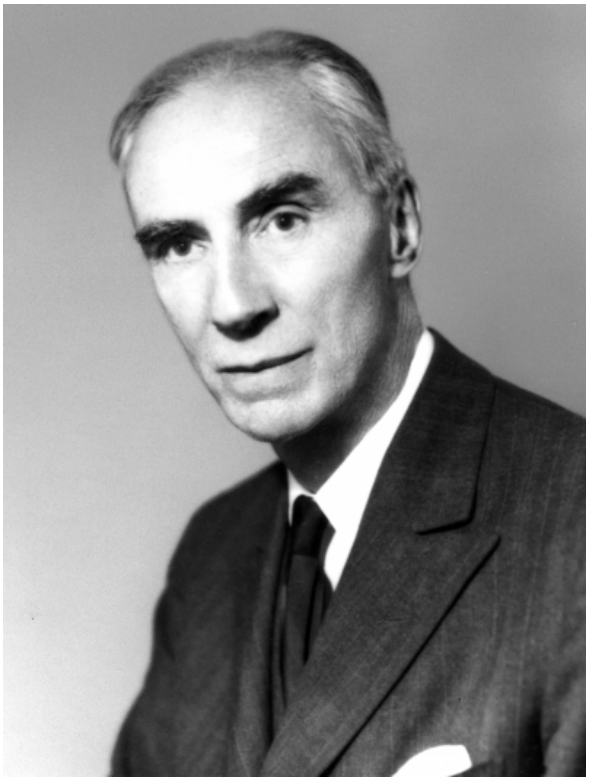
DEMOGRAPHIC DESTINIES

Interviews with Presidents of the Population Association of America

Interviews Referencing Frederick Osborn PAA President in 1949-50



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)
And then by John R. Weeks (PAA Historian, 1994 to present)
With the collaboration of the following members of the PAA History Committee: David Heer (2004 to 2007), Paul Demeny (2004 to 2012), Dennis Hodgson (2004 to present), Deborah McFarlane (2004 to 2018), Karen Hardee (2010 to present), Emily Merchant (2016 to present), and Win Brown (2018 to present)

FREDERICK HENRY OSBORN

We do not have an interview with Frederick Osborn, who was the 13th PAA President (1949-50). 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 Frederick Osborn.

CAREER HIGHLIGHTS

Frederick Osborn was born in New York City in 1889 to a wealthy family. In 1910 he graduated Phi Beta Kappa from Princeton University with a major in English. He then did a year of graduate study at Cambridge University. Following that, he worked in the family's railroad business until the outbreak of World War I. During the war he was a volunteer ambulance driver in the American Red Cross in France. Upon returning home after the war, he sold the railroad to Henry Ford, and invested the money in a variety of businesses, allowing him to retire from business shortly before age 40. He then began a two-year course of self-study at the Museum of Natural History in New York, initially to learn more about eugenics, following up on the ideas of his uncle, Henry Fairfield Osborn, who had pushed for the national origins quota system that was adopted in the U.S. in the 1920s. His studies led him away from racist theories and toward demography. He established a close working relationship with Frank Lorimer (PAA President in 1946-47) and in 1934 they co-authored a book on *Dynamics of Population: Social and Biological Significance of Changing Birth Rates in the United States*. He was instrumental in persuading Albert Milbank to provide initial funding for establishing the Population Association of America, and later to provide funding to establish the Office of Population Research at Princeton University. He moved to Washington, D.C. in the late 1930s as an advisor to the Bureau of the Budget. In 1940, Osborn was appointed by President Franklin D. Roosevelt to head the Civilian Committee on Selective Service. A year later, he was named chairman of the Army Committee on Welfare and Recreation, and, at the outbreak of World War II, was made a general (ultimately a Major General), leading the Army's Morale Branch, which he shaped into the Information and Education Division. After the war, he became the deputy to the Chief United States Representative to the United Nations Atomic Energy Commission and the Commission for Conventional Armaments. Upon leaving the UN in 1950, Osborn helped John D. Rockefeller III establish the Population Council in New York City. Rockefeller served as the Council's first president (although Fred Osborn really ran the organization), with Osborn taking over as President from 1957-59. He then served as the Chair of the Pop Council's Executive Committee until 1968. He died in New York in 1981.

From Andy Lunde's interview with Frank Notestein in 1973:

LUNDE: Frank, would you please tell us a few things about the early days of the PAA.

NOTESTEIN: I remember the organizing meeting [May 7, 1931] fairly vividly. Hank [Henry Pratt] Fairchild was the moving spirit and through the good offices of Margaret Sanger, he had gotten some funds from the Milbank Memorial Fund to finance the meeting. I think there were some 35 of us there, including Frank Lorimer [PAA President 1946-47], who is now in New Zealand, and Frederick Osborn [President 1949-50], among those now surviving. It was intended by Professor Fairchild that a nominating committee put in his name as president and Mrs. Sanger as first vice-president. But difficulties arose immediately. Frederick Osborn was a very great admirer of Mrs. Sanger but he felt rather keenly that there was a great need for a professional society which was not an action group and that it would be a great mistake if the association became an adjunct of her birth control movement, which he always supported and in which he was a strong believer. I think he even convinced Mrs. Sanger of this. I don't think she was at the meeting but in any event, he spoke of this and her name was

withdrawn.

It's interesting, nowadays, I hear the youngsters worrying about the purity of science versus the need for action. Sometime ago, people were suggesting we ought to set up qualifications for demographers; no one should be entitled to membership in this superior group who was not fully qualified. Well, believe it or not, in the early days we took ourselves even more seriously. You wouldn't believe the distance we went in order to keep all power in the hands of the purest of the pure. ....

The thing I'm really coming to is that population [funding] started at the Milbank Fund; that was a pretty small outfit. Then the Rockefeller Foundation moved in. John Rockefeller III became chairman of the board and, frankly, the Population Council was started because John couldn't get the Foundation interested. He never told me that but I know it to be true. Because he found the Foundation could not be properly interested in population, he set up the Population Council on his own.

The universities don't come off very well on this. They have to be bribed into new activity. Well, Chicago comes off well, in my judgement--in the old days; I'm not talking about the new--totally different thing. Rupert Vance [President 1951-52] and Odum [at the University of North Carolina] came off well as sponsors of innovation. But the same sort of vested interest happened in universities. All the monies come in. Everyone who is organized wants his cut. A new and different thing doesn't have professional backing--who are they? The slaughter of innocents becomes pretty heavy. At Princeton we brought in our own money and we brought graduate students. No economist wants to be a demographer. We were interested in strange people, so we did bring some students. This was an angle they weren't too concerned about. On the other hand at Yale, the international politics group came and every member of its political science department came to its session and there was trouble. You can put something in if it's not viewed as a threat.

What happened is that individuals like Warren Thompson, with old man Scripps of the newspaper chain--you've heard this story--he dug Thompson's thesis on Malthus out of the library, read it, took Thompson on his yacht out to the Far East and came back and established a foundation [Scripps Foundation for Research on Population Problems, Miami University, Oxford, Ohio]. It was meant to be much larger but there were two quick deaths [and estate taxes to pay]. I think as a maximum they never had much more than $15,000 a year for both of them [Thompson and Whelpton] and it wouldn't have been possible in later days, except they got money from the Rockefeller Foundation. But Scripps, Cochran, Sydenstricker, John Rockefeller, Fred Osborn--well, I guess I better gossip a bit about Fred.

Fred, as I've already told you, was a key man in the organization of the Population Association. I wrote a piece about Fred on his 80th birthday, a speech at PAA ["Frederick Osborn, Demography's Statesman, on his Eightieth Spring," speech delivered by Notestein at the banquet during the PAA annual meeting in Atlantic City, April 11, l969, Population Index, December 1969, pp. 367-371]. Fred retired when he was 39. He was well-to-do when he was born, I suppose. He was also a very successful promoter. The family had interests in the Detroit, Toledo and Ironton Railroad; pretty affluent. We had talks; I enjoyed those talks.

He said when he came out of Princeton he went to Cambridge for a year. Came back, wondered what to do. Well, socialism was in the air at the time and here he was--worried. So he went down to the public library and read. On the basis of that experience, he came up with two years of study [after his retirement, reading a course laid out by the anthropologist Clark Wissler at the Museum of Natural History]. Fred used to say, "I got into this business too late, I'll never be a technician. But I think I've studied enough now to ask this question. I think the resources devoted to the study of man are ridiculous. And I propose to devote the rest of my life to creating funds and organizations for the study of mankind." And indeed, that was what he did. He was a Princeton man; his father was a Princeton trustee. And between them, that was how population work got started at

Princeton.

Fred went from that to the Bureau of the Budget in Washington, just before the war. He wanted to do some promotional things. He'd been worrying about the quality of the population, eugenics. And in his view, the preface to eugenics was to get the solid environment which would allow people to develop their inborn traits. So he went to Washington with the general view that he wanted to see if he could get free school lunches established throughout the nation, because without adequate nutrition, inborn ability could not be developed. When the war started, he was chairman of the Advisory Committee on Selective Service, helping to strengthen the psychological and psychiatric screening for the services. He was traveling and people said when you're down in North Carolina look at why we're getting terrible rejections for high blood pressure. He came up with all sorts of theories about water and diet.

Fred was a trustee of the Carnegie Corporation and the Milbank Fund and in those roles he got resources for the population field. He did an enormous amount of mining of resources. He practically forced us into the Indianapolis Study. A tower of strength in the whole field. A man who started with the eugenic point of view was the man who precisely because of his interest in action was the one who thought we should protect the scientific character of the Association. Fred has been demography's great statesman. He was the first executive officer of the Population Council.

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

VDT: I also forgot to ask you if you can tell me a bit more about Fred Osborn, who was PAA president just before you, among many others things. He was a good research entrepreneur too, I gather.

HAUSER: There are two things about Fred that come to mind immediately. He's the only man I've ever seen able to put his foot on top of a desk this high and put his elbow on his knee. Try that sometime. He was six feet, seven inches tall. Also, at the old Cosmos Club in Washington, he was able to reach over the gate, which otherwise was closed to everybody else, and lift the latch.

Fred was not a demographer, never was, never would be. But he became very much interested in demography, largely through association with Frank Lorimer. They wrote this book together [Dynamics of Population, 1934], which was Frank's book, not Fred's, and Fred became so interested that he became a philanthropist of demography. Fred made his first half million dollars in selling a railroad to Henry Ford and he amassed quite a bit of wealth. He was a very intelligent man; extremely motivated, particularly on the social engineering side. He was not a scientist but he appreciated what science could do and supported it. That was his major contribution.

The other thing I remember. Fred was six feet, seven inches tall; his wife, I think, was six foot two; and all of his six children were over six feet. When they walked down Fifth Avenue of New York, traffic practically stopped! He was a great guy. I really got to know him and enjoy him very much as a friend.

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

VDT: Frank Notestein, of course, was a dominant character at the Office of Population Research and you say he remained a friend of yours all his life.

KIRK: I had two major mentors in my demographic career and the first was Frank. I also had a tremendous respect for the other, Frederick Osborn. He was a very tall man, a very remarkable man--a true American aristocrat in the best sense, that is, in the sense of having responsibility to go along with prestige. He felt that he had a responsibility to go out there and help the country. And he did. And

while he was never a technical demographer as such, he was in a sense our statesman. He got funds for us and you know that he essentially started the Office of Population Research at Princeton; he got support for it. He was a Princeton alumnus, of course.

VDT: I understand he first approached Harvard and they turned him down.

KIRK: That's true. He was glad, of course, to have it at Princeton. Then later when he had helped to found the Population Council, I worked for him there. Fred Osborn was a very dear, close friend.

VDT: Then you went to the Population Council, which had been established in 1953, was it?

KIRK: It was contractually established in 1952, but established an office in 1953. I came in 1954. There were Frederick Osborn, Margaret Cramer, who was the accountant, Catherine Glazer, who was the secretary, and myself, and that was it.

VDT: Again you came in right on the ground floor. Frederick Osborn was the first director?

KIRK: That's right. Frank Notestein had proposed me to Fred, but it was Fred who persuaded me to join the Population Council. It was a very pleasant experience working with him. And with Frank too, as I have said. [Frank Notestein left OPR in 1959 to succeed Frederick Osborn as second director of the Population Council.]

We do not have an oral history interview with Frederick Osborn, nor did he give a presidential address during his PAA presidency in 1949-50. However, we are fortunate to have this tribute to him presented by Frank Notestein at the PAA meetings in 1969 in Atlantic City, New Jersey.

FREDERICK OSBORN DEMOGRAPHY'S STATESMAN ON HIS EIGHTIETH SPRING

Mr. President, I was greatly honored when you asked me to present your special guest to the Association in celebration of his eightieth birthday. There is no man to whom the Association owes more for its early tone as a scientific society than Frederick Osborn. There is no one who has contributed more as demographer and eugenist to the scientific development of the borders between the social and biological sciences. There is no one who has done as much to bring major resources to the scientific study of population. It gives me special personal pleasure to present him, because there is no one to whom I am more indebted as mentor and friend.

Now, lest the mention of an eightieth birthday bring up an aged image, you should be warned. Eighty seems to be only the onset of maturity for demographers, whose dean, Walter Willcox, grudgingly agreed to departure at the age of 103. Alas, owing to a juvenile streak, Frederick Osborn may be too reckless to last that long. Since his seventy-fifth year he has broken I don't know how many ribs while skiing, his back while driving a strange miniature car, and, the winter before last, his leg and hip while playing ice hockey with some of his grandchildren. It is not for nothing that the gods launched this perennial youth on the first day of spring eighty years ago. One is reluctant to be critical of the gods, but it does seem as if they might have sent along a little more padding for the long bones of this inveterate youngster.

This is not the time for an assessment of Osborn's intellectual contributions to our field. Most of us are aware of the solid merits of Schwesinger and Osborn on Heredity and Environment, and of Lorimer and Osborn's critically important work, Dynamics of Population. Most of us realize that his two editions of Preface to Eugenics, his new book, The Future of Human Heredity, and his work in support of the Eugenics Society have done much to improve the discourse between biologists and social scientists in this area and to substitute sanity for the exhortations of the lunatic fringe. One of the truly best sellers in our field is his thoughtful essay, published first as Population: An International Dilemma, and re-issued in paperback form with articles by Malthus and Sir Julian Huxley. Although he derives no personal profit from the sales of this book, I must say that in choosing his joint authors he exhibited the kind of acumen that permitted him to retire from business before age 40.

But these are matters of the scholarly record. I would rather deal this evening with more personal matters that have not been adequately documented. Probably many of you know that Frederick Osborn was a charter member of this Association. There are only a few of us left, but don't let that discourage you; there were rather few of us to start with. At least Warren Thompson, Frederick Osborn, Frank Lorimer, and Frank Notestein survive. Could this suggest the not unpleasant hypothesis that an additional aid to survival among demographers is to have "F" for a first initial?

Editor's Note. — This is the revised text of the special address delivered by Frank W. Notestein, Population Council, at the banquet on the evening of April 11, 1969, at Atlantic City, New Jersey, as part of the annual meeting of the Association.

You may recall that it was Mrs. Sanger who stimulated Henry Pratt Fairchild to call the initial organizing meeting of the Association and who found the money to meet the costs. It was, indeed, the plan that she would be elected vice-president at that meeting. But Frederick Osborn, a profound admirer of Mrs. Sanger, persuaded both her and the organizing membership that the scientific standing of the new Association would be fostered if her name were withdrawn. Osborn, in many respects the unabashed reformer, has always jealously guarded the scientific role of this Association.

Osborn's career must indeed be unique. Businessman, public trustee, general officer of the Army, United States diplomat, outstanding demographer and eugenist, and promoter par excellence of the "hard" social sciences. It is an impressive and improbable combination.

In 1910, he was graduated Phi Beta Kappa as an English major from Princeton, in an era when, I fear, any studying was inconspicuously, if not furtively, done. There followed a year at Cambridge, in which he shared the enthusiasm of his British classmates for riding to the hounds. He also managed to convince a few friends that they could accompany him to the Osborn summer camp in the Adirondacks with only a minimal risk of being scalped by red Indians. In Cambridge, too, he met Lord Casey, the recently retired Governor-General of Australia, who shares Osborn's lifelong interest in population. I've heard, but cannot guarantee the story, that Lord Casey is the only living person who has the temerity to call our distinguished guest "Spike."

From 1912 to 1919, with interruption for service in the Red Cross in Europe during the War, our guest took up railroading, serving as treasurer, vice-president in charge of traffic, and president of the Detroit, Toledo and Ironton Railroad. It was an enterprise that had such a propensity for losing money that it was not so much a railroad as a white elephant. But the white elephant turned to gold, when Fred sold it to Henry Ford by pointing out to him that the road's right-of-way adjoined Ford's plant, and that the line crossed every east-west trunk line in the country, with obvious advantages to the allocation of joint rates.

Shortly thereafter he returned to New York to join one of the financial houses on Wall Street as a special partner. There his major enterprise was a brilliant maneuver by which he led a group that managed to pool the patents for the catalytic cracking of oil. He believes that this activity reduced the price of gasoline by a few cents for several years, with the additional advantage that he and his colleagues were handsomely rewarded for their efforts. In any case, shortly before age forty he decided to retire from business.

In this he was supported by his wife, the charming Margaret Schieffelin Osborn, who, in the way that demographers have come to expect from their wives, coped with the real problems of reproduction and socialization while persuading her husband that his theoretical interests were all that mattered.

Then began the improbable part of the story. Mr. Osborn went to Clark Wissler, the anthropologist, at the Museum of Natural History, indicated that at a later stage he might be able to support certain eugenics research, and asked Dr. Wissler to lay out a course of reading that would

take him about two years of work, at an old rolltop desk in a corner of the museum. I suppose the story is apocryphal that, at the end of two years, Fred set an examination for himself, took it, and passed himself. In any case, as a Princeton faculty man, I am sorry to have to agree that he gave himself a much more stimulating educational experience than anything that engaged his attention at the University.

Having started his studies as a recently retired businessman somewhat in the intellectual glow surrounding his distinguished uncle, Henry Fairfield Osborn, the Aryan enthusiast for immigration quotas by national origin, he came out of his studies and subsequent collaboration with Gladys Schwesinger and Frank Lorimer with an almost diametrically opposite position. Racial and class differences in innate capacity may or may not exist, he held, but even if they do they are unimportant compared to the differences in individual capacity. The task for the eugenist is to find how society can, by democratic processes, become self-selective for the traits it values. The preface to eugenics, he held, is social and biological research that discovers how individual traits are transmitted, and the creation of a floor of basic welfare without which it is impossible to recognize and develop the inborn biological potential.

Before the fact, what odds would you have given that a businessman, who retired before age 40 to devote himself to eugenics in the spirit of his distinguished, and very conservative, uncle, would emerge from his studies at the opposite end of the spectrum, a strong advocate of social amelioration? Clearly, the generation gap is not new.

He came out, too, with close ties of affection for his collaborator, Frank Lorimer, and there, too, is a question to be asked. What, before the fact, was the probability that Lorimer, a renegade clergyman, a disciple of John Dewey, and an iconoclast of almost religious fervor, would turn into the imaginative and disciplined scholar who, like Osborn, has sipped at the fountain of perpetual youth? A more improbable pair of revolters from the older generation, and from each other, never worked together with more affection, frustration, and accomplishment.

It was sometime in the early 'thirties that Fred made a fascinating statement to me. He said, in effect, that having come to the social sciences late and without a full, formal, academic training, he doubted that he would ever become a competent technician. On the other hand, he had studied and worked enough, he thought, to have gained a considerable perspective and a measure of judgment. Moreover, in business he had been successful as a promoter of new technology, and he felt that the social sciences very badly needed a promoter. He was going, he said, to devote the remainder of his life to stimulating, and trying to find the funds for, the scientific study of man and society.

I think it's possible that the Office of Population Research at Princeton was his first promotional project. In any case, he persuaded Mr. Milbank, whom he had known on the Street and as a Princetonian, to have the Milbank Fund, for which I then worked, give Princeton University the funds to set up the Office of Population Research. Soon Osborn moved to Washington as adviser to the Bureau of the Budget. I remember his saying that one of his personal projects in building the preface to eugenics would be to see whether he could establish free school lunches throughout

the nation, because without adequate nutrition, inborn ability could not be recognized. The war quickly blocked this activity.

Directly, as chairman of the President's Advisory Committee on Selective Service, he was helping to strengthen the psychological and psychiatric screening for the Services. Soon General Marshall picked him to be the general in charge of the morale division. In this role, first as Brigadier and later as Major General, he ran the biggest newspaper business in the world, the biggest motion picture business in the world, the biggest correspondence school, and, I suspect, the biggest nightclub business in the world. He did many things in the area of training and indoctrination, but what he is particularly and rightfully proud of is that he got the Army to take social science seriously. Under the direction of the late Professor Samuel Stouffer, a brilliant staff was assembled to utilize survey techniques in the study of problems of training and morale. A sceptical Army staff learned that common sense was the beginning, and not the end, of knowledge, an adjunct to, but no substitute for, science. You all know the three-volume work, The American Soldier, that reports on this spectacularly successful enterprise of our promoter.

The story goes on and on, but there is no time. As a public trustee he served many organizations, such as the New York International House, the Frick Collection, and Lingnan University of Canton, China, and he is a Commissioner of the Palisades Interstate Park. It was particularly as trustee of the Milbank Memorial Fund, the Carnegie Corporation, and Princeton University, that he helped find the money for collaborative projects between the Office of Population Research and the League of Nations, and, later, also the Department of State, which resulted in books by Irene Taeuber, Dudley Kirk, Frank Lorimer, Louise Kiser, Kingsley Davis, Wilbert Moore, Ansley Coale, and myself. He then encouraged a group led by Clyde Kiser and P. K. Whelpton to undertake the Indianapolis study. As a trustee of the Social Science Research Council as well as of Princeton University, he was a diligent and influential supporter of what he likes to call the "hard" social sciences.

For a time Osborn had to limit his interests because of preoccupation with his assignment as Senator Austin's deputy at the United Nations, where Fred represented our country in negotiations concerning atomic energy.

He had scarcely wound up this assignment before he became deeply involved with John D. Rockefeller, III, in launching the Population Council, which he served as President until 1959 and as Chairman of the Executive Committee until 1968. Here again, his restless energy as administrator, fund-raiser, author, and general agitator made its mark. He launched a great many activities with a minimum of funds. Believing, as he does, that investments in people are the most productive, he launched a substantial fellowship program, helped the United Nations establish demographic training centers abroad, and supported a wide range of training and research activities in universities here and overseas as well as helping to foster the work of this Association, the International Union for the Scientific Study of Population, and the American Eugenics Society. To top it off, he has just issued his new book, The Future of Human Heredity, which is drawing enthusiastic notices from distinguished scientists in both the social and the biological fields.

Ladies and gentlemen, will you rise to drink a toast: Our gratitude and affectionate best wishes for the continuing youth of our friend, past president, businessman, soldier, author, scholar, and promoter, demography's statesman, Frederick Osborn.

At the 1950 PAA Annual Meeting at the Princeton Inn, Fred Osborne did not give a full presidential address. Rather, he made a few comments, summarized below, and then introduced a panel of speakers, also summarized below.

sperm from the uterus without killing it. Such a technique would utilize a process that occurs normally in pregnancy. Another area of research is that of controlling male and female sex cells without killing them by using such methods as anesthesia and control of uterine motility, the purpose of the latter being to create motions of the muscles that will prevent the sperm from getting through to the ovum.

"Recent Developments in the Field of Post Partum Sterilization" was the topic of a paper by D. Anthony D'Esopo of the College of Physicians and Surgeons, Columbia University. Post partum sterilization is a safe and easy procedure which does not require separate hospitalization and allows the patient to be discharged on the usual day after delivery. It has the particular advantage of allowing sterilization before a new impregnation can occur. Four categories of cases were distinguished by D'Esopo, who emphasized that the divisions between them were not clear cut, so that individual patients might fall into more than one category. The cases of post partum sterilization studied by D'Esopo at Sloane Hospital for Women are divided into the four categories as follows: medical, 47 per cent; excessive multiparity and socio-economic conditions, 41 per cent; psychiatric, 6 per cent; eugenic, 6 per cent. D'Esopo indicated further that post partum sterilization should be carried out on defensible grounds after consultation with two other physicians.

The third speaker was Christopher Tietze of the Department of State, whose paper "Measuring the Effectiveness of Contraception" was prepared while he was associated with the National Committee on Maternal Health. He described a study of contraceptive practice based on 1,727 case histories of married, upper and middle class, urban, pregnant women, 99 per cent of whom were white. According to the data of this study, the chance of conception during the first lunar month after the discontinuance of contraceptive measures was between 0.26 per month (on the assumption of a population with 15 per cent of its couples sterile) and 0.29 per month (for a 5 per cent estimate of sterility). Several investigators have found for such groups as this a conception rate of between 6 and 7 per hundred years of exposure while practicing contraception and a rate of 70 or 100 when not practicing contraception. This is usually interpreted to mean that contraception has for these groups reduced the chance of conception by 90 to 94 per cent. Tietze suggested, however, that when practicing contraception such a population retains the high fecundity represented by a chance of conception of 0.26 to 0.29 per lunar month. A pregnancy rate of 6-7 per hundred years of exposure, which corresponds to a chance of conception of 0.005 per lunar month, thus indicates that the chance of conception has been reduced by at least 98 per cent.

Dinner Meeting

President Frederick Osborn, Presiding

The annual dinner meeting of the Association was held Saturday evening, April 29th, at the Princeton Inn. After dinner President Osborn gave a brief talk in which he compared some of his experiences in the worlds of business and of science and emphasized the need in both areas for testing theories with facts. He suggested that in the long run an element of weakness in Soviet leadership may prove to be a trained incapacity to modify theory in the light of new knowledge. Of all times in history this is the greatest for the social scientist, since the need for the type of facts which the social scientist seeks to determine is clear.

At the conclusion of his remarks, Osborn introduced to the audience several representatives of foreign countries, each of whom spoke briefly. The first was Takemune Soda of the Ministry of Welfare of Japan, who indicated that he was one of many Japanese students and administrators who are in this country under the auspices of the Supreme Commander for the Allied Powers. The purpose of Soda's trip is to study procedures for the collection of vital statistics. Soda expressed willingness to send any available statistical materials on Japan to persons who have use for them. The next person to be introduced was C. Chandra Sekar of India, a member of the Population Division of the United Nations. He pointed out that the importance of social science in analyzing human relationships is not so highly recognized in India as in the West. Even the educated tend to find explanations for events in Hindu religion and philosophy, out of which it is not easy to take elements that are useful in scientific investigation. But Hindu religion and philosophy do have basic notions about human relationships, a synthesis of which might be of use in studying the situation in India as India moves into a Western type of culture. Vasilios G. Valaoras of Greece, also a member of the Population Division of the United Nations, noted that in his country and the Near East both Eastern and Western phases of culture are to be found. This creates problems to which the solutions have not yet been discovered. Certainly a wider spread of knowledge in these areas would be desirable.

The last representative was Alva Myrdal of Sweden, Principal Director of the Department of Social Affairs of the United Nations. She pointed to some disturbing tendencies in European social science, particularly the lack of communication between European countries. Though most countries have individual contacts with the United States on a bilateral basis, there is little connection within Europe, even between those countries that wish to cooperate with one another. European social science has become somewhat paralyzed by its contact with American methods of research. Techniques of detailed study of data according to the American fashion do not suit the Europeans well. It seems quite likely that Europeans might often achieve helpful analysis on the basis of their intimate knowledge of the local scene without striving for detailed investigation. It is significant that many social scientists have been drawn into state machinery. This not only tends to encumber with official duties personnel who might otherwise be engaged in individual research and thinking, but also tends to stifle free thinking. When social science is national social science it does not develop its full potential.

George F. Mair

PUBLIC HEALTH AND DEMOGRAPHY IN THE FAR EAST

In the autumn of 1948 the Rockefeller Foundation financed a reconnaissance study of the public health and demographic aspects of welfare problems in selected countries of the Far East. The group undertaking the survey consisted of Marshall C. Balfour, at that time Regional Director in the Far East, International Health Division, the Rockefeller Foundation; Roger F. Evans, Assistant Director for the Social Sciences, the Rockefeller Foundation; and Frank W. Notestein and Irene B. Taeuber, Office of Population Research, Princeton University. Visits were made to Japan, Korea, China, Taiwan, Indonesia, and the Philippine Islands and a report made to the Rockefeller Foundation. The President of the Foundation, Chester I. Barnard, has now made that report available to scholars and scientists

Fred Osborn was very important to the development of the PAA and to American demography in general. The paper below is one of his very first contributions to the demographic literature, published in 1934.

Measures of Quality in the Study of Population

By Frederick Osborn

THE concept of quality is inherent in almost every aspect of the study of population. The number of people in the world is less important than the ability with which they make use of the earth's resources and the culture which determines the quality of their lives. The speculative field of what is an optimum population is dependent, among other things, on biological and cultural qualities of living human beings. Studies in differential fertility imply a classification of groups by their qualities, whether by the qualities attaching to regional distribution, or those implied when they are classified by race, occupation, or more objective measures. Even studies of age distribution carry implications of quality which are of both scientific and popular interest.[1]

The thought of quality which runs through the whole intricate web of the study of human populations gives the subject a significance which it would otherwise lack. It is the elusive search for the evolution of cultural and genetic qualities which makes population the most interesting of the sciences. The knowledge that its findings will help more than those of any other science to forecast the future of man makes its study a compelling discipline, and one which carries the heaviest of obligations for an unbiased search for the truth.

Methods of Classification

The objective measures at present available for classifying the population according to their qualities are still in process of development and have been given only a limited application, while some of the classification schemes most generally used at present do not have great significance for studies of qualitative population trends.

Racial classification is advantageous for certain of the minority racial stocks, such as Negro, Mexican, Indian, and Oriental, which are strongly set apart by differences in physical appearance and in culture from the major American groups. But racial divisions have less meaning when applied to the larger white groups in the United States. Recent scientific advance has indicated the very great heterogeneity of the Western European stocks that migrated to the United States. With the constantly diminishing numbers in the census classification of the foreign born, due to the cessation of immigration, and with the increasing intermarriage of the different white stocks in this country, classification by country of origin is rapidly losing significance. In the second and third generation, differentials in births as well as differences in measurable intelligence appear to be associated less with national origins than with the economic and occupational groupings in which the different elements of each race have found their individual level. With respect to Northern European stocks that together comprised 75.5 per cent of our population in 1920,[2] no discussion of race will be included in this brief summary of measurable qualities.

Emphasis in qualitative studies of population is gradually shifting from a racial focus to functional social lines.

[1] T. Wiesenburg, *et al.*, *Adult Intelligence*, 155 pp., New York: Commonwealth Fund, 1936.

[2] "Immigration Quotas on the Basis of National Origin," Fifteenth Census, No. 259.

There is need for a variety of objective indices of group characteristics and behavior, affording opportunity for studying the correlation between results obtained with different measures. The advance of quantitative social science is gradually supplying the necessary instruments for significant qualitative social studies.

PERMANENCE OF INDIVIDUAL AND GROUP DIFFERENCES IN QUALITY

The student of population is interested not only in the present distribution of human qualities throughout the population, but also in the extent to which the present distribution of qualities will be changed from one generation to another under varying conditions. Evidently the distribution of genetic potentialities, as apart from developed qualities, will be modified only by differentials in births and in deaths which change the relative proportion of different genetic types, and by migrations which alter their regional distribution. If the genetic constitution of individuals were separately measurable, the science of population could record the changes in gene distribution which are actually taking place, and forecast those which may be expected to take place in the near future. Such forecasts would have the permanence which attaches to the quality of the gene. But differences in the measurable qualities of population groups will be modified by changes which take place in the environment, for the measures of human qualities available to the student of population are indicative of developed characteristics, the combined product of heredity and environment. Some definition of the varying limits set on human qualities by differences in genetic capacity, and the effect of varying environments on development within these limits, is therefore essential to the intelligent interpretation of population studies.

Valid work on heredity and environment is very recent in origin. Galton's work on twins was essentially exploratory. The early studies of family pedigree are now generally considered invalid for the purpose of discriminating between heredity and environment, although they will always be of interest as showing the relative permanency of family traits, whatever their origin. Recently, with the development of objective psychological tests, the study of individual differences in intelligence has progressed with extraordinary rapidity. Identical and fraternal twins, ordinary siblings, and more distant relationships have been studied in similar environments and when reared apart. Parent-child resemblance of foster children of known and of illegitimate origin has been compared with true parent-child resemblance. The conclusions have been stated in several standard texts. They do not permit of brief generalizations, other than to say that among American people in generally similar environments, differences in genetic inheritance appear to account for a large part of the variance in test intelligence among individuals, but that this is not the case when the environments differ widely.

In 1928, the National Society for the Study of Education published in two volumes its *Twenty-seventh Yearbook on Nature and Nurture*, containing the work of Burks in California and Freeman in Chicago on studies of foster children. Building on their methods, Leahy of Minnesota carried out a study with improved controls, reported in 1935. Lawrence in England, in 1931, reported on a study of children in an institution where the terms of admission and the condition of the records permitted of valid analysis.

In the Leahy studies every care was taken to prevent errors resulting from a neglect of the influence of selective placement. A control group was set up to match the foster children in age and background and parental intelligence, and only children of similar nativity and age were included. Leahy's results agree in general with those of Burks, Freeman, and Lawrence, when allowance is made for differences in method and various possible errors.[3] The number of cases in these studies is so small that the results cannot be taken as conclusive, but the fact that they are in general agreement gives value to their findings, which are as follows:

There is a high correlation between the intelligence of children in the control groups and the occupational and environmental status of their true parents who bore them and with whom they live.

Intelligence of adopted children follows the status of their foster fathers, but to a much smaller degree.

Intelligence of adopted children follows the occupational status of their true fathers (from whom they were separated before they were six months of age) to a greater degree than it does the status of foster fathers with whom they have lived for many years.

These studies were all made on urban economic groups, where selective processes in the building up of occupational classes may have been operative for some length of time.

There are no reliable studies of this sort available with respect to rural in contrast to urban populations. Studies which have been made on selective migration from the farm give some grounds for the conjecture that rural migration is extremely uneven at different times and places, sometimes selecting away the best, and at other times leaving on the farm those who are above the average.[4] Differences between races with respect to genetic capacities for the more complicated social qualities are as yet quite undetermined.

[3] *Social Forces*, Oct. 1935, p. 26.

EXISTING KNOWLEDGE

Existing knowledge may be summarized very briefly by saying that there are known to exist wide differences between individuals in capacity for intellectual development, and that there is some evidence of a different *average* capacity for intellectual development between the different socio-economic groups in large cities, although the overlapping must be very large. There is also some evidence that chronically dependent families include a disproportionate number of persons handicapped by inferior mental capacity. It is evident that different genetic types are widely scattered through the population, probably in varying, but as yet largely undetermined, proportion. Between families within each socio-economic grouping where environmental conditions are fairly similar, there is undoubtedly a positive correlation between genetic capacity and cultural status relative to the rest of the group, but there is little evidence that genetic capacity is related to differences in cultural status between different groups whose environmental conditions vary widely. Certainly, the middle group who constitute the great majority of our people are affected by such wide variations in environment that the appraisal of their relative genetic capacity is at present impossible. If wealth and opportunity become more widely distributed and the standard of living more equalized, if the mobility of the population increases, we may expect

[4] F. Lorimer and F. Osborn, *Dynamics of Population*, 461 pp., New York: Macmillan, 1934.

that the barriers between groups will be diminished and that there will be a great mobility from one group to another as individuals seek and find their own level. With each such step, objective measures may become an increasing indication of innate qualities. We may also hope that new types of measures will be developed which may give more direct indication of genetic qualities.

Today, objective measures cannot be used as measures of genetic qualities except where opportunity is fairly well equalized. Only at the extremes, among the defective at one end of the curve and among people of very superior abilities at the other, can we safely assume that differences in innate capacity have played a controlling part. Within the great middle group of normal people with whom the student of population is chiefly concerned, variations in the environment may be more important in determining individual and group differences than variations in genetic quality. Such a conclusion, which is inevitable in the present state of knowledge, does not prevent the student of population from making important contributions in forecasting the probable future distribution of human qualities; rather, it defines the limits within which forecasts can be applied.

The genetic and cultural qualities of the parents, the character of the home, and related community contacts combine to make an inheritance which in the majority of cases will persist through several generations. The student of population is justified in using for his criterion of quality all developed human characteristics which may find tangible, and therefore measurable, expression in psychological tests, in economic, political, artistic, or scientific activities, in personal adjustments, or even in the quality of the home in which children are reared, recognizing that social as well as genetic factors are being taken into account. With the use of existing measures, he can approximate the present distribution of many socially important human qualities among the American people. Applying his knowledge of trends in migration, and of differentials in births and deaths, he can forecast changes in the distribution of these qualities that will have considerable significance within the limits of permanence set in the previous discussion.

The availability and limitations of existing measures require separate consideration.

MEASURES OF PSYCHOLOGICAL QUALITIES AND THEIR DISTRIBUTION IN THE POPULATION

Qualities which have been successfully measured by psychologists include intelligence, special abilities, such as musical, artistic, literary, mechanical, and other expressions of special gift or talent, aptitudes, interests, and attitudes, as well as accomplishment in different learned activities: educational achievement, industrial and clerical skill, knowledge, and adaptation. The measures used in psychological "tests" have been found to give results which correlate highly with other measures of the trait or ability considered, such as ratings by associates and superiors, teachers' marks in school, regents' examinations, success on the job, and the like.

The more subtle factors of character and personality are equally significant in determining successful adjustment, but psychologists have not yet been able to evolve instruments for their detection and measurement comparable in efficiency and reliability with the tools developed to measure intelligence and special ability.

Tests of simple mental functions were first developed in the psychological laboratory some forty years ago, but it was not until after the turn of this century that the more complex quality of "general intelligence" was assayed by test, and not until the occasion of the American entry into the war were tests administered to any large section of the population.

The results of the Army testing have been subjected to considerable criticism and discussion. The tests were said to be unfair to those who had had little education, to the non-English-speaking subject, and to others handicapped by a different background from that assumed in the test. The "intelligence" measured by test was held to be not the same thing as the "intelligence" required for practical living. It was claimed that the personnel of the Army were not a true representation of the whole American people. Such tests have also been attacked by psychologists on various technical grounds, including criticism of the fundamental conception of "general intelligence." But in spite of the real and apparent objections levied against the Army tests, these results have value if used critically. They still supply the largest single body of data on the distribution of intelligence in the American population.

Since the war, intelligence tests have been refined and improved and called by other names, such as scholastic aptitude, mental alertness, and so forth, and many thousands of tests have been applied to children in schools, institutions, clinics, and hospitals; to college students, to workers in business and industry, and, more recently, to adults in the several decades beyond maturity. This recent work of psychologists is a veritable mine of material for the student of population. No one has yet assumed the enormous task of assembling and synthesizing the thousands of separate reports of this scattered output of energy and analyzing it as one block of material; but the industry expended on the testing has sharpened our understanding of the significance of the intelligence test as a measuring instrument, and of the range of ability found here, there, and everywhere in different samples of the American population. From these samples, a picture of the average American can be drawn more clearly than at the time of the Army testing. What is more, the psychologist can now refine the picture, describing the characteristics of men who represent the average for different occupations, for different social and nativity groupings, in different regional areas, at different ages, and the like.

SIGNIFICANCE OF VARIABILITY

But there is danger in any use of the concept of the "average," for the information which has emerged from each testing program on the "spread" or "range" of ability among the individuals who make up any group is equally important. At the top and the bottom of the scale there will be a few individuals who get very high or very low scores on the test, and between these two extremes will be the bulk of the individuals tested, some making more than the average, some less. Variability of performance is just as significant as the average in evaluating the quality of any group.

This variability has been found to characterize all group testing, and has been pictorially represented by a curve known as the curve of normal distribution. If enough individuals are tested, and if they are members of a homogenous group, their scores, when plotted, will be found to conform to the normal curve. Examples of such plotted results may be found in the form of

charts in many standard psychological texts.

Using material already available, the student of population can obtain a fair approximation of the distribution of intelligence throughout the American people. There are also available data from which this distribution can be broken down into an occupational distribution, a regional distribution, and other classifications of great interest for population studies. While no nation-wide psychological surveys have been made since the time of the Army tests, new and improved techniques have been used in testing children in elementary schools, high schools, colleges, and institutions, and in different regions, so that it is now possible to approximate the average and the range of intelligence for various groupings of the nation at large.

A recent development has been the study of the growth and decline of intelligence with age. That such changes take place was known or suspected by the Army psychologists. It has been confirmed by the studies of Richardson and Stokes in England, and of Willoughby, Jones and Conrad,[5] W. R. and C. C. Miles,[6] and others in this country. It seems now to be established that "mental age (as determined by psychological tests) changes significantly with the progress of the years; among the children there is growth, among the adults decline." [7] There is evidence that these changes are less changes in "intelligence" than a diminution in reaction speed and sum of energy available for new work types.[8] Adaptability to new situations falls off most rapidly with age, while there is little or no change in verbalizations, generalizations, persistence in work, and various personality traits. The relation between mental traits and groupings by age is one of real interest to the student of population.

The progress of psychological research during the last twenty years has made possible systematic quantitative studies of qualities which formerly seemed elusive. There is still need for caution in the interpretation of results; but studies of qualitative population trends are acquiring new objectivity and significance through the intelligent use of the materials supplied by psychologists and social scientists.

MEASURES OF PHYSICAL TRAITS

Physical appearance plays an important part in human affairs, affecting group relationships and mate selection, and confirming or modifying qualities of leadership. From early times, differences in physical characteristics have led to speculation drawn from subjective data in large part directed by emotional bias. Today the public mind is still confused by pseudo-scientific claims to race or class "superiorities," which have to a considerable extent obscured the serious work being done by competent anthropologists using objective data and modern techniques. In the light of their findings, it is evident that much cautious work must be done before we can properly interpret the correlations which exist between physical or racial measures and the more important traits of social interest.

Sydenstricker [9] has summarized the

[5] H. E. Jones and H. S. Conrad, *Growth and Decline of Intelligence*, Genetic Psychology Monograph 13, Worcester, Mass.: Clark University Press, 1933.

[6] C. C. Miles, "Influence of Speed and Age on Intelligence Scores of Adults," *Jrl. of Genetic Psychology*, 10: 208–210, 1934.

[7] Jones and Conrad, *op. cit.*

[8] Miles, *op. cit.*

[9] J. Edgar Sydenstricker, *Health and Environment*, Social Science Monographs, New York: McGraw-Hill Book Co.

material on health, noting interesting variations, but none as yet of great importance to students of population. The study of heredity and environment is less advanced with regard to physical traits than it is with regard to intelligence.

The lead given by Boas in the study of physical changes in immigrants, by Davenport on race mixture, and by Shapiro and others on changes in oriental stocks after migration to Hawaii and this country, should stimulate the development of new material. The studies quoted in Klineberg's summary [10] show the development of critical attitudes which augur well for the future.

The first inclusive survey of the American physique was made by Davenport and Love [11] on the Army drafts. Hrdlička [12] has defined an evolving "Old American" type. Herskovitz [13] has attempted to trace the changes taking place in the Negro in this country. The background has been laid for a comprehensive research on the physical anthropology of the American people. Such a piece of work would have both immediate and historical importance. It would become a landmark on which to base future comparisons of particular interest and would take on enhanced value as relationships are further developed between measurable physical characteristics and traits of social interest such as health, vitality, longevity, intelligence, and personality.

The student of population will watch with interest for developments in this field.

[10] O. Klineberg, *Race Differences*, 367 pp., New York: Harper & Bros., 1935.

[11] Charles B. Davenport and Albert G. Love, *Army Anthropology*, Washington: Gov't Printing Office.

[12] Ales Hrdlička, *The Old Americans*, Baltimore: Williams & Wilkins.

[13] Melville J. Herskovitz, *The American Negro*, New York: Columbia University Press.

MEASURE AND DISTRIBUTION OF DEFECT

Physical abnormalities include the permanent loss or serious impairment of the more important senses of sight and hearing, as well as serious bodily deformities which render it impossible for the person to be fully self-sustaining. Such defects are readily detectable and become the responsibility of the medical profession for care and attention. Census enumerators were required in 1930 to "include as blind, any person who cannot see well enough to read even with the aid of glasses; as a deaf-mute (1) any child under eight years who is totally deaf, and (2) any older person who has been totally deaf from childhood or was born deaf." Under this frame of reference there were reported the following figures: blind, 63,489; deaf-mutes, 57,084; blind deaf-mutes, 1,942. These figures are reported in the census bulletins by sex, age, and color, and for the different states. No data are here included on orthopedic handicaps.

Mental defectives include those known as the mentally deficient, or feeble-minded (morons, imbeciles, and idiots). Mental defectives are unable to manage themselves "with ordinary prudence" or to cope adequately with environmental demands. They are diagnosable by psychometric tests, the intellectual criterion, by case life-history, the social criterion, and often by the degree of self-control or emotional or moral "expression." On the psychometric test, the feeble-minded person, if an adult, makes a score less than that which is normally made by children testing at twelve years of age. Comparison of the feeble-minded with the population as a whole places them

in the lowest 1 or 2 per cent of the normal distribution curve. The deficiency of the feeble-minded—the lack of mental ability—is a permanent matter. Except for occasional positive response to thyroid therapy where administered early, there are no devices known to science or education which will effect a "cure" or substantially raise the I. Q. of such defectives.

The location of the feeble-minded in the population is not so easy. The 1930 census numbered some 106,754 individuals resident in state institutions for the feeble-minded (including epileptics). Others, not included in this listing, are in other asylums, workhouses, delinquency homes, reformatories, prisons, and mental hospitals. But these institutional cases represent only a small proportion of the whole number of mentally defective who are scattered through the population at large. Many, while still children, are to be found in the "special classes" of the better school systems—children whose mental ability is too low to handle the ordinary work of the curriculum. Others are cared for in their own homes, representing on the whole those children whose mental capacity does not justify attendance even at a special class, and the graduates of the special classes who have outgrown in size and age the limits for school attendance, or who have been paroled from state training schools. As feeble-minded children mature, some of them, unable to find places in industry or other service, are retained at home. This applies particularly to the girls. Enumeration of feeble-minded individuals presents a problem, as parents tend to hold back information. It has been estimated that fewer than one tenth of the mentally defective are housed in the state schools.

Various surveys have attempted to answer the question of the incidence of feeble-mindedness in the total population by assaying samples. Estimates have varied from .5 per cent [14] to 6.1 per cent.[15] "The percentage of feeble-minded will vary from about one to three, according to our concept as to what constitutes social competency and as to what degree of intelligence constitutes mental deficiency." [16]

Compared to mental defect, mental disorder is more a matter of mental instability than of a lack of ability. The degree and the quality of the disorientation vary with the particular mental disease, as does also the prognosis, some disturbances being temporary or repetitive, some permanent. The problem of diagnosis is one for the psychiatrist, although paradoxically the question of "insanity" or legal responsibility is still left in some states to the decision of a jury of laymen.

The incidence of mental disease in the population as a whole is almost as difficult to determine as that of mental defect, many of the milder or "harmless" cases being retained outside of institutions, and therefore unreported. However, the census statistics for 1930 report the total number in state hospitals and on parole as 374,821, the rate in hospitals being 263.6 per 100,000 in the population. Subdivisions of the data by states, age, sex, and mental disease are included.

Such a large proportion of measurably defective and deranged persons constitutes a challenging problem to the student of population.

RACIAL MINORITIES

We have suggested in an earlier section that for the white population of

[14] Oregon survey by Carlisle, 1921.

[15] X County, Minnesota, by Anderson, 1932.

[16] R. Pintner, *Intelligence Testing: Methods and Results*, 555 pp., New York: Henry Holt, 1931.

the United States classification by race or country of origin appears to give very little permanent indication of differences in culture, or socially valuable qualities, and that so far as concerns differences which can be measured, foreign-born whites or their descendants very soon tend to approximate the occupational, socio-economic, or regional groups into which they are absorbed. The case is very different with Negroes, Indians, Mexicans, and Orientals. Very noticeable differences in physical appearance divide them from their neighbors. Intermarriage is very limited. They tend to retain their own culture and way of life, and to be clearly set apart in the public mind and in their own consciousness of themselves. For them the racial classification is indicative of differences in standards of living, in culture, in income, and in the intellectual and physical environment which affects their development.

In 1930 the census gave the number of Negroes as 11,891,143, Mexicans over 1,400,000, Indians 332,000, and Orientals 214,000. The rate of reproduction of all these races except the Negro appears to be about double that of the white population.[17] As long as such differences continue, classification by race will be of great interest.

INDIRECT MEASURES OF QUALITY

It is perhaps unfortunate that tests of intelligence were the first objective measures to be developed for determining qualities of social interest. Undue emphasis has thus been placed on a single aspect of development. The correlation between intelligence tests and success in life justifies their continued use, but actually we do not know the extent to which intelligence affects man's daily activities, his decisions, or his way of life. Until we can make equal use of measures of character, social attitudes, and other qualities essential for accomplishment and adjustment, we must recognize serious limitations in findings which are based on objective measures of intelligence alone.

This gap can in part be bridged by the use of various indirect measures now being rapidly developed by the sociologist. Odum in his recently published work, *The Southern Regions of the United States*, presents regional comparisons based on several hundred indices which measure various environmental aspects of regional groups. Size of farm, proportion of tenancy, cash value of crops, length of residence —these and comparable factors for urban groups react to a greater or less extent on the qualities and way of life of the people concerned, and provide measures which are of value in comparing the qualities of different groups. In addition to indices of environmental conditions are numerous indices of cultural level, such as per cent of illiteracy, proportion of errors in the census, circulation of books and magazines, and proportions in high school and college, which give a background for assessing group differences in quality.

It is no criticism of the social scientist that he is forced to work with the materials at hand. It is only when his conclusions go beyond those which can be justifiably drawn from the studies actually developed that he can be fairly accused of having deserted the honest search for the truth.

Hardest of all human qualities to define are those differences in points of view and ways of life, of which the culture of the European farmer, firmly fixed in the land, and the migratory types of the American frontier are extreme examples. Here are qualities of great importance, but so difficult

[17] F. Lorimer and F. Osborn, *op. cit.*

to assess that they belong more, perhaps, to the art of history than to the science of population.

Various other objective measures have been proposed for assessing the value of individuals and groups. One of such measures is concerned with the amount of contribution to society, in production and distribution of goods, in personal services, in science, or in the arts. Another is concerned with the measure of the home and parental influence as basic factors in determining the qualities of the next generation. Rating scales for measuring the quality of the home environment have already been considerably used by psychologists.[18] There may be important developments in the use of both these types of measure in the field of population.

CONCLUSIONS

The causes and effects of migration and of differential rates of births and of deaths are inextricably related to the developed qualities of the population concerned. As the field of population studies is enlarged, a wider base of knowledge must be provided by critical research on the qualities of population groups.

Research in the field of quality is concerned with the development and use of new measures; with correlations between different qualities; with a more extended knowledge of the limitations placed on development by differences in genetic endowment; with a comprehensive survey of the psychological qualities of the American population; and with an anthropological survey of the population. In all these fields the study of population is at present handicapped by the lack of sufficiently valid studies. The extensive work now being done is properly in the hands of psychologists and anthropologists. The student of population should be in constant touch with their work, should understand its progress and its limitations, and should be alert to stimulate developments of particular value for population studies.

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For factors underlying the development of intelligence and its variation among individuals, the reader is referred to Schwesinger,[19] who comprehensively reviews the work done by psychologists up to 1933. Since the publication of this book, an important study in nature-nurture and variance in intelligence has been reported by A. M. Leahy,[20] and a theoretical discussion by F. K. Shuttleworth[21] on the conditions, limitations, and implications involved in attacking this problem. A survey of recent materials on group differences in intelligence, physical traits, cultural indices, and trends in fertility is found in the book by Lorimer and Osborn.[22] Measures and results of intelligence testing, particularly among school children, will be found summed up in Pintner's[23] text, and tests used in industry in Viteles' book.[24] For a more specific picture of adult intelligence, one should turn to the work of the Army psychologists, edited by

[18] G. H. Hildreth, *A Bibliography of Mental Tests and Rating Scales*, New York: The Psychological Corporation, 1933.

[19] G. C. Schwesinger, *Heredity and Environment*, 484 pp., New York: Macmillan, 1933.

[20] A. M. Leahy, *Nature-nurture and Intelligence*, Genetic Psychology Monograph 17 (Worcester, Mass.: Clark University Press, 1935), 237–307.

[21] F. K. Shuttleworth, "The Nature vs. Nurture Problem," *Jrl. of Educational Psychology*, 26: 561–578, 655–681, 1935.

[22] F. Lorimer and F. Osborn, *op. cit.*

[23] R. Pintner, *op. cit.*

[24] M. S. Viteles, *Industrial Psychology*, 652 pp., New York: W. W. Norton, 1932.

Yerkes.[25] Fryer and Sparling are assembling complete data on occupational intelligence, to be reported in a forthcoming publication. Recently, Wiesenburg,[26] *et al.*, have reviewed the studies on adult intelligence, at the same time reporting their own work of intensive testing of a small group of normal adults. Information on the average and the range of many human capacities can be obtained in Wechsler's [27] analytical treatment. This same worker is now preparing and administering a specially devised individual test of intelligence to some two thousand adults, from which research he anticipates a better knowledge of adult intelligence for various age levels and educational backgrounds than has yet been obtained. For technical analyses of problems of test scaling, particularly in regard to establishing a zero point, Thorndike's work [28] should be consulted. No summary would be complete without an account of the standardization and use of the most widely used test—the Stanford-Binet—to be found in the work of Terman.[29] For a discussion of measurements and results of nonintellectual qualities, a comprehensive summary has been prepared by Symonds.[30] The student would do well also to follow the work of Allport [31] on attitudes; some of it is already reported in scattered sources. The evidence on racial differences has been summed up and analyzed by Klineberg [32] and also by Garth.[33] Discussion of mental defect will be found in the texts by Pintner, Thorndike, and Terman, already mentioned.

[25] R. M. Yerkes (Ed.), "Psychological Examining in the United States Army," *Memoirs of the National Academy of Sciences*, 15, 890 pp., Washington: Gov't Printing Office, 1921.

[26] T. Wiesenburg, *et al.*, *op. cit.*

[27] D. Wechsler, *The Range of Human Capacities*, 159 pp., Baltimore: Williams & Wilkins, 1935.

[28] E. L. Thorndike, *et al.*, *Measurement of Intelligence*, 616 pp., New York: Teachers College Bureau Pub., 1926.

[29] L. M. Terman, *Measurement of Intelligence*, 362 pp., Boston: Houghton Mifflin Co., 1916.

[30] P. M. Symonds, *Diagnosing Personality and Conduct*, 602 pp., New York: D. Appleton-Century Co., 1932.

[31] G. W. Allport and H. S. Odbert, *Trait Names, a Psycholexical Study*, Psychological Monograph 47, No. 1, Princeton: Psychological Review Co., 1936.

[32] O. Klineberg, *op. cit.*

[33] T. R. Garth, *Race Psychology*, 260 pp., New York: McGraw-Hill Book Co., 1931.

Frederick Osborn is research associate in anthropology of the American Museum of Natural History, New York City. He is a director of the Population Association of America and of the Council on Population Policy. He was formerly engaged in business management, but now devotes most of his time to population studies. He is author of a number of papers and articles on population; editor of "Heredity and Environment" by Gladys C. Schwesinger; and joint author with Frank Lorimer of "Dynamics of Population."