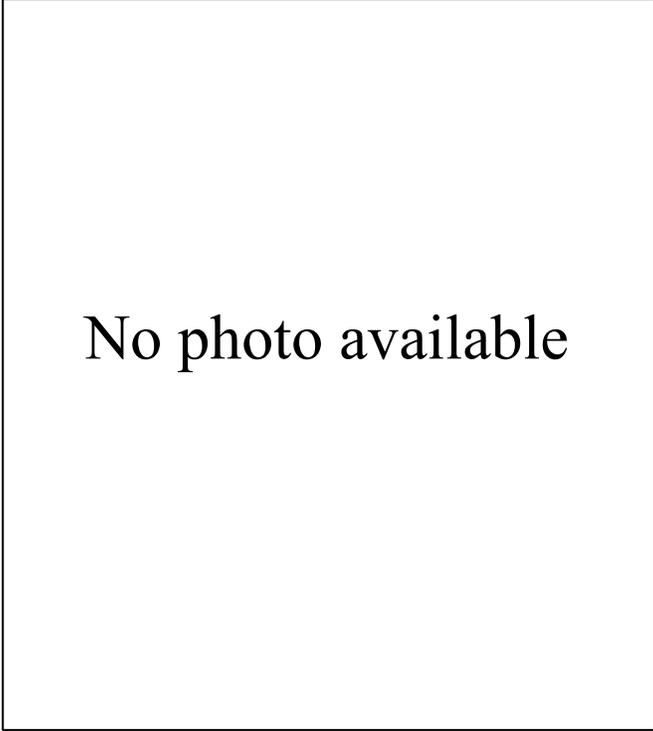


DEMOGRAPHIC DESTINIES

Interviews with Presidents of the Population Association of America

Interviews Referencing Leon E. Truesdell PAA President in 1939-40



No photo available

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)

LEON E. TRUESDELL

We do not have an interview with Leon Truesdell, who was the fifth PAA President (1939-40). 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 Leon Truesdell.

CAREER HIGHLIGHTS

Leon Truesdell was born in 1881 in Rowe, Massachusetts. He received his B.A. and M.A. from Brown University. From there, he moved to Washington, D.C. in 1911 to work at the U.S. Census Bureau, and then he worked at the Department of Agriculture for five years before returning to work at the Census Bureau in 1919. Sometime after that, he received his Ph.D. from the Robert Brookings Graduate School of Economics and Government in Washington, D.C. He was chief of the population division of the Census Bureau from 1925 to 1948, and then chief demographer until his retirement from the Census Bureau in 1955. He did private consulting from 1956 to 1968. He died in a nursing home in Washington, D.C. in 1979.

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

LUNDE: What was the Census Bureau like in those days [1930s]? Didn't they have a professional group that might be called population experts?

NOTESTEIN: Well, they had two Ph.Ds. One was Elbert Edwards who did the economics at the time, occupational class variations. The other was Joseph Hill, who was a very considerable scholar. Later Leon Truesdell [PAA President 1939-40] came in. He took his Ph.D. in Brookings; he'd been in the Census before then. Stewart, the director of the Census, started as an office boy. I remember vividly some of us worrying about accuracy when he gave a long speech, something to the effect that you simply had to take everything people reported as true and one could never raise questions about [what was reported]. But he was a pretty good director of the Census.

LUNDE: How about Leon Truesdell [PAA President 1939-40]?

NOTESTEIN: Did you know he was a poet? We have a book of his poems; he did this as a young student. He was quite a sentimental man; a New Englander. I forget how he got into Census [Bureau]. He didn't complete his doctorate degree till long after he'd been in the Census. It was a [monograph] from the 1910 or 20 census.

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

VDT: Tell me a bit of the importance of the Census Bureau in the development of U.S. demography. For instance, you said there were some innovations in the 1940 census. I know the 1940 census wasn't used as much as it should have been because it came out during the war. What were those innovations--some you were responsible for?

HAUSER: Well, I was among those who made the decisions and I would say it was a shared responsibility. My boss, Dr. Leon Truesdell, was in a position to approve everything. Being of the old school, not trained as a demographer or statistician, Dr. Truesdell, nevertheless, was open-minded and accepted most of the innovations that I and the staff proposed. Staff members included Henry Shryock and John Durand, for example, and a large number of others; we worked as a team. The innovations

we introduced and for which I guess I could take major professional responsibility included such things as the substitution of a question on internal migration for questions related to birth abroad and international immigration.

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."

VDT: Great! You were pretty young, still in your twenties. Who had that tremendous faith in you; just knew you'd be good?

HAUSER: Well, I was interviewed by Truesdell and he decided I could do it. My record was good.

VDT: You dazzled him with your knowledge of statistics?

HAUSER: No. I'll tell you another story; I'm not sure you want to print this. I had lunch with Truesdell in the official dining room at the Department of Commerce for my first interview. He was a taciturn New Englander; he rarely said much more than "yep" or "no." The first question he asked was, "Do you have any children?" He knew from the form I filled out that I was married. And my answer was, "I don't know." He looked at me strangely and said, "How can you say that?" And I said, "I came in for this interview leaving my wife in labor. At this point I do not know, literally."

Well, he actually grimaced; it was almost a smile. Then he asked a few other formal questions and we sat there looking at each other. The silence became difficult for me--I'm a little prolix, I'm afraid. Finally I broke the silence by asking him whether he had ever heard of such-and-such and he said no and I told him what was, by any criterion, a filthy story--the kind men told to each other before you women got emancipated; now we tell them to you too. He heard the story--presumably a good story; I can't remember what it was, but it would be obscene. And he sat there with an unchanged, glum expression; the silence seemed to last forever. I was thinking to myself, "Well, I guess I've blown it; this is the end." He finally turned and said, "Dr. Hauser, do you know more stories?" And I spent the next half hour or so telling him one filthy story after another. Before it was over he was laughing, which, I'm told, wasn't easy for him.

VDT: Wonderful! (Much laughter)

HAUSER: After that we got into the specifics of the job. When I first started to work with Truesdell, I would dash off memoranda on plans for the census. I would get back the memoranda with blue-pencil marks correcting my grammar. He would correct my memos even after he had decided not to accept the proposals. Needless to say, I was not happy about the blue penciling. Having had a couple of years of Latin in high school, I was very grammar conscious. I confess that to brush up on my grammar, I consulted an English grammar textbook--I forget which one. In due course, I received a

memorandum from Dr. Truesdell which contained some grammatical mistakes. I could not resist the temptation to blue-pencil his memorandum, which I returned to him. After that, I never again got a memo of mine blue-penciled.

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

LUNDE: How about Leon E. Truesdell [PAA president 1939-40]?

KISER: I first knew Truesdell in 1928 at the Bureau of the Census. I went to the Bureau of the Census as a dollar-a-year man in connection with a study I was carrying on. It finally terminated as my Ph.D. thesis at Columbia [Sea Island to City: A Study of St. Helena Islanders in Harlem and Other Urban Centers, 1932]. This was a study of Negro migration from St. Helena Island to Harlem and other urban centers. T.J. Woofter, Jr., was the man who headed up that project and he cooked up the idea that if I'd go to Washington and compare the names of the people enumerated on the island in a special census in 1928 with those on the census record for 1920 and if I'd take into account the death deficit, I could have a reasonable basis for knowing who had migrated from the island. So I did that. Truesdell was then a rather young fellow. He had black curly hair. He's still living; he's now, I guess, 93 or 94.

LUNDE: I had a letter from him just the other day, indicating his continued interest in the Association and in the development of the historical end of it and saying a few words about his recollections. It was fascinating to hear from him; I couldn't believe it.

KISER: Truesdell was a good administrator, I think. Paul Glick used to say that when he went to Truesdell's office [in the Bureau of the Census], he'd put his jacket on; he wouldn't go in there in his shirt sleeves. Truesdell was a good Republican; he came from New England. I believe he said that if Hoover had been re-elected he would have become Director of the Census. Hoover was not re-elected but Truesdell did stay on as chief statistician. As you know, he was [PAA] president in 1939-40. He gave his presidential address at the 1940 meeting down in Chapel Hill and he told about plans for the 1940 census.

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

VDT: So you were teaching this tutorial at OPR as well as doing research. What then took you back to the Census Bureau?

SHRYOCK: The 1940 census was coming up. I'd worked with Leon Truesdell, who was Chief of the Population Division. Philip Hauser had just come in as Assistant Chief and I'd met him a number of times at the University of Chicago and so on. At that time, I think there were only three or four PhDs in the whole Bureau--two were Calvert L. Dedrick and Stuart A. Rice, both sociologists--and one M.D. who was in charge of Vital Statistics, which was not transferred to the Public Health Service until 1946. I was offered a job and thought I'd like to work on the census; I'd met people who had worked on the 1930 census. They had just a small skeleton staff between censuses at that time. There were no Current Population Surveys or anything of that kind to keep things going.

So, I came back. I thought I'd just be there for the duration of the census period, but I never went back to Princeton. I stayed there for 30 years or so.

Hauser gave me a choice of what I wanted to work on and I chose migration. I'd done some work on that previously. That first term paper I'd written at St. John's on the Italian population surplus,

I'd brought that up to date somewhat at Spengler's suggestion for a population problems course I took with Spengler at Duke. In working on population estimates, I got convinced that the key to population estimates was better measures of internal migration. The U.S. had birth and registrations systems then--they were nearly complete--but we had no population register like Sweden's, so we had to find various indirect ways of measuring migration. And the 1940 census was the first census to have questions on current migration--residence five years ago. Since 1850 they'd had a question on the state of one's birth but nothing current. So I was put in charge of that.

VDT: Did you think up the questions?

SHRYOCK: No, Truesdell thought up the questions. They were determined before I got there. Unfortunately, the wording led to some difficulties, so we had to have a special coding and editing section to deal with these obviously wrong and ambiguous entries. I was put in charge of that and we eventually had 30 clerks just working on these problem portfolios. This was part of the preparation of the 1940 census data for publication.

VDT: Were those questions on the 100 percent schedule?

SHRYOCK: Yes. There were just a few questions on the sample questionnaire.

From the interview that Harry Rosenberg (substituting for Andy Lunde) conducted with Clyde Kiser, C. Horace Hamilton and Joseph Spengler) in 1976:

KISER: At the 1940 meeting here, Truesdell gave his presidential address on the 1940 census.

SPENGLER: Let me tell you what O.D. Duncan said about Truesdell's address. You know how exciting a speaker Truesdell is. O.D. Duncan [Senior], you remember him, says to me, "Joe, I had to listen to Buckshot [Fall-in-a-trap governor]; damn sight more interesting than this."

KISER: I remember Odum got pretty fed up too. I believe he presided that night.

HAMILTON: But Truesdell was a great man. He's still living too, isn't he?

SPENGLER: He is; he's 90 years old. He's a good man, but he's a hell of a poor speaker. He was the man who introduced me to Phil Hauser. Phil was his assistant for a while [in the Population Division of the Census Bureau].

From the Washington Post

January 22, 1979

Leon E. Truesdell, Ex-Demography Chief at Census

Dr. Leon E. Truesdell, 98, who retired in 1955 as chief demographer of the Bureau of the Census, died Jan. 12 at the Wisconsin Avenue Nursing Home. He had suffered from a heart ailment.

He came to Washington and began his career with the Census Bureau in 1911 as a statistical editor. He later worked for five years for the Department of Agriculture before returning to the Census Bureau in 1919.

Dr. Truesdell served as assistant chief of the Agriculture Division, then as chief of the population division from 1925 to 1948, and finally, as chief demographer until his retirement in 1955. He served as a consultant to the bureau until 1967.

During his years at the Census Bureau, he was instrumental in introducing and developing new population classification systems and sampling methods.

He received an exceptional service award from the Commerce Department in 1950 "for outstanding contribution to census statistics of population and to long term improvement of the professional staff, techniques, and publications of the Bureau of the Census."

He was the author of a number of technical articles, including "Farm Population in the United States," in 1926, works on migrants, and "The Development of Punch Card Tabulation in the Bureau of the Census," published in 1965. He also published a volume of poetry in 1957.

Dr. Truesdell was a native of Rowe, Mass. He earned both bachelor's and master's degrees at Brown University, where he was elected to the Phi Beta Kappa, and a doctoral degree at the Robert Brookings Graduate School in Washington.

He had been president of the Population Association of America. Other professional memberships included the American Statistical Association, the American Economic Association, and the International Population Union.

He had belonged to the Cosmos Club since 1928.

His wife, Constance Cole Truesdell, died in 1957.

Survivors include two daughters, Miriam H., of Washington, and Mrs. Ralph B. DeLano Jr., of Cold Springs, N.Y.; a brother, Raymond C., of Vermont, and two grandchildren.

We do not have a presidential address for Leon Truesdell, but this paper published in 1936 shows his thinking at the time.

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Value of the Population Census for Research

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Value of the Population Census for Research

By LEON E. TRUESDELL

THE simplest problems of population research are problems of quantity only, concerned with finding out how many people were living in a given place at a given time. The most frequent inquiries for population data which come to the Census Bureau are those calling for the total population of specified areas on specified dates. Even in the fundamental legal provision for the population census, however—Section 2 of Article I of the Constitution—the notion of quality is embodied, in an extreme form, in the provision that for apportionment purposes five slaves should be considered equivalent to three free persons.

There seems to have been little inclination, as population research has developed in recent times, to set up further sets of equivalents like this; but there has been an increasing demand for qualitative classifications of the census population in accordance with various personal characteristics, including a few on which might be based a sliding scale of human values. Examples of this latter type are the classification of families by value or rental of home, and the classification of gainful workers according to the degree of skill required by their occupation. For the most part, though, the population classifications needed for research are relatively free from the ethical (or even the economic) connotation of better or worse, comprising such descriptive categories as sex, age, marital status, and place of birth. To be sure, for special purposes, evaluative concepts can be based on these classifications. Presumably a young or a middle-aged population is "better" than an

old, and certainly a literate population is better than an illiterate one, from the point of view of most American researchers. But there is little inclination in current research to set up equivalents like the one stated in the Constitutional provision referred to above.

There have been attempts, to be sure, to show that the westward migration of our population which took place during the latter part of the nineteenth century was selective, in that it took the "best" and left in the older Eastern States a population not quite up to the standards of the migrants. But these attempts have had to find their arguments in some form other than the statistical—except as age, or percentage gainfully employed, or some similar concept might furnish slight supplementary support for contentions based mainly on non-statistical evidence.

PURPOSE OF RESEARCH

In fact, does not most of the research which is so popular in these days stop short of evaluating its material? And if so, does it not thereby lose a large fraction of its potential merit or social usefulness? One might suggest that unless a piece of research can give some indication of what ought to be done next, it is of purely academic significance; and that with hundreds of acute social and economic problems clamoring for solution (for solution mostly in the form of a recommendation as to what to do next) it is a deplorable waste of our natural resources, in which competent research capacity must be counted an important element, to devote research to subjects or questions

having only an academic significance. This is not to decry the value of the purely academic but rather to suggest that, with so many real tasks at hand, energy should not, in these portentous times, be diverted to even the most fascinating games of mathematical hide-and-seek.

This leads to a further suggestion, namely, that for the immediate future much more attention be paid to improving the quality of our basic population data and to increasing its extent and scope in directions likely to be of real social service, and somewhat less, if need be, to refinements of mathematical processes—many of which, as matters now stand, partake of the nature of computing percentages to the fifth decimal place on the basis of data subject to a probable variation of 10 per cent from the true quantities which they purport to represent.

The census returns share with other less extensive basic sources of social information the need for improvement in quality, though a member of the Census staff may easily persuade himself that, by virtue of the extensiveness of the inquiry, its governmental sanctions, and the fact that standardized forms have now been used for many consecutive censuses, the census returns are subject only in a relatively small degree to the inaccuracies which so widely persist in social statistics in general. In any case, and in spite of such shortcomings as it may have, the Federal census of population is without doubt the most important single source of material for population research, since it provides the only complete count of the population of all areas in the United States, and embodies a wide range of descriptive material.

POPULATION CLASSIFICATIONS

The classifications of the population census may be nominally grouped

under four main headings, namely, geographic location, personal characteristics, social relationships, and economic relationships, though some of them fall between one and another of these designations. Marital condition, for example, is partly personal and partly social; occupation is partly social and partly economic.

Geographic

The fundamental geographic areas for which census data are presented are states, counties, townships, and cities. For summary purposes the states have been grouped in the reports of recent censuses into nine geographic divisions; and the geographic divisions have been further combined into three areas, designated, respectively, the North, the South, and the West.

On the other hand, the larger cities have been variously subdivided. Fairly extensive census figures have been published for the wards of cities of 50,000 or more, though the fact that the boundaries of the city wards are frequently changed subtracts greatly from the statistical value of these subdivisions. For the censuses of 1910, 1920, and 1930, population data are available for a few of the larger cities subdivided into permanent (or semi-permanent) small areas called census tracts. These areas, which have been established for statistical purposes only and have no political status, are much smaller than the usual wards, having an average population of 5,000 or 6,000. The count of the population (and for 1930 a brief classification) is also available, both for cities and for rural areas, by enumeration districts, these being the administrative units into which the territory is divided for the taking of the census. These districts usually have a population of less than 2,000, and their boundaries are subject to change from one census to another so

that comparisons are not ordinarily possible.

In recent years there has been an increasing demand for census data by city blocks, and a few special tabulations have been made on this basis. In general it may be said, however, that the population of a city block is too small for statistical treatment; and block tabulations partake more of the nature of local surveys, where emphasis is primarily on the individual findings rather than on trends or averages or other generalized relationships.

Another important geographic classification which applies to the population of states and counties (and could be applied in many instances to townships) is the subdivision into urban and rural areas. This is an artificial classification, set up in essentially its present form in 1910, under which all incorporated places having 2,500 inhabitants or more are counted as urban and all the remaining territory as rural. Beginning in 1920, the rural population has been further subdivided into rural-farm and rural-nonfarm, the rural-farm population comprising those persons in rural areas who live on a farm. (There is also a very small urban-farm population, but for this little statistical detail has been tabulated.)

In the early censuses, from 1790 to 1840, the census schedule recorded the name of each head of a family, with brief tabulated data on the composition of the family, thus providing only a very limited amount of personal information. In 1850, for the first time, the name of every individual was recorded on the census schedule, with several items of information concerning each one; and the number of these items has been gradually increased from census to census. From 1850, then, dates the wealth of personal statistics which are registered in the reports of the decennial census of population.

Personal

The strictly personal characteristics which appear in the census classifications are three, namely, color, sex, and age. Color is significant primarily because of the social and economic differentiation between the white and the Negro population, especially in the southern states, though statistics by color or race are of importance in many other connections. This classification is made less accurately than some of the others because of difficulty in getting reliable information with respect to persons of mixed blood. A person with any fraction of Negro blood is theoretically classified as a Negro. Actually, however, many individuals of mixed blood whose Negro characteristics are not physically prominent are without doubt classified as white. The same difficulty affects the classification of persons as Indians, though because of the relatively small number of Indians, this difficulty is of much less importance—except to those who are making a special study of the Indians. The quasi-color class designated “Mexicans,” established and used for the first time in 1930, offers the same difficulties and suffers the further disadvantage of not having, even theoretically, a definition quite as specific as the other two non-white classes just mentioned.

The classification by sex is the simplest of all census classifications. Such few errors as get into the statistics are doubtless the result of clerical or mechanical accidents. This classification is one of the most fundamental; and it may be noted that most of the tabulations for recent population censuses have been made from the cards sorted by sex and then by color-nativity, so that all other classifications appear on the machine sheets with these subdivisions as cross classifications.

Age

The age classification would seem to be almost as simple and definite as the classification by sex. There is difficulty here, however, in obtaining correct information. It is quite evident that in many cases even the persons concerned do not know their own ages, and even more evident that the informant who gives the enumerator the returns for an entire family is uncertain as to the ages of some of the members of the family. This is especially true where boarders or lodgers are concerned. The variations from strict accuracy, however, for the most part take the form of returns in approximate round figures. Persons thirty-eight or forty-one, for example are returned as of age forty.

The returning of ages in round 5's and 10's, while it gives a somewhat unreasonable appearance to the tabulation of ages by single years, need not be assumed to involve any very serious departure from accuracy in the census tabulations by five-year age periods, which are much more widely used than those by single years, since the range of the five-year period will largely cover up the approximations. This statement could be made even more positively in the case of ten-year periods, especially if these periods ran from mid-decade to mid-decade (for example, from forty-five to fifty-four), as do all the ten-year age periods used in recent population census reports. Further, it is possible by certain processes of mathematical smoothing to eliminate even more completely the result of the return of ages in round figures.

In the tabulations of all recent censuses the population has been classified by single years of age, by sex, color, and nativity (for the white) for States and for cities of 25,000 or more—and since

1910 for urban and rural areas of States—with subtotals for five-year periods. The full detail of this tabulation is published, however, only for the United States as a whole. For counties and smaller cities the initial tabulation by age has been made in broader groups, not even five-year periods being shown for counties, or cities under 25,000—and not even ten-year periods for censuses prior to 1930. Even for these smaller areas, however, the subclassification by sex, color, and nativity is maintained. Only in the very simple tabulation presented for townships in the 1930 reports is the age classification made without subdivision either by sex or by color.

Nativity

Nativity, mother tongue, country of birth, and country of birth of parents, belong primarily to the group of personal characteristics, though in their analysis one finds many features which are social rather than individual in their nature. The classification by nativity, that is, the one which separates persons born in the United States or its possessions from those born in foreign countries, is based on the census question asking for the place of birth of each person. There is little uncertainty in the returns on which this general classification is based, and the very few doubtful cases are assumed to be native. In the classification by specific country of birth, however, considerable difficulty was experienced in the censuses of 1920 and 1930 because of changes in the political geography of central Europe. The enumerator was instructed to find out in what country the birthplace of each foreign-born person was located according to the boundaries in force at the time of the census; but appreciable percentages of the returns were ambiguous and assignment to one or another of the new

countries had to be made on the basis of mother tongue or of other supplemental information.

In the census reports beginning with 1890 there is given not only a classification of the foreign-born population by country of birth, but also a classification of the children of the foreign-born by country of birth of parents. In some presentations these are combined under the designation "foreign white stock."

From the returns for place of birth were tabulated also for the native population the census data on state of birth. This provides almost the only material in the census reports affording any tangible clue to the geographic course of the internal migration of the population. It does not give directly the number of persons who migrated from one state to another during a given decade, but by comparing figures for several censuses approximate migration data as between one state and another can be worked up.

Need for direct migration data

The unsatisfactoriness of this process, together with the rapidly increasing demand for migration data for areas smaller than states, would indicate the importance of carrying on the schedule for the next decennial census a direct question on migration—or rather a group of questions on which can be based tabulations of direct migration. A group of four questions, asking for the place of residence of each person in 1930 in terms of State, county, city, and farm or non-farm area, has been tentatively proposed for the 1940 census schedule and will probably be adopted unless other proposed questions, some of which will be simpler and far less difficult of tabulation, obtain so much stronger support from the public that the migration question is crowded out.

Social relationships

A classification of the population by marital condition, that is, as single, married, widowed, or divorced, has formed a part of the census reports beginning with 1890. Almost the entire tabular presentation is made for males and females separately, with no totals for the two sexes combined. In many of the tables where it is necessary to economize space the data are given simply for males and females fifteen years old and over in one group. The significance of the classification is increased manyfold, however, if it is made in correlation with age, or with age and color-nativity. Thus for the larger areas, that is, cities of 25,000, and urban and rural areas of states, the tabulation by marital condition has been made since 1910 by single years of age from fifteen to thirty-four and by five-year periods from thirty-five on. The tabulation by single years, in particular, shows a rapid increase in the percentage married from age fifteen to age twenty-seven or twenty-nine, and indicates in a general way the somewhat higher age at marriage for males as compared with females. From these single-year data has been computed an approximate median age at marriage, this being defined as the age at which one half those persons are married who ever will be married.

The marital condition of the foreign white stock, including the foreign-born and the children of the foreign-born, was tabulated by country of origin for the first time in 1930.

For the foreign-born white population there are detailed presentations by country of birth, mother tongue, year of immigration, citizenship status, and ability to speak English, each one of these topics occupying a chapter in the General Report on Population for the last three censuses. Mother tongue

and citizenship were shown by country of birth in all three censuses; the other two items in 1930 only. Illiteracy and age were also added in 1930 to the items tabulated by country of birth, there being a special bulletin on age of the foreign-born.

Literacy

The census classification with respect to literacy is limited to persons ten years old and over, and a person is counted as literate if he is able to read and write. No specific test is prescribed; the enumerator simply accepts the statement of his informant as to whether or not the person can read and write. In the use of these statistics the emphasis is usually on the percentage of illiterates in the population of any area or class. This percentage has been rather rapidly decreasing in practically all classes and areas for several decades. The present situation is brought out most clearly in those tables classifying the data by age, which show that by far the larger fraction of the persons now counted as illiterate are in the older ages, and that in the white population under thirty-five years of age the percentage of illiteracy is rapidly approaching a negligible fraction.

Ability to speak English was tabulated in 1930 in combination with literacy, the main purpose of this tabulation being to show the number of literate persons who do not speak English, on the assumption that these might furnish the principal market for foreign-language newspapers and the principal field for advertising in foreign languages.

The data on school attendance are based on a question asking whether or not the individual has attended any school for any period of time since the beginning of the current school year. The changes in the census date thus affect slightly the comparability of the

school attendance returns for 1910, 1920, and 1930. Because the significance of school attendance varies so greatly as between one age and another, the data even for small areas are presented for a considerable number of age groups.

GAINFUL WORKERS BY OCCUPATION AND INDUSTRY

One of the most important, as well as one of the most difficult, of the social-economic classifications of the population is that which separates the gainful workers—that is, persons who usually work at a gainful occupation—from the non-gainful population. This classification has been based upon the return of an occupation on the population schedule, and no formal definition beyond a slight amplification of the brief one just quoted has been presented in the reports. The essential features of a fairly specific definition are embodied in the instructions to the enumerators with regard to when they should return an occupation and when they should make the entry "None" in the occupation column of the schedule. These instructions have also included a statement to the effect that a person temporarily unemployed should be returned in accordance with his usual occupation. The whole number of gainful workers returned in 1930, for example, therefore includes those who were counted as unemployed. It seems quite probable that under the conditions that will prevail in 1940 it will be far more difficult than ever before to make this classification, especially because of the existence of large numbers of young persons who have never been employed, and that a new definition will have to be devised.

The percentage of the population gainfully employed, in common with many other census classifications, gains tremendously in its significance when

the tabulation is made by age. The increase in age detail in the 1930 census reports, which show gainful workers by five-year age periods up to seventy-five, thus adds materially to the value of these reports.

Work status by school attendance

Among the important tabulations made for the first time in 1930 is one showing persons from ten to twenty-four years of age classified by work status—that is, whether gainful workers or not—and by school attendance. This shows the number of boys and girls, by age, in three classes: (1) Those who are attending school and not at work (comprising, of course, the great majority of those under twenty); (2) those who are both in school and at work; and (3) those who are neither at work nor attending school. The primary purpose of this presentation was to show the numbers in this last group. This tabulation represents a compromise with interests demanding a question on the number of persons seeking work for the first time, by way of supplement to the number of experienced workers who are out of work. It is assumed that boys eighteen years old, for example, who are neither in school nor at work are at least potential first-job-seekers, and that the figures thus obtained will serve approximately the same purpose as would the results of a separate question on this point. The results of this tabulation are published in the latter part of the chapter on school attendance, and because of this subordinate position they have sometimes been overlooked by those who might have been interested in the figures.

Occupation classification

The most complicated and detailed of all the census classifications is that by occupation, or more particularly

the classification by occupation in combination with industry. The occupation classification, which runs back in somewhat similar form to the census of 1870, has in it many elements of an industrial nature. Because of this fact it is somewhat difficult to keep clear the distinction between the occupation classification and the industry classification in those cases where both are used, as they are in the 1930 census reports. Six of the ten major subdivisions of the occupation classification are primarily industrial, but specific occupations are assigned in each case to that general division where the occupation is most frequently carried on, without regard to the industry in which the worker is actually employed at the time of the census. All carpenters, for example, are assigned to the division designated "Manufacturing and mechanical industries," even though specific ones may be employed by a railroad company or a department store.

Practically all of the occupation data are presented for males and females separately, since both the distribution and the significance of the various occupational classifications differ widely as between the two sexes.

The number of occupations, or rather of occupational groups, shown in the tables for recent censuses is somewhat over 500. The number of different occupational designations returned on the census schedules, however, is probably more than 25,000, though in many cases these represent simply different names for the same occupation, or only slight variations in the kind of work performed. To facilitate the assignment of all these various occupational returns to the proper classes for tabulation, there have been made up for use in connection with the occupation coding a classified and an alphabetical index of occupations. These indexes

have been printed in very limited editions, being intended solely for use in the Census Bureau. Since 1930, however, there has been an extended demand for copies of these Indexes for use in various outside statistical undertakings, and the Indexes have been reprinted in slightly modified form by other Governmental organizations having occasion to make classifications by occupation.

Social-economic groups

Since the publication of the 1930 reports, a plan for consolidating occupations into twelve social-economic groups has been worked up in the Census Bureau,¹ and extensive use of this classification is being made. The figures representing these twelve groups are of course no longer occupation data, but are useful, rather, as indicating roughly the division of the population of various areas and various color and nativity classes according to social-economic status.

Gainful workers by counties

To meet the demand for some statistics of gainful workers by counties, a tabulation of these workers by industry, showing about fifty industries and industry groups, was made as a part of the primary tabulation of the 1930 population cards. Since this tabulation had to be made before the detailed sorting of the cards by occupation, on the basis of which certain corrections were made, the state totals for gainful workers by sex obtained from this tabulation differ slightly from the state totals shown in the Occupation volume. This difference, however, has appar-

¹Alba M. Edwards, "A Social-Economic Grouping of the Gainful Workers of the United States," *Journal of the American Statistical Association*, Dec. 1933, pp. 377-387. See also "Social-Economic Groups of the United States," same journal, June 1917, pp. 643-661.

ently not proved to be any serious obstacle to the extensive use of the figures. These figures are presented in Volume III of the Fifteenth Census Reports on Population. The difference between the main industry groups shown in this tabulation and the main occupation groups which have similar designations is explained fully in the introductory text of Volume IV.

Occupation by industry

The most detailed of all the occupation presentations in the 1930 reports is that contained in the last chapter of Volume V of the Fifteenth Census Reports on Population, which shows for the United States as a whole the workers in each industry classified by occupation and also by color, nativity, sex, and age. A similar tabulation was made in 1910, but nothing of the kind was attempted in 1920.

FAMILIES

The most important addition to the population census program in 1930 was the series of tabulations of data relating to families. These were made through the use of a special family card punched and tabulated after the completion of the other population tabulations. The number of families has been shown in all censuses beginning with 1850 and there has been a tabulation by tenure of home beginning with 1890. In 1930 families were classified by size, by number of children under ten, by number of children under twenty-one, by number of lodgers, by number of gainful workers, by value or rental as well as tenure of home, and also in accordance with certain personal characteristics of the head of the family, such as color, sex, and age; and on the family card were certain data with respect to the homemaker in each family, including her status as a gainful worker, if any.

In addition to the family data published in Volume VI of the Fifteenth Census Reports on Population, there is a special report on foreign-born families by country of birth of head, with a section on families of the minor races. Further, two tabulations were made and one partially completed, the results of which it was not found possible to publish. The unpublished tabulations included one giving a considerable amount of detail for gainfully employed homemakers; one giving statistics for families classified by type (type being based on the marital status and sex of the head, and the number of children in the family); and an uncompleted tabulation showing the number of children under ten in each first-marriage family classified by present age of wife and her age at marriage.

Of the various new items in the family tabulation, the one most widely used is without doubt the classification of homes by value or rental. The question on value or rental represents a compromise with a demand for a question on income—or perhaps one on wage income, like that carried in the Canadian census. The figures are extensively used as an index of economic status, the monthly rentals and home values being translated by various formulas into estimated family incomes.

CENSUS DATA, PUBLISHED AND UNPUBLISHED

The published data on population for 1900, 1910, 1920, and 1930, have been indexed and the index published in a lithoprinted pamphlet of 76 pages, issued in 1934. This Index has been widely distributed to libraries and individuals working with population data, and a few copies are still available.

It has already been stated that for most of the population tabulations the

cards were first sorted by sex, color, and nativity. The machine on which the population data are tabulated counts six (or seven) different items at the same time. In making up a "run" of the cards for tabulation on this machine, it frequently happens that one or more items are included for which the classification by sex or by color-nativity is not needed. It is more economical, however, to carry these items on the regular run, and later consolidate the unneeded classification, than to make a separate run to give exactly the detail that can be published. Likewise, on a run primarily to furnish data for small areas (counties, for example) it is convenient to include one or more items which are needed only for larger areas (states, for example), and get the figures for publication by consolidation, rather than to make a separate run for the larger areas. Because of this situation, there are on the machine sheets and the consolidation sheets of the last three censuses, still on file in the Census Bureau, large quantities of unpublished material. Much of this material relates to the smaller areas, especially to urban places between 2,500 and 25,000 population. Even for counties, however, and for cities above 25,000, there are large quantities of unpublished data, almost any of which can be obtained upon payment of the actual cost of transcribing the figures.

Index to unpublished material

There is in preparation a detailed index of this unpublished material, but by reason of numerous interruptions this work is not making very rapid progress. To serve immediate needs the extent and nature of the unpublished data for 1930 can be covered briefly in a few general statements. There were tabulated for all urban places, for counties (subdivided as

urban, rural-farm, and rural-nonfarm), and for the wards of most of the larger cities, all of the data which are shown for a state anywhere in Volume III of the Fifteenth Census Reports on Population. The unpublished material represents the difference between what is shown in the report for any specific urban place or county and the maximum that is published in that volume for the state.

The tabulations which furnished the material for Volume II of the Fifteenth Census Reports on Population were made for cities of 25,000 or more and for the remainder of each state subdivided into urban, rural-farm, and rural-nonfarm areas. The urban part of this remainder was tabulated in two groups for each state, comprising, respectively, places of 2,500 to 10,000, and places of 10,000 to 25,000. Here again the unpublished data available represent the difference between what is published for a given area and the maximum detail published anywhere in Volume II for the United States as a whole.

No occupation tabulation was made for cities of less than 25,000, though unpublished data on gainful workers classified by *industry* are available. For cities of 25,000 to 100,000, the workers were tabulated for 213 occupation groups, in combination with (a) color-nativity and (b) age, but there were published only the simple classifications by occupation (and sex, of course), by color-nativity, and by age. There are thus available as unpublished data occupation by color-nativity and occupation by age.

For cities of 100,000 or more, and for states (this time with no classification as urban or rural) there was tabulated all of the detail that is shown anywhere in the occupation reports for the United States as a whole—except that the occupation-industry tabula-

tion shown in Chapter 7 of Volume V was made only for cities of 500,000 or more. In the occupation field, as in the other cases, the unpublished material represents the difference between the maximum indicated by the tables for the United States and the data published for any specific smaller area.

The first count of families was made with the cards sorted by color and nativity of head and covers the following topics: tenure of home, value or rental of nonfarm homes, size of family, and number of children under ten. This tabulation was made for all urban places and for each county (urban and rural); and the full detail published for the state under any of these topics was tabulated for all of the smaller areas. The remaining counts of the family card which are presented in Volume VI of the Fifteenth Census Reports and in the supplementary report on foreign-born families, were made for cities of 25,000 and more, and for the remainder of the state subdivided approximately as indicated above for the large-area tabulations of population data.

General suggestion

To the newcomer in the field of population research this suggestion is offered: that he first spend two or three days in a general survey of the Population volumes of the censuses of 1910, 1920, and 1930, complete sets of which should be found in most of the larger libraries. This might well be supplemented by some experimental use of the Index referred to above. The 1910 reports contain more analytical material in the text of the various sections than do those of 1920 or 1930, and in some cases present a more detailed historical survey of the data available on a given subject from earlier censuses. The general plan of the tabulation was the same for these three censuses, however, and for the most part the method

of presentation is uniform throughout, except for the new features introduced in 1930.

POSSIBILITY OF NEW FEATURES IN 1940

Because of modifications in the mechanical equipment which greatly increase the potential capacity of the population punch-card, many changes in the tabulation program may be expected in 1940. This affords an opportunity for improvement, and sug-

gestions to this end will be welcomed by the Census Bureau. Because of the magnitude of the task of tabulating 132,000,000 cards, however, any increase in the extent of the data to be tabulated must be kept within reasonable limits. Hence suggestions as to material published in 1930 that might well be omitted will be even more welcome than suggestions for additional classifications (which usually call for new questions on the schedule), or for additional correlations in the tabulation.

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