are the carriers of the responsible

genes and what are their mating habits, and how psychological pressures can be applied to stop their reproduction. Although of course a lot of other people will be called on to help with all these things, who but the demographer would be expected to count the people? Twenty or thirty years from now the census will really be a stupendous task.

The things the physicist deals with are relatively simple. Relative, that is, to the complexity of man; man with whom the content of a single skull is more complicated, more diverse, and more difficult to understand than the whole universe of suns and planets and distant stars. Add the whole body, and consider that of the two or three billion people already in our world no two are alike in their physical structure unless they be identical twins, and that even these differ since they have been developed under different environments. Consider that these are the materials that the demographer must classify, that then he must count the numbers in each classification, predict which are going to survive and in what numbers, and finally make plans which will assure the survival of those whom society tells him should survive.

This inevitable enlargement of the field of demography calls for a corresponding enlargement in the intelligence of demographers. Perhaps the most important thing we older demographers should devote our remaining brains to is to encourage really bright young people to come into this field. — Frederick Osborn, The Population Council, Inc.

Presidential Address

In her presidential address, Dorothy Swaine Thomas stressed the positive aspects of traditional practices in census-taking in the United States and expressed some of the misgivings of demographers about innovations in the 1960 census. The following is an abstract of her address:

Historical records show how much hard demographic thinking went into the planning of every one of our censuses, including even the first, when James Madison made a strong plea for utilizing the census to obtain an "accurate description of the several classes into which the community is divided" and for continuity in future censuses to enable us to mark "the progress of society." He foresaw also the necessity of planning the schedules in ways that would provide "a check on the enumerators." Madison's proposals were ahead of his time, as were significant memorials presented to Congress by the American Philosophical Society and the Connecticut Academy of Arts and Sciences in January 1800, which emphasized various needs: for detailed age-sex distributions, as bases for life tables; for a differentiation between the native and the foreign-born, to trace the relative contributions of "birth and immigration" to population increase; for occupational distributions; for classification by marital status; and for a separation of returns by cities, towns, and counties, within each state.

With almost every census the scope was extended somewhat, but the methods of enumeration and compilation were so crude and primitive that the publications contributed little to the science of demography until fundamental changes were initiated in the seventh census (1850), on the advice of such eminent demographers as Shattuck and Jarvis. With a shift from the family to the individual as the unit of enumeration, it was possible, for the first time, to have adequate cross-classification of characteristics of the population; and by this time, many of the "classic" demographic characteristics were on the census schedule: age,

sex, color or race, place of birth (including state of birth), occupation, and educational status, however crudely the latter was defined. Within the next few decades, the scope was further expanded to include marital status; children ever born; parentage; unemployment; home tenure and farm residence; and, much later, income and mobility. Together with improved concepts of educational and labor force status, these categories fulfilled most of the demographic requirements for a census. Meantime, however, the census was being cumulatively overloaded with items essentially nondemographic in character, dictated by humanitarian or economic interests. This process culminated in 1880 and 1890 when the several schedules included approximately 13,000 separate items. By this time the census had become an inventory of resources and activities, and it seemed to have no natural boundaries. Its earlier focus on the distribution of people and their differential characteristics was obscured.

With the establishment of a permanent census office in 1902, it became possible to allocate many of the strictly economic and resource items to special divisions or other bureaus and to arrange their periodic enumeration at times other than that of the decennial census. The Bureau, however, is still by no means uninfluenced by pressures to include as "free riders" on the population schedule items of slight importance to demography. It is particularly vulnerable because of the incorporation of housing with the population schedule, and "free riders" dictated by commercial and marketing interests (concerning, for example, possession of radios and television sets, freezers, washing machines, and automobiles, etc.) take up a large share of the space on the combined schedule for the 1960 census.

The Act of 1902 that established the Census Office brought permanent employees under classified civil service, and led eventually to association with the Census Bureau of some of this country's most distinguished demographers. Supervisors, special agents, enumerators, and interpreters employed for service during the decennial enumeration, however, are at present specifically exempted from civil service laws and the Classification Acts; and appointments to these positions are not made, as they were for a brief period during the late nineteenth century, "solely with reference to their fitness and without reference to their political or party affiliations." Vestiges of the spoils system — now dubbed the "referral system" — remain in contemporary selection procedures.

The main innovations in the 1960 census that arouse concern are: (1) the expansion of sampling (which began in 1940 and was greatly extended in 1950) to cover most of the substantive categories on population; (2) a change in procedure, for sample items, to a "two-stage" system, predicated on self-enumeration; (3) a stepping-up of automation, with radical reduction of coding and attempts to eliminate "human" editing for allocation of nonresponses. On theoretical grounds, sampling is acceptable, although sampling errors, under the best circumstances, tend to vitiate the use of the data for small areas or for thin cells in important cross-classifications. Correspondingly, a theoretical case can be made for self-enumeration, if this means increasing the number of respondents who report on their own activities and characteristics and if there is efficient systematic control of this enumeration, as is customary in certain European countries. Again, theoretically, automation opens the way to detailed cross-classification impossible under more pedestrian procedures. Sampling, self-enumeration, and electronic processing, however, under actual rather than theoretical conditions, leave many unresolved questions, disturbing to demographically oriented users of census data. Enumerators still have a major responsibility both in carrying out sample design and in data recording, and they, along with their supervisors,

are still selected for qualities in addition to, or other than, those of competence for the tasks. Automatic processing devices are still incompletely tested under census conditions and, rather than providing, as they might, a basis for relevant cross-classification, threaten to defeat this purpose through the necessity of early erasure of census data from expensive magnetic tape. Unless basic cross-classifications can be run, tabulated, and published, demographic users of census data may find themselves in the position of their counterparts a century ago, with mere inventories published, and no access to machine-tabulation by-products or to punch cards which might be (and often were) run for carefully planned, analytical tables. To salvage the 1960 census (however it is taken) for analytical purposes, the problem becomes one of realistic tabulation and publication. To these ends, university and foundation support may be necessary if the Census Bureau is unable to grasp and meet these needs.

In conclusion, it was suggested that the principles enunciated by Francis A. Walker in connection with the especially difficult 9th census of 1870 might be applicable to the comparably difficult 18th census of 1960, namely, that there should be "no least hesitation in undertaking any compilation, no matter how extended, which promised results that could be useful to any considerable class of the community or which had a clear scientific value [italics supplied]"; and that "especially since it costs so heavily to bring this material into the Census office, would it be the falsest of all false economy to lose any portion of it which, when tested, is found to be trustworthy, for the sake of effecting a saving in the cost of tabulation"; and, finally, that the additional cost through increase in scope must be justified "in the interest of science, industry, and good legislation."

OFFICERS OF THE
POPULATION ASSOCIATION

At the business meeting held on April 25, 1959, at Providence the results of the mail ballot for the election of officers of the Association and other members of the Board of Directors were announced.

Officers for the term 1959-1960:

Dudley Kirk, President
C. Horace Hamilton, President-Elect
John D. Durand, First Vice President
T. Lynn Smith, Second Vice President
Kurt B. Mayer, Secretary-Treasurer

Members of the Board of Directors:

<u>Term Ending 1960</u>	<u>Term Ending 1961</u>	<u>Term Ending 1962</u>
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A. J. Jaffe	Robert J. Myers	Charles F. Westoff
Elbridge Sibley		
Dorothy S. Thomas*		

* Retiring Officer of the term 1958-1959.

Members of the Nominating Committee for 1959-1960:

Chairman: Harold F. Dorn
Henry S. Shryock, Jr.
Mortimer Spiegelman